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# Minerals Local Plan for Gloucestershire (2018-2032): Publication Plan

## Sustainability Appraisal including Strategic Environmental Assessment

Final Report  
Prepared by LUC  
April 2018

**Project Title:** Minerals Local Plan for Gloucestershire Publication Sustainability Appraisal

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# 1 Introduction

- 1.1 This Sustainability Appraisal Report has been prepared by LUC, on behalf of Gloucestershire County Council (the Council) as part of the integrated Sustainability Appraisal (SA) and Strategic Environmental Assessment (SEA) of the Gloucestershire Minerals Local Plan.
- 1.2 This report relates to the Minerals Local Plan for Gloucestershire (2018-2032): Publication Plan (May 2018) (hereafter referred to as the “MLP”) and it should be read in conjunction with that document.
- 1.3 Gloucestershire County Council (GCC) as Minerals Planning Authority (MPA) and Waste Planning Authority (WPA) has been working on a Minerals & Waste Development Framework (MWDF) that will replace its currently adopted Minerals Local Plan and Waste Local Plan. GCC adopted its Waste Core Strategy in November 2012. The County Council prioritised the Waste Core Strategy over the Mineral Core Strategy (MCS) in light of advice from the Government Office for the South West (GOSW). The National Planning Policy Framework (NPPF)<sup>1</sup> now advises (paragraph 156) that planning authorities should produce Local Plans and that a series of separate Development Plan Documents should only be produced where justified. Therefore, GCC is now producing the Minerals Local Plan (formerly the Minerals Core Strategy). Below is a list of the mineral related documents that have been produced in earlier stages:
- MCS Issues and Options consultation September 2006 - designed to generate public debate on mineral issues facing the county and to seek out possible ways of resolving them.
  - MCS Preferred Options consultation January 2008 - involved setting out the 'direction of travel' for the planning framework and core policies.
  - Minerals Local Plan Site Options and Draft Policy Framework consultation June 2014 – included a Spatial Strategy (with Vision and Strategic Priorities), options for safeguarding each of the main mineral resource blocks in the county (Limestone, Sandstone, Sand and Gravel, Clay and Coal), site options for potential allocations for crushed rock aggregates and sand and gravel and policies proposed to replace those in the 2003 Gloucestershire Minerals Local Plan. Some of the proposed policies were called Strategic Policy Aims and were higher level strategic policies. The remaining majority of the policies were intended to be used for development management purposes and covered all of the policy issues covered in the 2003 Gloucestershire Minerals Local Plan.
  - Draft Minerals Local Plan for Gloucestershire, Pre-Publication Consultation Draft September 2016 – This document was a draft version of the MLP. This drew on previous stages of plan making, consultation responses to these, the SA and Habitats Regulations Assessment (HRA) and additional evidence documents to formulate proposed policies and site allocations for the MLP.
- 1.4 The MLP Publication Plan (April 2018) includes a Vision and Objectives, overall strategy, delivery policies for the plan’s themes: reducing the demand for primary minerals safeguarding mineral resources; making provision for the supply of minerals; and allocating areas for future aggregate working; restoration, aftercare and facilitating beneficial after-uses; and a suite of development management policies.
- 1.5 The preparation of the Minerals Local Plan is subject to a full Sustainability Appraisal (SA), in line with the Planning and Compulsory Purchase Act 2004 and current Government planning policy (the NPPF). The preparation of the Minerals Local Plan must also be in accordance with the requirements of European Directive 2001/42/EC (known as the Strategic Environment Assessment, or SEA Directive).

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<sup>1</sup> DCLG (March, 2012). National Planning Policy Framework.

- 1.6 This Sustainability Appraisal Report has been prepared to provide key stakeholders and members of the public with information on the process and the findings of the Sustainability Appraisal undertaken in preparing the MLP (April 2018). In particular, this report documents the likely significant sustainability implications of implementing the Gloucestershire Minerals Local Plan.

## Sustainability Appraisal and Strategic Environmental Assessment

- 1.7 The purpose of Sustainability Appraisal is to promote sustainable development by integrating sustainability considerations into the preparation and adoption of plans.
- 1.8 Sustainability Appraisal is a statutory requirement of the Planning and Compulsory Purchase Act 2004. It is designed to ensure that the Development Plan Document (DPD) preparation process maximises the contribution that a plan makes to sustainable development and minimises any potential adverse impacts. The SA process appraises the likely social, environmental and economic effects of the strategies and policies within a DPD (in this case the Gloucestershire MLP) from the outset of its development.
- 1.9 Strategic Environmental Assessment is also a statutory assessment process, required under the SEA Directive<sup>2</sup>, transposed in the UK by the SEA Regulations (Statutory Instrument 2004, No 1633). The SEA Regulations require the formal assessment of plans and programmes which are likely to have significant effects on the environment, and set the framework for future consent of projects requiring Environmental Impact Assessment (EIA)<sup>3</sup>. The purpose of SEA, as defined in Article 1 of the SEA Directive is *'to provide for a high level of protection of the environment and to contribute to the integration of environmental considerations into the preparation and adoption of plans....with a view to promoting sustainable development'*.
- 1.10 SEA and SA are separate processes but have similar aims and objectives. Simply put, SEA focuses only on the likely environmental effects of a plan whilst SA includes a wider range of considerations, extending to social and economic impacts. The Government's Sustainability Appraisal guidance<sup>4</sup> outlines how it is possible to satisfy both requirements by undertaking a joint SA/SEA process, and to present an SA report that incorporates the requirements of the SEA Regulations.
- 1.11 **Table 1.1** signposts how the requirements of the SEA Directive have been met within this SA report.

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<sup>2</sup> SEA Directive 2001/42/EC

<sup>3</sup> Under EU Directives 85/337/EEC and 97/11/EC concerning EIA.

<sup>4</sup> DCLG (2014) Planning Practice Guidance. Available at: <http://planningguidance.planningportal.gov.uk/blog/guidance/strategic-environmental-assessment-and-sustainability-appraisal/strategic-environmental-assessment-and-sustainability-appraisal-and-how-does-it-relate-to-strategic-environmental-assessment/>

**Table 1.1 Requirements of the SEA Directive and where these have been addressed in this SA Report**

SEA Directive Requirements	Where covered in this SA report
<p>Preparation of an environmental report in which the likely significant effects on the environment of implementing the plan or programme, and reasonable alternatives taking into account the objectives and geographical scope of the plan or programme, are identified, described and evaluated. The information to be given is (Art. 5 and Annex I):</p>	
<p>a) An outline of the contents, main objectives of the plan or programme, and relationship with other relevant plans and programmes</p>	<p>Chapters 2 and 3 provide an outline of the main objectives of the MLP, Appendix 3 outlines its relationship with other relevant plans and programmes.</p>
<p>b) The relevant aspects of the current state of the environment and the likely evolution thereof without implementation of the plan or programme</p>	<p>Chapter 3 and Appendix 4.</p>
<p>c) The environmental characteristics of areas likely to be significantly affected</p>	<p>Chapters 3 and 5, and Appendix 4.</p>
<p>d) Any existing environmental 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/EEC.</p>	<p>Chapter 3 – Key Sustainability Issues.</p>
<p>e) The environmental protection, objectives, established at international, Community or national level, which are relevant to the plan or programme and the way those objectives and any environmental, considerations have been taken into account during its preparation</p>	<p>Appendix 3.</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. (Footnote: These effects should include secondary, cumulative, synergistic, short, medium and long-term permanent and temporary, positive and negative effects)</p>	<p>Chapter 5 and Appendices 5 and 6.</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 or programme;</p>	<p>Chapter 5 and Appendices 5 and 6.</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>Chapter 2 and Appendix 2.</p>

SEA Directive Requirements	Where covered in this SA report
i) A description of measures envisaged concerning monitoring in accordance with Art. 10;	Chapter 6.
j) A non-technical summary of the information provided under the above headings	A separate non-technical summary document has been produced to accompany this SA report.
The report shall include the information that may reasonably be required taking into account current knowledge and methods of assessment, the contents and level of detail in the plan or programme, its stage in the decision-making process and the extent to which certain matters are more appropriately assessed at different levels in that process to avoid duplication of the assessment (Art. 5.2)	Addressed throughout this SA report.
<b>Consultation:</b> <ul style="list-style-type: none"> <li>authorities with environmental responsibility, when deciding on the scope and level of detail of the information which must be included in the environmental report (Art. 5.4)</li> </ul>	Consultation on the SA Scoping Report for the Gloucestershire MLP was undertaken in 2013.
<ul style="list-style-type: none"> <li>authorities with environmental responsibility and the public, shall be given an early and effective opportunity within appropriate time frames to express their opinion on the draft plan or programme and the accompanying environmental report before the adoption of the plan or programme (Art. 6.1, 6.2)</li> </ul>	Consultation has been undertaken in relation to each stage of the Minerals Local Plan preparation, accompanied by SA reports and notes as described in Chapter 2.
<ul style="list-style-type: none"> <li>other EU Member States, where the implementation of the plan or programme is likely to have significant effects on the environment of that country (Art. 7).</li> </ul>	N/A
<b>Taking the environmental report and the results of the consultations into account in decision-making (Art. 8)</b>	
<b>Provision of information on the decision:</b> When the plan or programme is adopted, the public and any countries consulted under Art.7 must be informed and the following made available to those so informed: <ul style="list-style-type: none"> <li>the plan or programme as adopted</li> <li>a statement summarising how environmental considerations have been integrated into the plan or programme and how the environmental report of Article 5, the opinions expressed pursuant to Article 6 and the results of consultations entered into pursuant to Art. 7 have been taken into account in accordance with Art. 8, and the reasons for choosing the plan or programme as adopted, in the light of the other reasonable alternatives dealt with; and</li> <li>the measures decided concerning monitoring (Art. 9)</li> </ul>	To be addressed after the Minerals Local Plan is adopted.
<b>Monitoring</b> of the significant environmental effects of the plan's or programme's implementation (Art. 10)	Chapter 6
<b>Quality assurance:</b> environmental reports should be of a sufficient standard to meet the requirements of the SEA Directive (Art. 12).	This report has been produced in line with current guidance and good practice for SEA/SA and this table demonstrates where the requirements of the SEA Directive have been met.



## Background

- 1.12 Gloucestershire County Council began undertaking SA work for the MWDF 'in-house' in terms of both the development of the SA Framework and the production of SA Reports. **Table 1.2** below sets out the SA Reports that have been produced by GCC and LUC to date as part of the development of the SPD on Waste Minimisation in Development Projects (adopted in September 2006), the Waste Core Strategy (adopted in November 2012) and the Minerals Local Plan. All of the reports produced to date are available on GCC's website<sup>5</sup>. Those SA reports specifically relevant to the Minerals Local Plan have been highlighted in bold.

**Table 1.2: SA Reports produced to date for the MWDF by Gloucestershire County Council**

SA Document	Date
Original SA Framework Context & Scoping Report	August 2005
Update 1 SA Framework Context & Scoping Report	November 2005
Update 2 SA Framework Context & Scoping Report	April 2006
Update 3 SA Framework Context & Scoping Report	January 2009
SA Framework Combined Context & Scoping Report for Waste Sites	July 2008 – added into Update 3 SA Framework Context & Scoping Reports Update 3
<b>Update 4 SA Scoping Report</b>	<b>July 2013</b>
SA Report for Waste Minimisation in Development Projects SPD	April 2006
SA Report for the Waste Core Strategy Issues & Options	July 2006
<b>SA Report for the Minerals Core Strategy Issues &amp; Options</b>	<b>September 2006</b>
SA Report for the Waste Core Strategy Preferred Options	January 2008
<b>SA Report for the Minerals Core Strategy Preferred Options</b>	<b>January 2008</b>
SA Report for the Waste Core Strategy Site Options (Stage 1)	April 2009
SA Report for the Waste Core Strategy Site Options (Stage 2)	September 2009
SA Report for the Waste Core Strategy	November 2010
SA Report Update for the Waste Core Strategy – Focused Changes	June 2011
<b>SA Report for the Minerals Local Plan Site Options and Draft Policy Framework</b>	<b>June 2014</b>
<b>SA Addendum for Additional Site Option</b>	<b>January 2015</b>
<b>SA Report for the Draft Minerals Local Plan for Gloucestershire (2018-2032) Pre-publication Consultation</b>	<b>September 2016</b>

<sup>5</sup> Available at: <http://www.gloucestershire.gov.uk/extra/article/108054/Sustainability-Appraisal-SA> and <http://www.gloucestershire.gov.uk/extra/MLP-site-policy-options>

## Aim and Structure of the Report

- 1.13 This report is the SA/SEA report for the MLP (April 2018). It has been prepared in the spirit of the integrated approach to SEA and SA, and throughout the report, the abbreviation 'SA' should therefore be taken to refer to 'SA incorporating the requirements of SEA'.
- 1.14 This chapter provides an introduction to the SA of Gloucestershire MLP. The remainder of this report is structured into the following chapters:
- **Chapter 2 – Methodology**, describes the stages of the SA process and the approach used for the specific SA tasks.
  - **Chapter 3 – Sustainability context for minerals development in Gloucestershire**, summarises the MLP's relationship with other relevant plans, policy and strategies, summarises the social, economic and environmental characteristics of Gloucestershire, and identifies the key sustainability issues relating to mineral development within Gloucestershire.
  - **Chapter 4 – Sustainability Appraisal framework and assumptions**, describes the SA Framework and the assumptions used for assessing the potential sustainability effects of the MLP (including both the minerals site options and policy options).
  - **Chapter 5 – Sustainability Appraisal findings**, sets out the main findings from the SA of the Gloucestershire MLP Publication Plan (April 2018) Vision, Objectives, Policies and Site Allocations. It draws conclusions from the findings of the appraisals and makes some recommendations for the MLP to maximise the benefits of the plan and minimise any adverse effects.
  - **Chapter 6 – Monitoring**, makes recommendations regarding the approach to monitoring the significant sustainability effects of implementing the MLP.
  - **Chapter 7 –Conclusions**, summarises the key findings from the SA in terms of any significant sustainability effects predicted (positive or negative) from implementing the MLP.

## 2 Methodology

- 2.1 In addition to complying with legal requirements, the approach taken to the SA of the Gloucestershire MLP is based on current best practice and the following guidance:
- Practical Guide to the SEA Directive, Office of the Deputy Prime Minister (September 2005).
  - Sustainability Appraisal guidance included in DCLG's Plan Making Manual, Planning Advisory Service website (last updated September 2009). *Note this guidance was used for earlier stages of the SA, but has been superseded by the recent National Planning Practice Guidance published March 2014, which has been referred to since then.*
  - Sustainability Appraisal guidance included in the Government's National Planning Practice Guidance website<sup>6</sup>.
  - RTPi Practice Advice: Strategic Environmental Assessment, Levett-Therivel on behalf of RTPi (2018).
- 2.2 The government guidance introduces the SA process and explains how to carry out SA as an integral part of the plan-making process. **Table 2.1** sets out the main stages of the plan-making process and shows how these correspond to the SA process.

**Table 2.1: Corresponding stages in plan making and SA**

Local Plan Step 1: Pre-production - Evidence Gathering
SA stages and tasks
<p><b>Stage A: Setting the context and objectives, establishing the baseline and deciding on the scope</b></p> <ul style="list-style-type: none"> <li>• A1: Identifying other relevant policies, plans and programmes, and sustainability objectives</li> <li>• A2: Collecting baseline information</li> <li>• A3: Identifying sustainability issues and problems</li> <li>• A4: Developing the SA Framework</li> <li>• A5: Consulting on the scope of the SA</li> </ul>
Local Plan Step 2: Production
SA stages and tasks
<p><b>Stage B: Developing and refining options and assessing effects</b></p> <ul style="list-style-type: none"> <li>• B1: Testing the Plan objectives against the SA Framework</li> <li>• B2: Developing the Plan options</li> <li>• B3: Predicting the effects of the Plan</li> <li>• B4: Evaluating the effects of the Plan</li> <li>• B5: Considering ways of mitigating adverse effects and maximising beneficial effects</li> <li>• B6: Proposing measures to monitor the significant effects of implementing the Plans</li> </ul>

<sup>6</sup> <http://planningguidance.planningportal.gov.uk/blog/guidance/strategic-environmental-assessment-and-sustainability-appraisal/>

### Stage C: Preparing the Sustainability Appraisal Report

- C1: Preparing the SA Report

### Stage D: Consulting on the Draft Plan and the Sustainability Appraisal Report

- D1: Public participation on draft Plan and the SA Report
- D2(i): Appraising significant changes

### Local Plan Step 3: Examination

#### SA stages and tasks

- D2(ii): Appraising significant changes resulting from representations

### Local Plan Step 4 & 5: Adoption and Monitoring

#### SA stages and tasks

- D3: Making decisions and providing information

### Stage E: Monitoring the significant effects of implementing the Plan

- E1: Finalising aims and methods for monitoring
- E2: Responding to adverse effects

## Stage A: Scoping

- 2.3 GCC undertook the Scoping stage of the SA for the MLP in-house. The original Context Report and Scoping Report for the SA of the Gloucestershire MWDF were subject to consultation for five weeks from 25th August to 29th September 2005. As the GCC Sustainability Appraisal Scoping Report was last updated in 2009, an update on the Sustainability Appraisal Scoping Report was required to address the resumed work on the MLP. GCC updated the Scoping Report early in 2013, with a final version published in July 2013<sup>7</sup>. This updated Scoping Report set out the outcomes of Tasks A2 to A5 as shown in **Table 2.1** above, i.e. it describes the baseline information and key sustainability issues for Gloucestershire in relation to minerals and waste and sets out the SA Framework (objectives) against which potential effects will be assessed.
- 2.4 Development of an SA Framework is not a requirement of the SEA Directive; however it provides a recognised way in which the likely sustainability effects of a plan or document can be described, analysed and compared. The SA Framework consists of a set of sustainability objectives which state desired outcomes<sup>8</sup>. These SA objectives are distinct from the strategic objectives of the MLP; instead the MLP's performance in terms of sustainability is appraised against the SA objectives. The SA objectives went through a series of iterations and changes based on consultation responses and responding to the content of different documents in the MWDF (e.g. the need to appraise potential waste or mineral sites in addition to general policies for minerals or waste). The development of the SA Framework which has been used for the appraisal of the MLP, including the minerals site options, is discussed further in **Chapter 4**.
- 2.5 Public and stakeholder participation is an important element of the SA and wider plan-making processes. It helps to ensure that the SA reports are robust and have due regard for all appropriate information that will support the plan in making a contribution to sustainable development. The SA Scoping Report was published for a five week consultation period with the

<sup>7</sup> Gloucestershire County Council (July 2013). Gloucestershire Minerals Local Plan, Sustainability Appraisal, Scoping Report Update 4.

<sup>8</sup> The ODPM SA Guidance explained that SA objectives should focus on outcomes, not how the outcomes will be achieved. For example, they should focus on improved biodiversity (the outcome), rather than protection of specific wildlife sites (a means to achieving it).

statutory consultees under the SEA Regulations (Natural England, the Environment Agency and English Heritage (now Historic England)). The consultation ran from 27<sup>th</sup> March to 2<sup>nd</sup> May 2013. GCC updated the Scoping Report after the consultation to address and take account of all responses received during the consultation (see **Appendix 1** for the summary of consultation responses received and how they have been addressed). The relevant sections from the Scoping Report have been incorporated into this SA Report in order to meet the requirements of the SEA Directive (as set out in **Table 1.1**). The baseline information and plans and programmes review contained in **Appendix 3** and **Appendix 4** have been updated to reflect the most up to date information.

## Stage B: Developing and Refining Options and Assessing Effects

- 2.6 Developing options for a plan is an iterative process undertaken by the local planning authority usually involving a number of consultations with public and stakeholders. Consultation responses and the SA can help to identify where there may be other 'reasonable alternatives' to the options being considered for a plan (e.g. additional sites that may be suitable for development, as came forward during the 2014 MLP consultation). The SA can also help decision makers by identifying the potential positive and negative sustainability effects of each option.
- 2.7 Regulation 12 (2) of the SEA Regulations requires that:
- "The (environmental or SA) report must identify, describe and evaluate the likely significant effects on the environment of –*
- (a) implementing the plan or programme; and*
- (b) reasonable alternatives, taking into account the objectives and the geographical scope of the plan or programme"*
- 2.8 It should be noted that any alternatives considered to the plan need to be "reasonable". This implies that alternatives that are "not reasonable" do not need to be subject to appraisal. Examples may include alternatives that do not meet the objectives of the plan or national policy (e.g. the NPPF), or are not within the geographical scope of the plan, although there should be reasoned justification for what is considered reasonable or otherwise. In addition, the SEA Regulations do not require all reasonable alternatives to be subject to appraisal, just "reasonable alternatives" as determined by the MPA.
- 2.9 It also needs to be recognised that the SEA and SA findings are not the only factors taken into account when determining a preferred option to take forward in a plan. There will often be an equal number of positive or negative effects identified for each option, such that it is not possible to 'rank' them based on sustainability performance in order to select a preferred option. Factors such as public opinion, deliverability, conformity with national policy will also be taken into account by plan-makers when selecting preferred options for their plan.

### Alternatives considered in the preparation of the MLP to date

- 2.10 The options or reasonable alternatives considered during development of the MLP (April 2018) included the alternative policy approaches for the strategic policies and general development management policies, and a number of minerals site options. While GCC has made a decision to prepare a new style MLP, there have been two previous stages of developing and refining minerals planning options as part of the earlier work on the MWDF as outlined below. **Appendix 2** sets out in more detail the audit trail of the reasonable alternatives considered and discounted by GCC for each policy area in the MLP at each stage in its development.

### Minerals Core Strategy Issues & Options (2005-2007)

- 2.11 The initial Issues and Option stage began in 2005 with the publication of a Newsletter to generate public debate and interest on minerals issues facing Gloucestershire. Evidence gathering and data collection exercises followed, along with two local stakeholder forums in July 2006. These forums sought to stimulate public interest and debate on important local issues affecting Gloucestershire's key mineral resource areas. The key topics debated included: the spatial vision and strategic objectives for the Core Strategy; the future of aggregate working across the

County; and important local issues affecting communities in and around the mineral resource areas of the Cotswolds, Forest of Dean, and Upper Thames Valley.

- 2.12 The outcomes of forums were collated and views and ideas expressed were incorporated into two Issues and Options consultation papers which were published in September 2006<sup>9</sup>. Known as 'Part A' and 'Part B', these documents comprised an accessible jargon-free paper and a more detailed data and policy context paper. Both documents covered the same issues, and comprised the following sections:
- Section 1: A general introduction.
  - Section 2: A spatial portrait of Gloucestershire.
  - Section 3: Minerals planning policy background.
  - Section 4: Minerals in Gloucestershire, including information on geology, resources, sales, sites and reserves.
  - Section 5: A presentation of the issues and options -
- 2.13 Twelve key issues were identified for the MCS in Section 5 of the Issues and Options consultation paper, as follows, and each had a number of options set out for dealing with the issue:
- Issue M1: Determining the time period over which the MCS operates.
  - Issue M2: Setting an appropriate spatial vision and objectives for the MCS.
  - Issue M3: Meeting objective 1 – 'Identifying, conserving and safeguarding Gloucestershire's finite mineral resources from unnecessary sterilisation by other forms of development.'
  - Issue M4: Meeting objective 2 – 'Ensuring that appropriate provision is made to meet the local, regional and national demand for minerals from sustainable resources in Gloucestershire' (included options for crushed rock, sand and gravel, building stone, clay and coal).
  - Issue M5: Meeting objective 3 – 'Protecting where possible the natural, historic and cultural assets of Gloucestershire.'
  - Issue M6: Meeting objective 4 – 'Ensuring that mineral sites are restored to the highest possible standard that is capable of providing for a range of sustainable after-uses, and that this is done as quickly as possible.'
  - Issue M7: Meeting objective 5 – 'Securing enforceable, sound working practices that minimise the adverse impacts of mineral developments on the local communities, the local economy and environment of Gloucestershire.'
  - Issue M8: Meeting objective 6 – 'Encouraging the efficient working of mineral resources.'
  - Issue M9: Meeting objective 7 – 'Promoting the maximum use of recycled materials in preference to non-renewable primary minerals, where possible.'
  - Issue M10: Meeting objective 8 – 'Encouraging more sustainable ways of transporting minerals other than by road.'
  - Issue M11: Meeting objective 9 – 'Promoting closer working with neighbouring authorities to develop a consistent policy approach for the future working of strategic mineral resources.'
  - Issue M12: Sustainability Appraisal (SA) and Strategic Environmental Assessment (SEA)
- 2.14 The options considered for each of the key issues are listed in **Appendix 2** of this SA Report, along with a summary of the SA findings from the Issues and Options SA Report (2006), and the reasons for selecting or discounting each option to take forward to the next stage (Preferred Options).

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<sup>9</sup> Gloucestershire County Council (2006). Minerals Core Strategy Issues and Options A and B. Available at: <http://www.gloucestershire.gov.uk/extra/article/107650/1-MCS-Issues--Options---COMPLETE>

### Minerals Core Strategy Preferred Options (2008)

- 2.15 The Minerals Core Strategy Preferred Options consultation document was published in January 2008, based on the outcomes of the Issues and Options consultation and evidence gathered. This involved setting out the 'direction of travel' for the planning framework and core policies. The document set out a spatial vision, strategic objectives, as well 14 Preferred Options for the Minerals Core Strategy policies under the following headings:
- Provision & Supply
  - Reuse & Recycling
  - The Environment
  - People
  - Reclamation
  - Resource Management
  - Transport
- 2.16 A public consultation on the Preferred Options version of the Minerals Core Strategy and the accompanying SA Report took place between 31<sup>st</sup> January 2008 and 13<sup>th</sup> March 2008. A number of technical evidence papers were also prepared to support the consultation<sup>10</sup>.
- 2.17 The Preferred Options set out in the 2008 Preferred Options Consultation document are listed in **Appendix 2** of this SA Report, showing how they relate to the options considered in the 2006 Issues and Options consultation document. A summary of the SA findings from the Preferred Options SA Report (2008) is also included in Appendix 2.

### Minerals Local Plan Site Options and Draft Policy Framework Consultation Document (June 2014)

- 2.18 This stage of consultation for the new style Minerals Local Plan was intended to draw together the outcomes of the earlier two MCS consultation stages above, along with some new and up-to-date evidence in a format that enabled further input from stakeholders prior to a draft of the plan being produced.
- 2.19 Where certain aspects of the plan had already been consulted upon in 2006 and 2008 (such as the Vision, Strategic Objectives and preferred policy options) some preferred policy approaches were suggested in the 2014 MLP Consultation Document. However, some aspects of the plan were totally new (such as the inclusion of potential site allocations and minerals safeguarding) and these areas were presented to stakeholders as individual options in the 2014 MLP Consultation Document.
- 2.20 The 2014 MLP Consultation Document included the following elements:
- Section 1 – an introduction to minerals planning within Gloucestershire and discussion concerning the preparation of a new minerals local plan for the county.
  - Section 2 – a spatial strategy, including a proposed vision and proposed objectives for the new MLP.
  - Sections 3, 4 and 5 – options for safeguarding and supplying minerals, including proposed policies.
  - Sections 6 and 7 – proposed policies for environmental considerations and restoration requirements.
  - Section 8 – proposed development management policies, including ancillary development, safeguarding aerodromes, borrow pits, cumulative effects and soils, among others.
  - Section 9 – implementation and monitoring proposals.
- 2.21 Each of the proposed vision, strategic objectives, policies, strategic aims and site options were subjected to appraisal against the SA objectives and reported on in the 2014 SA Report. The

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<sup>10</sup> Available at: <http://www.gloucestershire.gov.uk/extra/article/107668/Evidence-Base-for-the-MCS>

vision, strategic objectives, policies and site options in the 2014 Consultation document are listed in **Appendix 2** of this SA Report, showing how they relate to the options considered in the 2008 Preferred Options consultation document. A summary of the SA findings from the 2014 SA Report is also included in Appendix 2.

### Draft Minerals Local Plan for Gloucestershire (2016)

- 2.22 A draft version of the MLP was published for consultation in September 2016. This drew on previous stages of plan making, consultation responses to these, the SA and HRA and additional evidence documents (eg. Hydrogeological Impact Assessments) to formulate proposed policies and site allocations for the MLP.
- 2.23 The Draft MLP included the following elements:
- Section 1 – an introduction to minerals planning within Gloucestershire and discussion concerning the preparation of a new minerals local plan for the county.
  - Section 2 – a spatial portrait that describes present day Gloucestershire and introduces the minerals likely to be of economic importance over the plan period.
  - Section 3 – the drivers for change that the minerals plan will seek to reflect and act upon where necessary and appropriate, principally to the advantage of Gloucestershire.
  - Section 4 – the plan’s vision of the future that highlights what success may look like, and the objectives that will explain how, through targeted actions, the vision will be achieved.
  - Section 5 – the overall strategy for the plan, which details the policy framework and strategic approach being taken to deliver the plan’s objectives.
  - Sections 6, 7, 8 and 9 – these sections make up a substantial part of the plan’s core policy content. They include the delivery policies for the plan’s themes: – reducing the demand for primary minerals (section 6); safeguarding mineral resources (section 7), making provision for the supply of minerals (section 8); and allocating areas for future aggregate working (section 9).
  - Sections 10 and 11 – complete the plan’s core policy and include the full suite of development management policies (section 10). The plan’s final theme – restoration, aftercare and facilitating beneficial after-uses (section 11) is also included.
  - Section 12 – explains how the plan will be monitored to ensure it is working effectively and contributing the delivery of the strategy, objectives and spatial vision.
- 2.24 A summary of the SA findings from the 2016 SA Report is also included in **Appendix 2**, along with an explanation of any changes that have been made to the vision, objectives and policies in the 2018 MLP, and the reasons for selecting or discounting site options for inclusion as Allocations.

## Stage C: Preparing the Sustainability Appraisal Report

- 2.25 This SA Report describes the process undertaken to date in carrying out the SA of the Gloucestershire MLP. It sets out the findings of the appraisal, highlighting any likely significant effects (both positive and negative, and taking into account the likely secondary, cumulative, synergistic, short, medium and long-term and permanent and temporary effects), making recommendations for improvements and clarifications that may help to mitigate negative effects and maximise the benefits of the plan, and outlining proposed monitoring measures.
- 2.26 Each policy and site allocation in the April 2018 MLP Publication Plan was assessed against each SA objective, and a judgement was made with regards to the likely effect that the site/option would have on that objective. These judgements were recorded as a colour coded symbol, as shown below in **Figure 2.1**. The sustainability effects are presented in a matrix for each policy or site allocation, in **Appendices 5** and **6** respectively, along with a brief justification of the judgement made.



**Figure 2.1: Key to symbols and colour coding used in the SA of the MLP**

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

## Stage D: Consultation on the Gloucestershire Minerals Local Plan: Publication Plan (April 2018) and this SA Report

- 2.27 GCC is inviting comments on the April 2018 MLP Publication Plan and this SA Report under Regulation 19 of the Town and Country Planning (Local Planning) (England) Regulations 2012 (Statutory Instrument 2012 No. 767).

## Stage E: Monitoring Implementation of the DPD

- 2.28 Stage E will follow adoption of the MLP. LUC has not been commissioned to undertake the SA monitoring. However, the SEA Regulations and the Government's SA Guidance require that the Sustainability Report includes a description of measures envisaged concerning monitoring. This is discussed in **Chapter 6**.

# 3 Sustainability Context for Minerals Development in Gloucestershire

## Review of Plans, Policies and Programmes

- 3.1 This section addresses the SEA Directive requirements in Annex I:
- (a) an outline of the contents, main objectives of the plan or programme and relationship with other relevant plans and programmes; and
  - (e) the environmental protection objectives, established at international, Community or Member State level which are relevant to the plan or programme and the way those objectives and any environmental considerations have been take account during its preparation.

### Outline of the Gloucestershire MLP

- 3.2 The MLP Publication Plan is the next stage of consultation for the Gloucestershire MLP which will be a plan for the future development of minerals in Gloucestershire.
- 3.3 The MLP Publication Plan draws together the outcomes of earlier consultation stages along with new and up-to-date evidence. This is the version of the plan proposed to be submitted to the Secretary of State for Examination.
- 3.4 The MLP Publication Plan includes the same sections outlined for the Draft MLP (see **paragraph 2.23**), but has refined and amended the options and proposed policies, taking into account updated evidence and consultation responses to earlier iterations of the plan. Relationship between Gloucestershire MLP and other relevant plans and programmes, including their environmental protection objectives
- 3.5 The Gloucestershire MLP is not prepared in isolation, being influenced by other plans, policies and programmes and by broader sustainability objectives. It needs to be consistent with international and national guidance and strategic planning policies and should contribute to the goals of a wide range of other programmes and plans, such as those relating to social policy, culture and heritage. It must also conform to environmental protection legislation and the sustainability objectives established at an international, national and regional level.
- 3.6 A review has been undertaken of the other plans, policies and programmes that are relevant to the MLP. The purpose of the review of other plans and strategies is to consider how they will influence the preparation of the MLP and the SA. **Table 3.1** below lists relevant plans, programmes and strategies. The list is not, and cannot be exhaustive. The review has only sought to identify key documents which reflect local, regional, national and international social, economic and environmental issues. **Appendix 3** details the relationship that the following plans and policies have with the development of the MLP and the SA, and also shows how the environmental, social and economic objectives have been taken into account during preparation of the MLP and also the SA.
- 3.7 The most significant development in terms of the policy context for the MLP was the 2012 publication of the NPPF which replaced the suite of Planning Policy Statements (PPSs) and Planning Policy Guidance (PPGs), including Minerals Policy Statements and Minerals Policy Guidance documents. A number of the replaced documents were reviewed as part of the Lord Taylor review of planning guidance. The aim of the review was 'to support effective planning; what new or updated practice guidance should be published, with clear priorities; and what guidance should be cancelled.' This resulted in the publication of national Planning Practice Guidance<sup>11</sup> (PPG) as a streamlined web-based resource that accompanies the NPPF. This ensures

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<sup>11</sup> DCLG (2014). Planning Practice Guidance. Available at: <http://planningguidance.planningportal.gov.uk/>

that planning practice guidance supports national planning policy. A large majority of past guidance has been included in the recently published guidance; however, many guidance documents have also been cancelled.

- 3.8 The Gloucestershire MLP must be consistent with the requirements of the NPPF, which sets out information about the purposes of local plan-making. It states that:

*“Local Plans must be prepared with the objective of contributing to the achievement of sustainable development. To this end, they should be consistent with the principles and policies set out in this Framework, including the presumption in favour of sustainable development.”*

- 3.9 While the NPPF replaces the suite of Minerals Policy Statements, the principles for minerals planning are still retained in the NPPF including: the maintenance of landbanks for crushed rock and sand and gravel; designation of Mineral Safeguarding Areas; providing for restoration and aftercare at the earliest opportunity and to high environmental standards; and setting out environmental criteria against which planning applications will be assessed.

**Table 3.1: Relevant plans, policies and documents**

International / European
EU SEA Directive
The World Summit on Sustainable Development, Johannesburg 2002 – Commitments arising from the Summit
EU Air Quality Framework Directives
EU Seventh Environmental Action Plan
EU Drinking Water Directive
EU Water Framework Directive
EU Bathing Water Quality Directive
EU Birds and Habitats Directives (i.e. The Birds Directive (2009/147/EC) and EU Directive on the Conservation of Natural Habitats and of Wild Fauna and Flora (92/43/EEC))
EU Biodiversity Strategy to 2020
Ramsar Convention- Convention on Wetlands of International Importance 1971
EU Management of waste from extractive industries (2006/21/EC)
EU Waste Framework Directive
Closing The Loop - An EU Action Plan for the Circular Economy 2015
European Landscape Convention 2000
IPCC’s Fifth Assessment Report on Climate Change
Aarhus Convention 1998
National
National Planning Policy Framework (NPPF) (March 2012)
Planning for Freight on Inland Waterways
DEFRA Natural Environment and Rural Communities Act 2006 – Section 41: List of Habitats and

Species of Principal Importance in England 2008
The Conservation of Habitats and Species Regulations 2010 (as amended)
Biodiversity 2020 – A strategy for England's wildlife and ecosystem services.
Natural Environment White Paper
Securing the Future: Delivering UK Sustainable Development Strategy
The Air Quality Strategy for England, Scotland, Wales and Northern Ireland
The UK Low Carbon Transition Plan
Carbon Plan: Delivery our low carbon future
A Strategy for England's Trees, Woods and Forests
National Trails Publication
The Environment Agency's Approach to Groundwater Protection 2017
Flood and Water Management Act 2010
Water White Paper: Water For Life 2011
Planning for the Supply of Natural Building Stone in England and Wales
Collation of the Results of the 2014 Aggregate Mineral Survey for England and Wales
Climate Change Act 2008
Minerals Extraction and the Historic Environment 2008
Minerals Extraction and Archaeology: A Practice Guide 2008
Planning Practice Guidance on Minerals 2014
Marine Policy Statement
England's Statutory Landscape Designations: A Practical Guide To Your Duty Of Regard
The Geological Conservation Review In The Context Of The Wider Earth Heritage Conservation Effort
<b>Strategic / Sub-National</b>
South West Nature Map
Wessex Water Resources Draft Management Plan
Thames Water Resources Management Plan
Severn Trent Water Draft Resources Management Plan
Welsh Water Resources Management Plan
Bristol Water Resources Management Plan
Severn River Basin District: River Basin Management Plan

Thames River Basin District: River Basin Management Plan
Emerging South West Marine Plan
<b>County and Local</b>
Gloucestershire Strategic Flood Risk Assessment for Minerals & Waste Development Framework
Landscape Character Assessments
A Strategic Framework for Green Infrastructure (Gloucestershire) – 2015
Gloucestershire Nature Map
Gloucestershire Cotswolds Geodiversity Audit & Local Geodiversity Action Plan 2005
Gloucestershire's Local Transport Plan (2015-2031)
Gloucestershire Strategic Economic Plan (SEP)
Cotswold Water Park Biodiversity Action Plan 2007 – 2016
Strategic Review And Implementation Plan For The Cotswold Water Park
Gloucester-Cheltenham-Tewkesbury Joint Core Strategy: GCT-JCS (Submission Version – November 2014)
Gloucester City Plan (Pre-Publication Draft Version: March 2012 – July 2013)
Tewkesbury Borough Local Plan to 2011 (Adopted – March 2006)
Tewkesbury Borough Local Plan 2011 – 2031: Draft Policies And Site Options For Public Consultation (2015)
Tewkesbury Borough Flood and Water Management Supplementary Planning Document (Adopted – December 2014)
Stroud District Local Plan (Adopted – November 2015)
Cheltenham Borough Plan 2 <sup>nd</sup> Review (Adopted – June 2006)
The Cheltenham Plan (Part One): Preferred Options (2017)
Forest of Dean Core Strategy (2012)
Cotswold District Local Plan Submission Version (2016)
Cotswold District Local Plan (Submission Version – June 2016)

## Baseline Information

- 3.10 This section addresses the SEA Directive requirements in Annex I:
- (b) the relevant aspects of the current state of the environment and the likely evolution thereof without implementation of the plan or programme; and
  - (c) the environmental characteristics of areas likely to be significantly affected.
- 3.11 Baseline information provides the context for assessing the sustainability of proposals in the MLP and it provides the basis for identifying trends, predicting the likely effects of the plan and monitoring its outcomes. The requirements for baseline data vary widely, but it must be relevant to environmental, social and economic issues, be sensitive to change and should ideally relate to records which are sufficient to identify trends.
- 3.12 The baseline data focuses on key indicators which are readily available and can be updated to demonstrate the issues. The choice of baseline data has been informed by the previous stages in the SA process. Potentially a key limitation of the SA process is gaps in baseline data. Government guidance on SA takes a pragmatic view in advising that it is acceptable to have data gaps, but that the resulting risks should be documented. **Appendix 4** of this report provides an extensive discussion on the relevant baseline information for the County and in particular the role of minerals development.
- 3.13 Annex 1(f) of the SEA Directive requires data to be gathered on biodiversity, population, human health, flora, fauna, soil, water, air, climatic factors, material assets, cultural heritage including architectural and archaeological heritage, landscape and the inter-relationship between the above factors (these are often referred to as 'SEA Topics'). As an integrated SA and SEA is being carried out, baseline information relating to other 'sustainability' topics has also been included; for example information about housing, social inclusiveness, transport, energy, minerals and economic growth.
- 3.14 **Table 3.2** describes the potential effects of minerals development on the SEA Topics and also the likely future environmental status if the Gloucestershire MLP were not prepared (in order to meet part of the requirement of Annex 1b of the SEA Directive).

**Table 3.2: Potential environmental effects of minerals development and likely future evolution of the environment in the absence of the Gloucestershire MLP**

SEA Topic (SEA Directive 2001/42/EC Annex 1 (f))	Potential effects of minerals and waste development & likely future environmental (or other) status in the absence of the Gloucestershire MLP
Biodiversity, Flora, Fauna and Soil	<p>Gloucestershire is a highly diverse County with a great variety of wildlife reflected in the large number of sites that have international, national or local designations. Biodiversity outside these areas should also not be neglected as habitats that have a linking function are very important.</p> <p>Potential negative effects are:</p> <ul style="list-style-type: none"> <li>• Impacts on ecosystem services such as flood defences, water purification, soil formation and pollination.</li> <li>• Potential loss of protected species and loss/deterioration of priority habitats.</li> <li>• Habitat deterioration loss and/or fragmentation due to land take.</li> <li>• Changes in soil conditions and or quality or loss of best and most versatile soils.</li> </ul>

SEA Topic (SEA Directive 2001/42/EC Annex 1 (f))	Potential effects of minerals and waste development & likely future environmental (or other) status in the absence of the Gloucestershire MLP
	<ul style="list-style-type: none"> <li>• Changes in the quality of air and water. Pollution potential in terms of noise, vibration, light, dust, air and water pollutants.</li> <li>• Creation of barriers or obstacles affecting wildlife.</li> <li>• Changes in methods of habitat management.</li> <li>• Introduction of new species / habitats.</li> <li>• Changes in ecological balances of prey and predators.</li> <li>• Changes in patterns of human activity.</li> </ul> <p><u>Comment on the likely future environmental status in the absence of the MLP:</u></p> <p>Minerals plans aim to provide for the needs of society (i.e. minerals which we all use). But in the process there may be damage to the natural environment. However plans contain policies which aim to protect and enhance the environment. Without these plans it is more likely that environmental designations would be damaged by un-planned development which is not likely to be the most sustainable option, and the opportunity to enhance the environment, and protect and improve environmental networks would be severely limited.</p>
Water	<p>Quarrying may have significant negative impacts on the water table and on surface water regimes. This is a particularly pertinent issue in Gloucestershire in relation to sand and gravel extraction in the Upper Thames Valley.</p> <p><u>Comment on the likely future environmental status in the absence of the MLP:</u></p> <p>In the absence of the MLP and policies aimed at the protection of the water environment, rivers, streams, lakes as well as subterranean hydrological regimes are more likely to be damaged as a result of un-regulated and environmentally insensitive development.</p>
Air	<p>Traffic associated with mineral sites can increase dust and odour.</p> <p><u>Comment on the likely future environmental status in the absence of the MLP:</u></p> <p>Air quality may deteriorate in the County in the absence of policies which aim at the control and mitigation of the problem.</p>
Climatic factors	<p>The extraction methods, mineral processing (including burning of fossil fuels) and the movement of mineral products may contribute to the production of greenhouse gases which have a negative impact on actions to tackle climate change.<u>Comment on the likely future environmental status in the absence of the MLP:</u></p> <p>In the absence of the MLP and specific policies aimed at combating climate change and reducing the impacts, it is likely that contributions to climate change from minerals development</p>

SEA Topic (SEA Directive 2001/42/EC Annex 1 (f))	Potential effects of minerals and waste development & likely future environmental (or other) status in the absence of the Gloucestershire MLP
	will not be appropriately controlled and mitigated.
Material assets	<p>Minerals development may affect the value of nearby land, property or other material assets. This may also apply to land and property that lies on a lorry route. In terms of aerodromes (as material assets) there are potential safety issues related to the likelihood of birdstrike from e.g. open water created as part of mineral restoration.</p> <p>Conflicts with existing or planned infrastructure such as green infrastructure assets.</p> <p><u>Comment on the likely future status in the absence of the MLP:</u></p> <p>In the absence of the MLP there may be negative impacts, on material assets (and also safety concerns) as a result of un-regulated, un-mitigated or poorly planned development.</p>
Population	<p>Populations may potentially be affected by mineral workings and associated transportation. Communities can be very sensitive to increases in noise, traffic levels, odour, visual impacts and other negative impacts on amenity.</p> <p><u>Comment on the likely future status in the absence of the MLP:</u></p> <p>In the absence of the MLP and appropriate policies there may be negative impacts on populations and communities as a result of un-regulated, un-mitigated or poorly planned development.</p>
Human Health	<p>Minerals development can have various negative impacts. Noise from quarry working or associated traffic may disturb individuals sleep patterns – causing stress.</p> <p>There is a danger that existing inequalities in health between groups in a community may be exacerbated. It may be that those with resources and influence in a community can successfully object to what they regard as undesirable development. Poorer communities may not have the means or mobilisation.</p> <p>Those at particular risk of discrimination / disadvantage or are particularly vulnerable include, poorer communities (measured through a variety of indicators), black and minority ethnic people, people with disabilities, Gypsies and Travellers, single parent families; lesbian, gay, bisexual and transgender people; religious groups and carers.</p> <p><u>Comment on the likely future status in the absence of the MLP:</u></p> <p>In the absence of the MLP there may be negative impacts on human health as a result of un-regulated, un-mitigated or poorly planned development.</p>
Cultural heritage including architectural & archaeological heritage	<p>Minerals sites along with ancillary development such as road construction, soil bunds and screening, processing and storage areas can potentially damage or destroy artefacts / sites of cultural and archaeological heritage. Indirect effects may include:</p>



SEA Topic (SEA Directive 2001/42/EC Annex 1 (f))	Potential effects of minerals and waste development & likely future environmental (or other) status in the absence of the Gloucestershire MLP
	<ul style="list-style-type: none"> <li>• A reduction in the legibility of archaeological landscapes as a result of the interruption of features extending beyond the extraction area.</li> <li>• Dewatering and potential disruption to drainage regimes may damage waterlogged archaeological deposits and destroy a site's palaeo-environmental potential.</li> <li>• Subsidence or ground settlement on upstanding monuments and historic buildings.</li> <li>• Dust from workings can have a detrimental impact on historic buildings and monuments – especially if the dust particles are chemically active.</li> <li>• In the long term the setting and character of a historic monument / archaeological landscape / Listed Building might be affected by extraction. Apart from visual aspects, there may be a detraction of amenity resulting from the disruption of rights of way and access and increased noise and heavy traffic.</li> </ul> <p><u>Comment on the likely future status in the absence of the MLP:</u></p> <p>In the absence of the MLP and appropriate policies there may be damage to Gloucestershire's cultural heritage (including architecture and archaeology) as a result of un-regulated, un-mitigated or poorly planned development.</p>
Landscape	<p>Landscapes may be damaged where a development changes the physical character of a particular area. Changes to, or the physical removal of landscape elements e.g. trees, slopes, hedges, field boundaries may change the character of the landscape and how it is experienced. Views may be damaged, both in terms of composition and extent. Potential landscape / visual effects as a result of quarrying / landraise / landfill development may include:</p> <ul style="list-style-type: none"> <li>• Natural topography being permanently damaged.</li> <li>• Geological exposures in old disused quarries may be lost if they are backfilled.</li> <li>• Loss of hedgerows and hedgerow trees.</li> <li>• Rural character eroded as a result of operational areas, litter trapping fences, stockpiles and mounds, plant and buildings.</li> <li>• Insensitive restoration may weaken the local distinctiveness of a landscape.</li> <li>• On the positive side, mineral operations can create new landscape features such as lakes, ponds and wetlands. A good example being the Cotswold Water Park.</li> </ul> <p><u>Comment on the likely future status in the absence of the MLP:</u></p> <p>In the absence of the MLP and appropriate policies there may be damage to valued landscapes within Gloucestershire as a</p>

SEA Topic (SEA Directive 2001/42/EC Annex 1 (f))	Potential effects of minerals and waste development & likely future environmental (or other) status in the absence of the Gloucestershire MLP
	result of un-regulated, un-mitigated or poorly planned development.
The inter-relationship between the issues referred to above	<p>There are numerous, complex inter-relationships between all the aspects of the natural and built environment and all the other social and economic factors that have been considered.</p> <p><u>Comment on the likely future status in the absence of the MLP:</u></p> <p>In the absence of the MLP and appropriate policies, development may cause unforeseen damage or produce knock-on negative impacts as a result of un-regulated, un-mitigated or poorly planned development.</p>

## Key Sustainability Issues

3.15 This section addresses the SEA Directive requirements in Annex I:

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

3.16 **Table 3.3** lists the key sustainability issues for Gloucestershire that were identified by GCC in the Scoping Report update (July 2013). In order to address the SA requirements as well as SEA, social and economic issues are identified as well as environmental issues. The table has also been updated to reflect updated baseline information (see **Appendix 3**). It is a general list and certain issues are likely to have greater significance to the development of minerals policy in Gloucestershire, such as: protecting Gloucestershire's environment whilst providing minerals; the high levels of traffic congestion and associated impacts which minerals development could potentially contribute to; minerals can only be worked where they are found and this is often in what is considered to be sensitive environments; the quality of mineral site restoration; and changes in landscape character.

**Table 3.3: Key sustainability issues in Gloucestershire**

No.	Sustainability Issues
1	<p><b>Relatively high house prices in the County</b></p> <p>Gloucestershire is a relatively expensive place to live, with some districts and areas clearly much more expensive than others. The average price of a house in Gloucestershire in December 2017 was £261,264 compared to the UK average of £226,756. The most expensive district is the Cotswolds, with an average house price of £394,405, and the least expensive is Gloucester, with an average house price of £198,987. Overall house prices in the County during December 2017 were 8.5% up on December 2016 and 31.3% up on December 2013.</p>
2	<p><b>Relatively low average income:</b></p> <p>In 2017 the mean average income for residence in Gloucestershire was £549.20 per week slightly lower than the national average (£552.70 per week). However the average weekly income in Tewkesbury (£574.90) and Cheltenham (£572.70) were well above the national average and the average weekly income in Gloucester was well below the national average (£502.00) (Nomis, 2018).</p>

No.	Sustainability Issues
3	<p><b>High crime levels in some areas</b></p> <p>Seven Lower Super Output Areas in Gloucester are in the Top 10% nationally most deprived wards in terms of crime (2015).</p>
4	<p><b>Poor health in some areas / amongst certain groups</b></p> <p>There are pockets of health related deprivation in Gloucester, Cheltenham, Stroud and the Forest of Dean where life expectancy is lower than the rest of the County. Early death rates from heart disease and stroke and from cancer are lower than the England rates and falling.</p>
5	<p><b>High levels of traffic congestion and associated impacts</b></p> <p>The busiest routes in the County, exceeding the national average journey time of 2.41 vehicle minutes per mile, are sections of the A38, A40, A4013, A4019, A417, A4173, A430, A432, A435, A46, B4063, B4073, B4215, Barnwood Road, Hucclecote Road and Leckhampton Road in Cheltenham and Gloucester. Analysis of internal congestion monitoring data shows that between 2008/09 and 2010/11, there has been a gradual worsening of congestion on a number of corridors in Cheltenham and Gloucester.</p>
6	<p><b>The performance of the rural economy</b></p> <p>Employment in more traditional agricultural industries is now under-represented in Gloucestershire compared to the UK average. However, in sharp contrast the leisure and tourism industry has grown and is economically significant in many rural parts of the County.</p>
7	<p><b>Areas of deprivation and social exclusion</b></p> <p>According to Government Indices of Deprivation there are significant pockets of deprivation in the County, mainly in the urban areas of Gloucester and Cheltenham. The Indices of Deprivation are made up of 7 domains: Income; Employment; Health deprivation and disability; Education, Skills and Training deprivation; Barriers to Housing and Services; Crime and Living Environment. These are combined to give the Index of Multiple Deprivation. Some 10 Lower Super Output Areas in Gloucester and 3 Lower Super Output Areas in Cheltenham are within the 10% most deprived areas in England.</p>
8	<p><b>Potential for flooding</b></p> <p>A very serious issue in Gloucestershire, which is forecast to increase in frequency and scale as a result of climate change. High potential in some areas of the County as outlined in Gloucestershire's Strategic Flood Risk Assessment (SFRA). The summer 2007 flood events resulted in 5,000 homes and businesses being flooded, 135,000 homes (over half the homes in the county) without drinking water for up to 17 days and many communities cut off.</p>
9	<p><b>Specific issues relating to mineral site restoration</b></p> <p>There are issues over the general quality of mineral site restoration and also problematic issues in the Cotswold Water Park regarding wet restoration and 'bird strike' issues in relation to the proximity of RAF Fairford. There are a number of specific issues that need to be considered in regards to the Cotswold Water Park – protection and enhancement of existing sites, consideration of the whole environment, the need for a more coherent approach to restoration and after use, ensuring that environmental priorities are considered for the lifetime of a quarrying operation, need for an ecosystems services approach to balance the differing/conflicting needs of biodiversity and people, including responding effectively to the impacts of climate change.</p>

No.	Sustainability Issues
10	<p><b>Difficulties in terms of protecting Gloucestershire’s environment whilst providing minerals needed by society</b></p> <p>Minerals can only be worked where they are found and this is often in what is considered to be sensitive environments. In Gloucestershire the two principle limestone resource areas, the Forest of Dean and the Cotswolds are designated as Special Landscape Areas and AONB.</p>
11	<p><b>Relatively low levels of renewable energy generation</b></p> <p>Gloucestershire’s renewable electricity and heat capacity has slowly increased over the years. The January 2018 Renewable energy planning database monthly extract indicates that the county’s electricity capacity is 171 megawatts (MW) and is predominantly delivered by solar photovoltaics.</p>
12	<p><b>The general state of Gloucestershire’s biodiversity, the condition of SSSIs / sites protected under the Habitat’s Directive / locally designated sites</b></p> <p>Detailed information on the general state of biodiversity in Gloucestershire can be found on the Gloucestershire Local Nature Partnership Website at:  <a href="http://www.gloucestershirenature.org.uk/">http://www.gloucestershirenature.org.uk/</a></p> <p>There are 11 International/European sites in and close to Gloucestershire. There are possible threats to them from minerals development although they are protected by law through the Habitat Regulations Assessment (HRA) process, which GCC is undertaking as part of the MLP preparation.</p> <p>The most recent condition of Sites of Special Scientific Interest (SSSI) survey (Natural England, 26 February 2018) showed that 96.39% of the county’s SSSIs were meeting favourable or unfavourable recovering status.</p> <p>Special consideration should be had to bat populations within the Wye Valley and Forest of Dean Special Area of Conservation (SAC). This area has 26% of the national population of the Lesser Horseshoe Bat and 6% of the Greater Horseshoe Bat.</p> <p>Climate change may also lead to climate and habitat changes at designated sites, altering their suitability for the species or habitats they are designated to protect (also applicable to 13).</p>
13	<p><b>Decline in species biodiversity - in particular of certain bird species in Gloucestershire</b></p> <p><i>Biodiversity decline:</i> The priority species on the English list relevant to Gloucestershire are referenced on the Gloucestershire Local Nature Partnership Website at:  <a href="http://www.gloucestershirenature.org.uk/actionplan/priority-species.php">http://www.gloucestershirenature.org.uk/actionplan/priority-species.php</a></p> <p><i>Bird populations:</i></p> <p>Over a 40 year period in Gloucestershire there had been a decline in 22 species, 15 species increased in number, 3 species were lost and there were 2 new species.</p> <p>Source: Gloucestershire Environment Partnership. State of the Natural Environment Report 2011.</p>
14	<p><b>Increases in serious pollution incidents</b></p> <p>There have been eight serious water land or air pollution incidents in 2017, 7 in 2016, 13 in 2015 and 14 in 2014. The majority of these have either been in the Forest of Dean District or in Gloucester City.</p>
15	<p><b>Water quality and quantity</b></p>

No.	Sustainability Issues
	<p>Gloucestershire falls within the Severn river basin district (including the Wye) and the Thames river basin district river basin management plans. 20% of surface waters within the Severn river basin have good ecological status or potential and 79% of ground waters have good quantitative status. Only 8% of surface waters within the Thames river basin have good ecological status or potential and 53% of ground waters have good quantitative status. Climate change could also contribute to changes in hydrology, such as increased drought.</p>
16	<p><b>Potential for damage to the historic environment</b></p> <p>Archaeological sites in the Gloucestershire Sites and Monuments Record = around 42,000. Scheduled Monuments in Gloucestershire = 478. Conservation Areas = 248. Number of Listed Buildings = 12,953. Buildings on the Heritage At Risk Register = 102.</p>
17	<p><b>Detrimental changes in landscape character</b></p> <p>There are three Areas of Outstanding Natural Beauty (AONB) in the County, which cover 137,816 hectares or 51% of the County area, and priority landscapes that are referenced on the Gloucestershire Local Nature Partnership Website at:</p> <p><a href="http://www.gloucestershirenature.org.uk/actionplan/priority-landscapes.php">http://www.gloucestershirenature.org.uk/actionplan/priority-landscapes.php</a></p> <p>There is the potential for minerals development to contribute to detrimental changes in landscape character in the County and plans should endeavour to minimise impacts as much as possible.</p> <p>The Gloucestershire Nature Map also identifies four Natural Areas in which the following Strategic Nature Areas (SNA) have been identified: Woodland, Unimproved Limestone Grassland, Unimproved Neutral Grassland, Lowland Wet Grassland and Heathland/Acid Grassland. Climate change represents a major threat to landscape character in the County e.g. with beech woods under particular threat from rising temperatures. More on the Gloucestershire Nature Map can be found on the Gloucestershire Local Nature Partnership Website at:</p> <p><a href="http://gloucestershirenature.org.uk/actionplan/nature-map.php">http://gloucestershirenature.org.uk/actionplan/nature-map.php</a></p>

## 4 Sustainability Appraisal Framework and Assumptions

### Sustainability Appraisal Framework

- 4.1 This section addresses the SEA Directive requirements in Annex I(e): the environmental protection objectives, established at international, Community or Member State level, which are relevant to the plan or programme and the way those objectives and any environmental considerations have been taken into account during its preparation.
- 4.2 Development of an SA Framework is not a requirement of the SEA Directive. However, it provides a recognised way in which the likely sustainability effects of a plan can be described, analysed and compared. Once SA Objectives are developed they provide the basis for testing strategy and policy formulation of relevant aspects of the MWDF. The objectives derived from this process are the basis for identifying appropriate indicators and targets against which the success of adopted strategies and policies may be judged.
- 4.3 The SA Framework contains a number of objectives and has been developed by GCC Minerals and Waste Planning Policy officers. The original SA Framework Objectives have changed and evolved with the MWDF. There are several reasons for this:
- SA is an iterative and evolving process. The Framework can be regularly updated, particularly in terms of presenting up-to-date baseline data.
  - The SA process is a consultative one, both in terms of the MWDF documents and the SA Reports. The GCC Minerals and Waste Planning Policy team have made every effort to take on board the comments of stakeholders and to make appropriate changes.
  - Government guidance and planning legislation is constantly changing and being updated and the SA process has to reflect this.
- 4.4 The policies and sites included in the MLP (April 2018) have been appraised against the SA Objectives, which are included in **Table 4.1** below. Each objective has a number of subsidiary questions, which provide criteria when conducting assessment.

**Table 4.1: Sustainability Appraisal Objectives**

Sustainability Appraisal Objectives and Subsidiary Questions
<b>Social</b>
<p>1. To promote sustainable development and sustainable communities and improve the health and wellbeing of people living and working in Gloucestershire as well as visitors to the County.</p> <ul style="list-style-type: none"> <li>- What are the potential health impacts on communities?</li> <li>- What are the potential health impacts on the employees at the site or facility?</li> </ul>
<p>2. To safeguard the amenity of local communities from the adverse impacts of mineral development.</p> <ul style="list-style-type: none"> <li>- What are the impacts in terms of noise and vibration?</li> <li>- To what extent are there potential land use conflict issues?</li> <li>- Are there any cumulative effects in terms of adverse impacts on environmental quality, social cohesion and inclusion or economic potential?</li> </ul>

## Sustainability Appraisal Objectives and Subsidiary Questions

### Economic

3. To promote sustainable economic development in Gloucestershire giving opportunities to people from all social and ethnic backgrounds.

- Does the site present opportunities for spin off employment or other opportunities?

4. To provide employment opportunities in both rural and urban areas of the County, promoting diversification in the economy.

- How many new jobs are likely to be created?
- How far will employees have to travel to work?
- Are there opportunities for employees to use sustainable transport?

5. To ensure that mineral sites do not compromise the safety of commercial or military aerodromes.

- Is the site close to an aerodrome or low flying area?
- Will the site's potential restoration attract large numbers of birds?

6. To conserve minerals resources from inappropriate development whilst providing for the supply of aggregates and other minerals sufficient for the needs of society.

### Environmental

7. To protect, conserve and enhance biodiversity in Gloucestershire.

- What are the potential impacts on sites which are Internationally and Nationally designated?
- Are there any other potential significant impacts over and above the effects on designated sites, including on irreplaceable habitats (e.g. Ancient Woodlands), local sites, protected species and habitats and species of principle importance for biodiversity?
- What potential is there for achieving biodiversity targets and net gains in habitats/biodiversity?

8. To protect, conserve and enhance the landscape in Gloucestershire.

- What are the impacts on AONB?
- What is the likely impact on specific landscape character as detailed in Gloucestershire's Landscape Character Assessment?
- What is the scope for landscape improvement?

9. To restore mineral sites to a high standard in order to achieve the maximum after use benefits including the conservation and enhancement of biodiversity, and delivery of green infrastructure where possible.

- Can the existing landscape be enhanced?
- What restoration issues are there?
- What potential is there to establish coherent, resilient ecological networks?
- Would the restored sites contribute to the Biodiversity 2020 targets?

10. To protect conserve and enhance Gloucestershire's material, cultural and recreational assets.

- What are the likely impacts on material, cultural and recreational assets?
- Have any material assets been overlooked?
- Will the development contribute to providing traditional building materials?

## Sustainability Appraisal Objectives and Subsidiary Questions

11. To protect conserve and enhance geodiversity in Gloucestershire.

- What if any are the likely impacts on geodiversity?
- Will it enhance geodiversity?

12. To protect conserve and enhance townscapes and Gloucestershire's architectural and archaeological heritage.

- What are the potential adverse effects on heritage sites of International importance and / or sites or buildings with a nationally recognised designation?
- What are the impacts upon the wider historic landscape?

13. To prevent flooding, in particular preventing inappropriate development in the floodplain.

- Can the risk of flooding be managed and reduced through site design?
- Will surface water runoff be sustainably managed?
- Is there the potential to protect and promote areas for future flood alleviation schemes?

14. To protect and enhance soil / land quality in Gloucestershire.

- What is the landtake?
- Would it improve the soil quality?

15. To protect and enhance air quality in Gloucestershire, helping to meet local, national and international objectives for air quality.

- What is the proximity of sensitive receptors and to what extent can air emissions, including dust be controlled?

16. To protect and enhance water quality and quantity in Gloucestershire, and to ensure that minerals development does not compromise sustainable sources of water supply.

- What is the proximity of vulnerable surface or groundwater and what are the likely impacts on these features?
- What are the impacts on water consumption?

17. To reduce the adverse impacts of lorry traffic on the environment and communities through means such as:

- a) reducing the need to travel
- b) promoting more sustainable means of transport e.g. by rail or water
- c) sensitive lorry routing
- d) the use of sustainable alternative fuels

- What is the capacity of the site and transport infrastructure to support the sustainable movement of minerals and products arising from resource recovery?

18. To reduce contributions to and to adapt to Climate Change.

- How flexible or adaptable is the site or facility in terms of a) adapting to Climate Change and b) using new technology to reduce greenhouse gas emissions as it develops.



## Assumptions Taken into Account During the SA

- 4.5 SA inevitably relies on an element of subjective judgement. In predicting and assessing the likely sustainability effects of the MLP, GCC's analysis of the characteristics of Gloucestershire and the sustainability issues it faces has been drawn on as well as mapped spatial data (e.g. showing extent of nature conservation designations etc.) and the professional experience of the SA team.
- 4.6 In making SA judgements for the appraisal of mineral site allocations and policies included in the MLP (April 2018) the SA team has also used the data collated and the assessments produced by GCC for each site (see GCC (2016) Evidence Paper to Support the Draft Minerals Local Plan for Gloucestershire Consultation), along with the technical assessments undertaken on behalf of GCC by Atkins on hydrogeology and landscape and the Council's own Habitats Regulations Assessment (HRA). At the time of assessment, an updated HRA was not available, therefore the SA drew on information included in the HRA of the Pre-Publication MLP (2016).
- 4.7 To support the appraisal of mineral site options and subsequent allocations a series of decision-making criteria for each SA headline objective was developed (this can be seen in **Table 4.2**) with the purpose of providing a consistent approach to the prediction and assessment of effects. The decision-making criteria relates specifically to the assessment of the potential sites being considered at this stage for allocation in the MLP, and set out assumptions and justifications for the level of significance of the potential effects that mineral sites developed at those sites may have. These assumptions were developed so that, where possible, quantitative data could be used to appraise the sites. Note that the assumptions and justifications included in Table 4.2 were originally developed prior to the publication of the National Planning Policy Guidance (March 2014) and have therefore been informed by some planning policy statements, and planning practice guidance that has been superseded by the National Planning Practice Guidance. Where referenced, former planning policy statements and planning practice guidance are still judged to be relevant as the specific information they contained has not been included in the NPPG. Some of the assumptions have been updated to reflect the hydrogeology and landscape technical assessment reports that were not available previously (see SA objectives 8, 13 and 16).
- 4.8 It should be noted that distances from specific assets (e.g. biodiversity, heritage, recreational) used within relevant SA Objectives to predict the magnitude of potential effects of allocating the sites are for a guide only and do not mean that mineral sites within a certain distance would definitely have an effect in every instance. The potential effect depends significantly on the type and design of mineral sites eventually developed on the site, which will need to be assessed if prescribed within policies of the Minerals Local Plan or at the planning application stage.

**Table 4.2: SA Framework and Assumptions for the Gloucestershire Minerals Local Plan**

SA Objective and Sub Questions <sup>12</sup>	Score	Justification/reasons for score	Data sources (and limitations)
Social			
<p>1. To promote sustainable development and sustainable communities and improve the health and wellbeing of people living and working in Gloucestershire as well as visitors to the County.</p> <p>- <i>What are the potential health impacts on communities?</i></p> <p>- <i>What are the potential health impacts on the employees at the site or facility?</i></p>		<p>Some minerals sites could have a minor negative effect on protecting the health of local residents, communities and visitors to the County. The risk of dust<sup>13</sup> from blasting/ drilling and other sources within the site (e.g. haul roads, crushers, stockpiles etc.) could affect residents and communities near to mineral extraction sites. However, research undertaken for the government in 1995<sup>14</sup> concluded that dust generated by surface mineral operations (i.e. sand and gravel extraction and crushed rock quarries, as opposed to underground mines) did not result in any specific public health impacts. Therefore, it is not considered likely that mineral extraction in Gloucestershire would give rise to a significant negative effect on health, but minor negative effects due to nuisance effects of dust may be experienced or perceived by some residents etc. living or working close to sites.</p> <p>Both the Technical Guidance to the NPPF<sup>15</sup> and former Annex I: Dust of Minerals Policy Statement 2, state that residents can be affected by dust up to 1km from the source, and that additional measures to control PM<sub>10</sub> might be necessary if, within a site, the actual source of emission is within 1km of any residential property or other sensitive use. However, former Annex I of Minerals Policy Statement 2 also stated that concerns about dust are most likely to be experienced near to dust sources, generally within 100m depending on site characteristics and in the absence of appropriate mitigation. The NPPF is clear that minerals planning authorities should ensure that unavoidable dust emissions are controlled and mitigated or removed at source. Therefore it is assumed that mineral extraction at any of the potential sites will be well operated and that mitigation measures implemented should be sufficient to avoid any potential health effects.</p>	<p>Visual analysis of Ordnance Survey (OS) base maps for residential areas, schools, hospitals and faith centres and information from Gloucestershire County Council's (GCC) own site assessments.</p>
	++	N/A	
	+	N/A	
	0	<p>Potential minerals sites which are:</p> <ul style="list-style-type: none"> <li>Over 100m from sensitive receptors (i.e. residential areas, schools, hospitals, faith centres (e.g. churches, mosques, temples) are expected to have no or negligible effects on health.</li> </ul>	

<sup>12</sup> From: Gloucestershire County Council. Gloucestershire Minerals Local Plan: Sustainability Appraisal – Scoping Report Update 4, July 2013.

<sup>13</sup> Dust is the generic term which BS6069 (Part 2) *Characterization of air quality Glossary* (1987) uses to describe particulate matter in the size range 1–75 µm (micrometres) in diameter. Particles that are less than or equal to (≤) 10 µm in diameter are commonly referred as PM<sub>10</sub>.

<sup>14</sup> Office of the Deputy Prime Minister (by Arup Environmental/Ove Arup and Partners). *The Environmental Effects of Dust from Surface Minerals Workings*, 1995.

<sup>15</sup> DCLG. *Technical Guidance to the National Planning Policy Framework*, March 2012.

SA Objective and Sub Questions <sup>12</sup>	Score	Justification/reasons for score	Data sources (and limitations)
	-?	<p>Potential minerals sites which are:</p> <ul style="list-style-type: none"> <li>• Within 100m of sensitive receptors (i.e. residential areas, schools, hospitals, faith centres (e.g. churches, mosques, temples)</li> </ul> <p>could have minor negative effects on health due to the potential for dust (PM10) to have a negative effect on the health of local residents, communities and visitors to the County. However, this impact is dependent on local circumstances (such as the topography, the nature of the landscape, the respective location of the site and the nearest residential property or other sensitive use in relation to the prevailing wind direction and visibility), therefore in all cases these effects are uncertain (-?).</p>	
	--	<p>N/A, as government research has excluded any health effects of dust generated by surface minerals operations such as sand and gravel and crushed rock extraction.</p>	
<p>2. To safeguard the amenity of local communities from the adverse impacts of mineral development.</p> <p>- <i>What are the impacts in terms of noise and vibration?</i></p> <p>- <i>To what extent are there potential land use conflict issues?</i></p> <p>- <i>Are there any cumulative effects in terms of adverse impacts on environmental quality, social cohesion and inclusion or economic potential?</i></p>		<p>Mineral sites could have a minor negative effect on safeguarding the amenity of local residents and communities. This is because all minerals development would result in some level of noise, vibration and light pollution during site preparation, operation and restoration and associated with transport of minerals from the site. Noise and vibration from blasting/drilling and other sources within the site (e.g. haul roads, crushers, stockpiles etc.) may cause concern to residents and communities near to mineral extraction sites. Former Annex 2: Noise of Minerals Policy Statement 2 (which was superseded by the NPPF) stated that noise from surface mineral operations can have a noticeable environmental impact and is a common cause of complaint. However, research for the former Department for the Environment, Transport and the Regions (DETR) found that practice on the assessment and control of noise at surface mineral workings had improved since the publication of the earlier Minerals Planning Guidance 11 in 1993.</p> <p>The extent of noise and vibration effects on local amenity will depend on the type of mineral extracted on the site, the scale of the operations and the type of activities undertaken within the site. For example, noise and vibration may be greater near hard rock sites (e.g. crushed rock) due to the need for blasting prior to excavation, which is rarely needed at sand and gravel or clay operations.</p> <p>Additionally, potential negative effects may occur in relation to amenity if residential areas are between 100m and 1km from a potential minerals site as dust could have a nuisance effect, as highlighted under Objective 1 above.</p> <p>The NPPF is clear that minerals planning authorities should ensure that unavoidable noise, dust and particle emissions and any blasting vibrations are controlled and mitigated or removed at source, but when developing noise limits, there should be recognition that some noisy short-term activities, which may otherwise be regarded as unacceptable, are unavoidable to facilitate minerals extraction. Therefore it is assumed that mineral extraction at any of the potential sites will be well operated and that mitigation measures implemented should be sufficient to avoid any potential long term amenity</p>	<p>As for SA Objective 1 - visual analysis of OS base maps for residential areas, schools, hospitals and faith centres and information from GCC site assessments.</p> <p>Visual analysis of relevant Local Plan maps for areas planned for future residential development, however, the certainty of these development locations depends on the status of the Local Plan in question, i.e. how close to Adoption it is (the date and stage of each Local Plan has been referred to in the SA matrices).</p>

SA Objective and Sub Questions <sup>12</sup>	Score	Justification/reasons for score	Data sources (and limitations)
		<p>effects.</p> <p>There could be potential for land use conflict where minerals sites are in close proximity to areas planned for future residential development.</p> <p>The NPPF states that local planning authorities should take into account the cumulative effect of multiple impacts from individual sites and/or from a number of sites in a locality.</p>	<p>GIS analysis of number of existing and potential mineral sites within 1km of existing settlement boundaries.</p>
	++	N/A	
	+	N/A	
	0	<p>Potential minerals sites which are:</p> <ul style="list-style-type: none"> <li>Over 100m from sensitive receptors (i.e. residential areas, schools, hospitals, faith centres (e.g. churches, mosques, temples) including areas identified or allocated for residential development in Local Plans.</li> </ul> <p>are expected to have no or negligible effects on local amenity.</p> <ul style="list-style-type: none"> <li>Potential sites which are greater than 100m from an existing mineral site are not expected to have a cumulative effect on the local community.</li> <li>Potential mineral sites which are adjacent to or within 100m of an existing mineral site, but over 100m from sensitive receptors are not expected to have a cumulative effect on the local community.</li> <li>Settlements with no new potential minerals sites within 1km are not expected to experience cumulative effects from new mineral operations on the amenity of the local community.</li> </ul>	
	-	<p>Potential minerals sites which are:</p> <ul style="list-style-type: none"> <li>Within 100m of sensitive receptors (i.e. residential areas, schools, hospitals, faith centres (e.g. churches, mosques, temples) including areas identified or allocated for residential development in Local Plans.</li> </ul> <p>could have a minor negative impact on amenity, although this impact is very dependent on the type of mineral site, the scale of the operations and the type of activities undertaken within the site and potential mitigation measures proposed, which would be assessed at the planning application stage.</p> <p>In addition, potential sites which are:</p> <ul style="list-style-type: none"> <li>Within 1km from a settlement, and</li> </ul>	

SA Objective and Sub Questions <sup>12</sup>	Score	Justification/reasons for score	Data sources (and limitations)
		<ul style="list-style-type: none"> <li>There are other existing mineral sites also within 1km of the same settlement could have a cumulative effect on the amenity of the local community.</li> </ul>	
	--	N/A, as research has highlighted that effects on amenity (e.g. noise) are improving and can be controlled, mitigated or removed.	
<b>Economic</b>			
<p>3. To promote sustainable economic development in Gloucestershire giving opportunities to people from all social and ethnic backgrounds.</p> <p>- Does the site present opportunities for spin off employment or other opportunities?</p>	<p>++</p> <p>+</p> <p>0</p> <p>-</p> <p>--</p>	<p>The <u>location</u> of mineral sites is unlikely to affect the promotion of sustainable economic development in Gloucestershire, as it is unlikely that new sites will encourage further investment and growth in the industry.</p> <p>N/A</p> <p>N/A</p> <p>No effect is likely as mineral sites are unlikely to present opportunities for spin off employment or other opportunities due to sites being self-served by the operators that own them.</p> <p>N/A</p> <p>N/A</p>	No data needed.
<p>4. To provide employment opportunities in both rural and urban areas of the County, promoting diversification in the economy.</p> <p>- How many new jobs are likely to be created?</p> <p>- How far will employees have to travel to work?</p> <p>- Are there opportunities for employees to use sustainable transport?</p>	<p>++</p> <p>+</p> <p>0</p> <p>-</p> <p>--</p>	<p>All of the sites could have a direct and indirect positive effect on increasing employment levels during site preparation, operation and restoration, as they are likely to result in a small amount of job creation for local people in both rural and urban areas. However, job creation is not expected to be significant within the Gloucestershire economy; and given that the overall number of mineral sites likely to be developed in the County will not be a large number each year, the total numbers of new employment opportunities likely to be provided within the County is not considered to be significant. Future employees of potential mineral sites are unlikely to use sustainable transport to travel to work due to the predominant rural location of most mineral sites.</p> <p>N/A</p> <p>All sites are expected to have a minor positive effect on increasing employment levels.</p> <p>N/A</p> <p>N/A</p> <p>N/A</p>	No data needed.
<p>5. To ensure that mineral sites do not compromise the safety of commercial or military aerodromes.</p> <p>- Is the site close to an</p>		<p>Mineral extraction sites that are restored to open water can increase bird-strike risk if they are planned near commercial or military aerodromes. This is because where birds congregate in large numbers, they can provide a hazard to aircraft at locations close to aerodromes or low flying areas. The numbers and movements of some species of birds may be influenced by the distribution of mineral sites. As part of the aerodrome safeguarding procedure (ODPM Circular 1/2003) local planning authorities are required to consult aerodrome operators on proposed developments likely to</p>	Aerodrome safeguarding areas are provided in GCC site assessments (relating to Gloucestershire Airport and MOD Airports).

SA Objective and Sub Questions <sup>12</sup>	Score	Justification/reasons for score	Data sources (and limitations)
<i>aerodrome or low flying area?</i>  - Will the site's potential restoration attract large numbers of birds?		attract birds. Consultation arrangements apply within safeguarded areas (which should be shown on the proposals map in the local development framework).	
		This effect would only apply to sites that plan to incorporate open water restoration. The NPPF states that aviation safety should be taken into account when restoring minerals sites. The type of restoration of potential mineral sites is not known at this stage, and would need to be considered once specific proposals are made.	
	++	N/A	
	+	N/A	
	0	Potential minerals sites that are not within an aerodrome safeguarding area are not expected to have an effect on this objective.	
	-?	Potential minerals sites that are: <ul style="list-style-type: none"> <li>• Within an aerodrome safeguarding area could have minor negative effects on the safety of commercial or military aerodromes due to the potential for birds to provide a hazard to aircraft. A ? will be used to denote uncertainty about this effect as it is dependent on the type of restoration proposed and eventually developed on a site, which may not be known until the planning application stage.</li> </ul>	
--	N/A		
6. To conserve minerals resources from inappropriate development whilst providing for the supply of aggregates and other minerals sufficient for the needs of society.		New potential mineral sites would not be inappropriate development as they are contributing to extraction of mineral resources, not limiting the ability to extract resources, and would therefore have no effect on this objective, which primarily relates to areas being designated as Mineral Safeguarding and Consultation areas to safeguard from sterilisation by <u>non-mineral</u> development.	No data needed.
	++	N/A	
	+	N/A	
	0	No effect is likely as new potential mineral sites would not be classed as inappropriate development and would therefore have no effect on this objective	
	-	N/A	
	--	N/A	
<b>Environmental</b>			
7. To protect, conserve and enhance biodiversity in Gloucestershire.		International and national sites have statutory protection through international and EU conventions (Ramsar, 1971; Bern, 1979; Bonn, 1979), directives (92/43/EC; 2009/147/EC) and national law (Wildlife and Countryside Act, 1981 as amended) and should be conserved and enhanced as outlined	GIS national datasets from Natural England's MAGIC database, plus

SA Objective and Sub Questions <sup>12</sup>	Score	Justification/reasons for score	Data sources (and limitations)
<ul style="list-style-type: none"> <li>- <i>What are the potential impacts on sites which are Internationally and Nationally designated?</i></li> <li>- <i>Are there any other potential significant impacts over and above the effects on designated sites - including on irreplaceable habitats (e.g. Ancient Woodlands), local sites, protected species and habitats and species of principle importance for biodiversity?</i></li> <li>- <i>What potential is there for achieving biodiversity targets and net gains in habitats/biodiversity?</i></li> </ul>		<p>in the NPPF.</p> <p>Locally important sites of nature conservation should also be protected under the NPPF, and it will be necessary to consider those sites that are not afforded statutory protection but are of local importance; especially those that provide ecological connectivity. In addition, previously developed land will not be assumed to have no biodiversity value. Previously developed land that has been undisturbed for a significant period of time can in some instances have greater ecological value than 'greenfield sites'.</p> <p>Note that sites of geological interest are considered under SA Objective 11.</p> <p>The design of and restoration of mineral sites is increasingly adopting innovative practice to contribute to and enhance the natural and local environment by minimising impacts on biodiversity and providing net gains in biodiversity where possible. There may be opportunities for sites to contribute towards national and local biodiversity targets during the restoration stage of the site, supporting ecological networks surrounding the site and incorporating the use of native species and habitats to encourage biodiversity within the site. However, this would be very dependent on the exact nature and proposed design of the planned mineral site, which would not be known until the planning application stage.</p> <p>It is important to bear in mind that looking in greater detail at the effects of current and completed minerals development in the same general location of potential new minerals sites can sometimes provide greater certainty than from the SA process. This can mean that biodiversity concerns flagged up by the SA methodology may not in reality be adverse but actually provide important opportunities for beneficial outcomes (e.g. because sites are near to valued biodiversity and have the potential to enhance it). Therefore, low SA scores (e.g. significant or minor negative) for this objective highlight that a cautious approach should be taken to permitting minerals development rather than ruling it out completely.</p> <p>Initially SA scores were based on analysis of spatial biodiversity data and proximity of the potential mineral site to designated nature conservation sites. However, where relevant, these scores were reviewed to reflect information and interpretation from the GCC Ecologist in 2014 regarding whether impacts are actually likely to occur on those designated nature conservation sites. This information and interpretation draws on the GCC Ecologist's local knowledge of the sites and the consideration of potential pathways/corridors between any designated sites and the minerals site, and consideration as to the potential impact of any minerals development at that site. This information is detailed in</p>	<p>GCC data showing Local Wildlife Sites, and information from the Council's own site assessments.</p> <p>There is no GIS data available for Priority Species and Habitats, however, the Council's site assessments by a GCC Ecologist have considered the proximity to or inclusion within the site of records of a legally protected species; known presence of a habitat or species on the English List* or with Strategic Nature Areas (SNAs) within the Gloucestershire Nature Map (version 1.1 Dec 2011)<sup>17</sup>. GCC's Habitats Regulations Assessment Report (June 2016).</p>

<sup>17</sup> <http://gloucestershirebiodiversity.net/actionplan/nature-map.php>

SA Objective and Sub Questions <sup>12</sup>	Score	Justification/reasons for score	Data sources (and limitations)
		<p>relevant site SA matrices.</p> <p>Finally, the Council's 2016 Habitats Regulations Assessment Report<sup>16</sup> has been reviewed to understand the likelihood of significant effects on SACs, SPAs and Ramsar sites.</p>	
	++	<p>N/A – unless significant biodiversity enhancement opportunities existed through restoration of the minerals extraction site, it is not considered likely that significant positive effects would occur from minerals development at any of the sites.</p>	
	+?	<p>Potential minerals sites for which:</p> <ul style="list-style-type: none"> <li>The GCC assessment considers the overall impact on biodiversity is potentially uncertain/positive or neutral/positive, generally because there is unlikely to be any priority habitats or species affected, but good biodiversity enhancement opportunities exist through restoration of the site</li> </ul> <p>could have a minor positive effect on this objective, however these effects would be uncertain as the potential for effects will depend on the exact nature and design of new sites.</p>	
	0	<p>Potential minerals sites for which:</p> <ul style="list-style-type: none"> <li>The GCC assessment considers the overall impact on biodiversity is either “potentially negative, positive or uncertain”, usually because there are unlikely to be any priority habitats or species affected, and not significant enhancement opportunities; and/or</li> <li>The GCC Habitats Regulations Assessment concludes no significant effects are likely on European designated nature conservation sites (Special Protection Areas, Special Areas of Conservation) and Ramsar sites</li> </ul> <p>are not expected to affect this objective.</p>	
	-/+	<p>For some sites, mixed positive and negative scores are identified, as while there may be some impacts on biodiversity during extraction at the site, there may also be opportunities for habitat creation and enhancement during restoration of the sites.</p>	
	-?	<p>Potential minerals sites for which:</p> <ul style="list-style-type: none"> <li>The GCC assessment considers the overall impact on biodiversity is potentially negative or uncertain on nationally designated sites up to 1km distant, or the GCC assessment considers the site poses a risk to the water environment of any designated aquifer fed/surface water/ flood water dependent site over 1km distant</li> </ul> <p>could have a minor negative effect on this objective, however these effects would be uncertain as the potential for effects will depend on the exact nature and design of new sites.</p>	

<sup>16</sup> HRA Main Report for Gloucestershire MLP (Vers. 1.2 at Pre-Publication Stage), Gloucestershire County Council, 2016.



SA Objective and Sub Questions <sup>12</sup>	Score	Justification/reasons for score	Data sources (and limitations)				
	--?	<p>Potential minerals sites for which:</p> <ul style="list-style-type: none"> <li>The GCC assessment considers the overall impact on biodiversity is potentially negative or uncertain on internationally designated sites up to 1km distant, or</li> <li>The GCC assessment considers the site poses a risk to the water environment of any designated aquifer fed/surface water/ flood water dependent site over 1km distant, or</li> <li>The GCC Habitats Regulations Assessment concludes significant effects are likely</li> </ul> <p>could have significant negative effects on this objective, however these effects would be uncertain as the potential for effects will depend on the exact nature and design of new sites.</p>					
<p>8. To protect, conserve and enhance the landscape in Gloucestershire.</p> <p>- <i>What are the impacts on AONB?</i></p> <p>- <i>What is the likely impact on specific landscape character as detailed in Gloucestershire's Landscape Character Assessment?</i></p> <p>- <i>What is the scope for landscape improvement?</i></p>		<p>Areas of Outstanding Natural Beauty (AONB) have statutory protection through the Countryside and Rights of Way Act (2000). Over half of Gloucestershire has Area of Outstanding Natural Beauty (AONB) status. This comprises a substantial part of the Cotswolds to the east of the County, and also parts of the Wye Valley and the Malvern Hills AONBs.</p> <p>Areas of high landscape quality and the setting of settlements may be affected by the development of minerals sites. In addition, areas with poor landscape character could be enhanced through the creation of high quality restored minerals sites. However, this will not be able to be determined until the planning application stage, and will depend upon factors such as: how prominent sites are in the landscape; the level of screening; and the character of the surrounding landscape.</p> <p>Reference has been made in the GCC site assessments to relevant Landscape Character Areas each site is within, as well as a description in the General Comments section of the potential landscape and visual impacts for each site and whether or not mitigation could be achieved.</p> <p>GCC commissioned landscape assessments for each of the proposed site allocations in the Pre-publication draft of the Minerals Local Plan (September 2016). Reports have been produced by Atkins for each of the allocated sites (dated June 2015), which assess the potential for landscape and visual impacts of minerals extraction. The conclusions regarding landscape impacts from the Atkins reports have been used to inform the judgement of sustainability effects for this SA objective. Where the Atkins reports highlight visual impacts for particular nearby properties, this has been referred to, but has not influenced the overall score for this SA objective as it relates more to impacts on the wider landscape.</p> <table border="1"> <tr> <td>++</td> <td>N/A</td> </tr> <tr> <td>+?</td> <td>The restoration of minerals sites is increasingly adopting innovative practice and this could</td> </tr> </table>	++	N/A	+?	The restoration of minerals sites is increasingly adopting innovative practice and this could	<p>GIS national datasets from Natural England's MAGIC database, plus GCC data showing landscape character areas, information from the Council's own site assessments, in particular the Atkins Landscape Assessment Reports for each site (June 2015).</p>
++	N/A						
+?	The restoration of minerals sites is increasingly adopting innovative practice and this could						

SA Objective and Sub Questions <sup>12</sup>	Score	Justification/reasons for score	Data sources (and limitations)
		<p>have positive effects on landscape character. However, this would be very dependent on the exact nature and proposed design of the restoration of the minerals site, which would not be known until the planning application stage and is recorded for SA Objective 9 below, rather than this objective.</p>	
	0	<p>Potential minerals sites which:</p> <ul style="list-style-type: none"> <li>• Are judged as having 'negligible' or 'minor/negligible' landscape impacts in the Atkins Landscape Report</li> </ul> <p>are considered unlikely to have an effect on the landscape.</p>	
	-?	<p>Potential minerals sites which:</p> <ul style="list-style-type: none"> <li>• Are judged as having 'minor' or 'moderate/minor' landscape impacts in the Atkins Landscape Report</li> </ul> <p>could have a minor negative effect on the landscape.</p> <p>These effects would be uncertain as a more detailed assessment would be required once specific proposals and mitigation measures are known.</p>	
	--?	<p>Potential minerals sites which:</p> <ul style="list-style-type: none"> <li>• Are judged as having 'major', 'major/moderate' or 'moderate' landscape impacts in the Atkins Landscape Report</li> </ul> <p>could have a significant negative effect on the landscape.</p> <p>This effect would be uncertain as a more detailed assessment would be required once specific proposals and mitigation measures are known.</p>	
<p>9. To restore mineral sites to a high standard in order to achieve the maximum after use benefits including the conservation and enhancement of biodiversity, and delivery of green infrastructure where possible.</p> <p>- Can the existing landscape be enhanced?</p> <p>- What restoration issues are there?</p> <p>-</p>		<p>The NPPF requires that high quality restoration and aftercare of minerals sites takes place.</p> <p>The restoration of minerals sites is increasingly adopting innovative practice which has the potential to have positive effects on landscape character, biodiversity, amenity and recreation. Restoration, for example, can contribute to and enhance the natural and local environment by minimising impacts on biodiversity, supporting the delivering of green infrastructure and providing net gains in biodiversity where possible. Green infrastructure is defined by Natural England as a network of multi-functional green space, both urban and rural, which supports economic growth and regeneration, delivers a wide range of quality of life benefits, supports natural systems and biodiversity and help reduces the negative impacts of climate change. There may also be opportunities for sites to contribute towards national and local biodiversity targets. Some sites are now also adopting landscape-scale approaches to restoration, which is supported by the NPPF.</p> <p>However, the standard and extent of restoration would be very dependent on the exact nature and</p>	No data needed.

SA Objective and Sub Questions <sup>12</sup>	Score	Justification/reasons for score	Data sources (and limitations)
<p>- <i>What potential is there to establish coherent, resilient ecological networks?</i></p> <p>- <i>Would the restored sites contribute to the Biodiversity 2020 targets?</i></p>		proposed design of the restoration of the minerals site, which would not be known until the planning application stage.	
	++	N/A	
	+	The restoration of minerals sites is increasingly adopting innovative practice and therefore, any minerals site could have positive effects on landscape character, biodiversity, amenity and recreation in the longer term, once restored. However, this would be very dependent on the exact nature and proposed design of the restoration of the minerals site, which would not be known until the planning application stage.	
	0	N/A	
	--	N/A	
<p>10. To protect conserve and enhance Gloucestershire's material, cultural and recreational assets.</p> <p>- <i>What are the likely impacts on material, cultural and recreational assets?</i></p> <p>- <i>Have any material assets been overlooked?</i></p> <p>- <i>Will the development contribute to providing traditional building materials?</i></p>		<p>All of the potential minerals sites could have negative effects on access to and the enjoyment of recreational facilities if they are in close proximity to the potential site, by making the recreational/cultural facilities less attractive for users or in some cases removing the access (e.g. Public Rights of way (PRoW) and cycle routes). The potential negative effects would arise because all minerals development would result in some level of noise, traffic, and light pollution during site preparation, operations and potentially during restoration as well.</p> <p>There may be some opportunities for enhancement to footpaths/ PRoW through development of particular sites.</p> <p>Protection and conservation of heritage assets is covered under SA Objective 12 below. Aggregate sites are not likely to contribute to providing traditional building materials. Traditional stone as a building material is usually produced from building stone sites which are not being considered in the scope of the potential sites for the Gloucestershire Minerals Local Plan.</p>	<p>GIS data from GCC for PRoW), plus analysis of OS base map for other types of leisure/recreational facilities and open spaces and information from GCC's site assessments (relating to PRoWs). Analysis of Sustrans Maps<sup>18</sup> will be completed for cycle routes.</p>
++	<p>Potential minerals sites which are:</p> <ul style="list-style-type: none"> <li>Assessed as having an opportunity for major enhancement and/or additional routes to be constructed, as identified in the GCC PRoW assessment for the site could have a significant positive effect on recreational assets in the County.</li> </ul>		
+	<p>Potential minerals sites which are:</p> <ul style="list-style-type: none"> <li>Assessed by the GCC PRoW Team as having no Public Right of Way network present, or presence of a PRoW network where there is an opportunity for the existing route</li> </ul>		

<sup>18</sup> Available at: <http://www.sustrans.org.uk/ncn/map?gclid=CIWvqcnx47kCFTIQtAodzCMACQ>

SA Objective and Sub Questions <sup>12</sup>	Score	Justification/reasons for score	Data sources (and limitations)
		to be enhanced. could have a minor positive effect on recreational assets in the County.	
	0	Potential minerals sites which are: <ul style="list-style-type: none"> <li>• More than 250m from a leisure or recreational facility or open space, including Rights of Way, or</li> <li>• Identified in GCC PRoW Team assessment as being a PRoW but not requiring diversion or enhancement.</li> </ul> are not expected to have an effect on recreation assets in the County.	
	-	Potential minerals sites which are: <ul style="list-style-type: none"> <li>• Within 250m of a leisure or recreational facility or open space, including Rights of Way, or</li> <li>• Identified by GCC PRoW Team assessment as having an impact on the PRoW network with potential diversion required.</li> </ul> could have a minor negative effect on recreation activities and assets in the County by making the facilities less attractive for users.	
	--	Potential minerals sites which: <ul style="list-style-type: none"> <li>• Include a leisure or recreational facility or open space, including Rights of Way, or</li> <li>• Are identified by GCC PRoW Team as having a major adverse impact on the network with potential closure required.</li> </ul> could have a significant negative effect on recreation activities, as development of the sites would either mean removing part of a facility/open space, or removing or temporarily closing land which has potential for recreation/access to the countryside.	
<p>11. To protect conserve and enhance geodiversity in Gloucestershire.</p> <p>- <i>What if any are the likely impacts on geodiversity?</i></p> <p>- <i>Will it enhance geodiversity?</i></p>		<p>National and locally important sites of geological/geomorphological interest (SSSIs or Local Geological Sites, formally RIGS) should also be protected under the NPPF. The NPPF states that proposals for any development on or affecting geodiversity sites or landscape areas will be judged. The NPPF also states that to minimise impacts on geodiversity, planning policies should aim to prevent harm to geological interests; and local planning authorities should put in place policies so that high quality restoration and aftercare of mineral sites take place, including for geodiversity.</p> <p>Mineral sites can potentially contribute to geodiversity by preserving and conserving geological features/landscapes that contribute towards the link between people, landscape and their culture. However, due to the methods of extraction and processing, this is more likely at less intensive sites (e.g. building stone) than aggregate sites.</p>	<p>GIS data from GCC relating to RIGS/LGSSs, and information from GCC's site assessments, which are based on information provided by the Gloucestershire Geology Trust at the Geological Records Centre.</p>
	++	N/A	
	+?	The working of and restoration of minerals sites is increasingly adopting innovative practice and there may be opportunities to incorporate and preserve important geological	

SA Objective and Sub Questions <sup>12</sup>	Score	Justification/reasons for score	Data sources (and limitations)
		<p>features within the site. However, this would be very dependent on the exact nature, working and proposed design of the restoration of the minerals site, which would not be known until the planning application stage.</p> <p>Potential minerals sites which are:</p> <ul style="list-style-type: none"> <li>• More than 500m from a national site of geological interest (SSSI) or Local Geological Site</li> </ul> <p>are not expected to affect this objective.</p> <p>Potential minerals sites which are:</p> <ul style="list-style-type: none"> <li>• Within 500m of a national site of geological interest (SSSI) or Local Geological Site</li> </ul> <p>could have a minor negative effect on this objective. However, this would be very dependent on the exact nature, working and proposed design of the restoration of the minerals site, which would not be known until the planning application stage.</p> <p>Potential minerals sites which are:</p> <ul style="list-style-type: none"> <li>• Within the boundary of a national site of geological interest (SSSI) or Local Geological Site</li> </ul> <p>could have significant negative effects on this objective. However, this would be very dependent on the exact nature, working and proposed design of the restoration of the minerals site, which would not be known until the planning application stage.</p>	
<p>12. To protect conserve and enhance the historic environment, heritage assets and their setting.</p> <p>- <i>What are the potential adverse effects on heritage sites of International importance and / or sites or buildings with a nationally recognised designation?</i></p> <p>- <i>What are the impacts upon the wider historic landscape?</i></p>		<p>Listed Buildings have statutory protection through the Planning (Listed Buildings and Conservation Areas) Act 1990.</p> <p>The Ancient Monuments and Archaeological Areas Act (1979) protects monuments whose preservation is given priority over other land uses.</p> <p>The NPPF requires local authorities to conserve and enhance the historic environment and states that when considering the impact of a proposed development on the significance of a designated heritage asset, great weight should be given to the asset's conservation.</p> <p>The development of minerals sites in proximity to heritage assets could have a negative effect on the setting of these assets.</p> <p>Reference has been made in the GCC site assessments to the relevant Historic Landscape Characterisation status for each site, as well as a description of the proximity to nearby heritage assets and whether or not mitigation would need to be provided.</p> <p>GCC commissioned landscape assessments for each of the proposed site allocations in the Pre-</p>	<p>GIS national datasets from Natural England's MAGIC database, plus GCC data showing landscape character areas, and information from GCC's site assessments, which are based on information provided by GCC's Archaeology team.</p>

SA Objective and Sub Questions <sup>12</sup>	Score	Justification/reasons for score	Data sources (and limitations)
		publication draft of the Minerals Local Plan (September 2016). Reports have been produced by Atkins for each of the allocated sites (dated June 2015), which assess the potential for landscape and visual impacts of minerals extraction, including impacts on Historic Landscape Character and local heritage features. The conclusions regarding severity of the impacts on HLC and local heritage features from the Atkins reports have also been used to inform the judgement of sustainability effects for this SA objective.	
	++	N/A	
	+	N/A	
	0	Potential minerals sites which are: <ul style="list-style-type: none"> <li>• Within or adjacent to industrial estates</li> <li>• More than 1km from a Historic Park or Garden or Registered Battlefield</li> <li>• More than 1km from a Scheduled Monument or Listed Building, or</li> <li>• More than 1km from a Conservation Area</li> </ul> are considered to have no effect on these assets.	
	-?	Potential minerals sites which are: <ul style="list-style-type: none"> <li>• Within 1km of a Historic Park or Garden or Registered Battlefield</li> <li>• Within 1km of a Scheduled Monument or Listed Building, or</li> <li>• Within 1km of a Conservation Area</li> </ul> could have a minor negative effect on these assets. <p>In addition, where the GCC site assessment notes some potential for impacts on historic environment there could also be a minor negative effect.</p> <p>These effects would be uncertain as a more detailed assessment would be required once proposals are known.</p>	
	--?	Potential minerals sites which: <ul style="list-style-type: none"> <li>• Are within or adjacent to a Historic Park or Garden or Registered Battlefield</li> <li>• Have Listed Buildings or Scheduled Monuments present on site, or</li> <li>• Are located within or adjacent to a Conservation Area</li> </ul> could have a significant negative effect on these assets. <p>In addition, where the GCC site assessment notes significant potential for impacts on historic environment there could also be a significant negative effect.</p> <p>These effects would be uncertain as a more detailed assessment would be required once proposals are known.</p>	
13. To prevent flooding, in particular preventing inappropriate development in		Paragraphs 100-105 of the NPPF describe how Local Authorities should apply a sequential, risk based approach to the location of development to avoid where possible flood risk to people and property and manage any residual risk by: applying the Sequential Test; if necessary, applying the Exception	GIS data from GCC and the Environment Agency, and GCC's site

SA Objective and Sub Questions <sup>12</sup>	Score	Justification/reasons for score	Data sources (and limitations)
<p>the floodplain.</p> <ul style="list-style-type: none"> <li>- <i>Can the risk of flooding be managed and reduced through site design?</i></li> <li>- <i>Will surface water runoff be sustainably managed?</i></li> <li>- <i>Is there the potential to protect and promote areas for future flood alleviation schemes?</i></li> </ul>		<p>Test; and using opportunities offered by new development to reduce the causes and impact of flooding. As stated in the technical guidance to the NPPF<sup>19</sup>, local authorities should take a sequential approach to developing in areas at risk of flooding, giving preference to locating development in Flood Zone 1, followed by Flood Zone 2 then Flood Zone 3.</p> <p>Table 2 of the technical guidance to the NPPF outlines the flood risk vulnerability classification. Minerals working and processing (except sand &amp; gravel working) are classed as less vulnerable, which means that they are potentially compatible with all flood zones except for Flood Zone 3b, the functional floodplain<sup>20</sup>. Sand and gravel workings are classed as water-compatible development and are potentially suitable for all flood zones including 3b, the functional floodplain.</p> <p>Some sites, which may dewater, may hold the potential to store excess water in times of heavy rain, which would be seen as a positive in terms of preventing flood risk. However, this would not be known until the planning application stage.</p> <p>GCC commissioned hydrogeological assessments for each of the proposed site allocations in the Pre-publication draft of the Minerals Local Plan (September 2016). Reports have been produced by Atkins for each of the allocated sites (dated March 2016), which assess whether quarrying of crushed rock or sand and gravel at the allocated site is likely to have a significant impact on flood risk, water quality or changes in water quantity. Therefore, the conclusions of the Atkins reports have been used to inform the judgement of sustainability effects for this SA objective on flood risk, as well as for SA objective 16 below. However, the Atkins reports state that the conclusions reached are “possible effects that could occur in the absence of appropriate mitigation. It is expected that applicants will complete detailed assessment and develop appropriate mitigation measures. It is likely therefore that the impacts of any particular scheme would not approach those detailed.” Although the Atkins reports conclude that there could be significant flood risk impacts from mineral extraction for many of the potential sites, there is an explanation of the measures that would be included to reduce flood risk, and a conclusion is reached regarding residual effects which are generally negligible for most of the sites. Therefore, it is assumed that the potential significant effects identified in the Atkins reports are very unlikely to occur, and only minor negative effects on flood risk have been identified, with uncertainty attached as they will depend on the detailed proposal for the site and any mitigation measures included, which would be assessed at the planning application stage.</p>	<p>assessment (relating to flood risk).</p>

<sup>19</sup> DCLG (March, 2012). Technical Guidance to the National Planning Policy Framework.

<sup>20</sup> Table 3 of the technical guidance to the NPPF.

SA Objective and Sub Questions <sup>12</sup>	Score	Justification/reasons for score	Data sources (and limitations)
	++	N/A	
	+	N/A	
	0	<ul style="list-style-type: none"> <li>Sites where the Atkins hydrogeological report concludes an insignificant impact on flood risk are not expected to have an effect on flood risk.</li> </ul>	
	-?	<ul style="list-style-type: none"> <li>Sites where the Atkins hydrogeological report concludes there is potential for a significant risk of flooding could have a minor negative effect on flood-risk, although this is uncertain because it is very likely that sufficient mitigation measures will be implemented to reduce the residual risk to negligible.</li> </ul>	
	--	N/A	
<p>14. To protect and enhance soil / land quality in Gloucestershire.</p> <p>- <i>What is the landtake?</i></p> <p>- <i>Would it improve the soil quality?</i></p>		<p>The NPPF states that where significant development of agricultural land is demonstrated to be necessary, local planning authorities should seek to use areas of poorer quality land (4 and 5) in preference to that of a higher quality (1, 2 and 3). Furthermore, the NPPF states that local planning authorities should put in place policies to ensure that high quality restoration and aftercare of mineral sites takes place, including for agriculture (safeguarding the long term potential of best and most versatile agricultural land and conserving soil resources). Therefore, there may be opportunities to redress the loss of agricultural land. This is uncertain however, as it will depend on the specific restoration proposals put forward which will not be known until the planning application stage.</p>	<p>GIS national datasets from Natural England's MAGIC database and GCC's site assessment.</p>
	++	N/A	
	+	N/A	
	0	<p>Potential minerals sites which are:</p> <ul style="list-style-type: none"> <li>Not within grade 1, 2 or 3 agricultural land</li> </ul> <p>are not expected to have an effect on protecting or enhancing soil/land quality.</p>	
	-?	<p>Potential minerals sites which are:</p> <ul style="list-style-type: none"> <li>Large (i.e. over 20 ha) and partially within grade 1, 2 or within grade 3 best and most versatile (BMV) agricultural land; or</li> <li>Small to medium (i.e. less than 20 ha) and entirely within grade 1, 2 or within grade 3 BMV agricultural land</li> </ul> <p>could have a minor negative effect on protecting or enhancing soil/land quality. However, this is uncertain as there may be opportunities to restore agricultural soils during restoration.</p>	
	--?	<p>Potential sites which are:</p> <ul style="list-style-type: none"> <li>Large (i.e. over 20 ha) and located entirely within grade 1 or 2 BMV agricultural land</li> </ul> <p>could have a significant negative effect on protecting or enhancing soil/land quality. However, this is uncertain as there may be opportunities to restore agricultural soils</p>	



SA Objective and Sub Questions <sup>12</sup>	Score	Justification/reasons for score	Data sources (and limitations)
<p>15. To protect and enhance air quality in Gloucestershire, helping to meet local, national and international objectives for air quality.</p> <p>- <i>What is the proximity of sensitive receptors and to what extent can air emissions, including dust be controlled?</i></p>		<p>during restoration.</p> <p>Proposals for all types of minerals sites could contribute to increasing air pollution in the County with regards to minerals transportation by road, as well as any air pollution associated with the operation of the sites and processes used such as dust from blasting and crushing. The type and extent of air pollution (e.g. from dust or other emissions) will depend on the type of mineral extracted on the site, the scale of the operations and the type of activities undertaken within the site. For example intensive handling of hard rocks such as crushed rock (e.g. limestone and crystalline rocks) may produce large amounts of dust due to drilling and blasting. Although softer minerals, such as sand and gravel, can crumble more easily during handling and may produce a greater number of dust particles. Furthermore, the effects of traffic related pollutants (e.g. Nitrogen Dioxide, Carbon Dioxide and Particulate Matter) may differ depending on the mineral worked at sites and the level of output. For example, crushed rock quarries typically have larger annual outputs than sand and gravel sites and may therefore involve more traffic movements within and outside of the sites.</p> <p>For certain quarry processes, dust emissions are controlled under the Environmental Permitting (England and Wales) Regulations (2010) regulated and enforced by the Environment Agency. The requirement to meet EP permitting standards (including emissions to air) should ensure that the design and operation of minerals sites minimises any potentially significant effects on human health and the environment. In addition, many sites will meet the criteria that require a site-specific environmental impact assessment to be undertaken to accompany the planning application, which would look at the potential impacts and mitigation measures in more detail, and influence the conditions placed on the planning permission.</p> <p>The sub-question relating to air quality impacts on sensitive receptors due to dust emissions from the sites themselves are already covered under the assumptions for SA Objective 1 above. The assumptions discussed below for potential effects on this objective therefore relate to air emissions from road transport of mineral only and consider the proximity of sites to the strategic highway network and Air Quality Management Areas (AQMAs) identified by local authorities as areas where existing air pollution is already an issue.</p> <p>Any increases in road transport of minerals will lead to increases in local air pollution and emissions of CO<sub>2</sub>. The further vehicles transporting minerals have to travel along local roads (i.e. not on the primary road network), the higher the potential for more localised air pollution as they are likely to</p>	<p>Analysis of OS data, plus Defra's list of AQMA locations<sup>22</sup> and the GCC's site assessments relating to highways.</p>

<sup>22</sup> <http://aqma.defra.gov.uk/maps.php>.

SA Objective and Sub Questions <sup>12</sup>	Score	Justification/reasons for score	Data sources (and limitations)										
		<p>travel more slowly on local roads. In addition, if the mineral site is within, or vehicles are travelling through, AQMAs where existing air pollution issues have been identified, there is more potential for negative effects on air quality.</p> <p>The Gloucestershire Joint Technical Evidence Paper 1: Transport<sup>21</sup> states that transport is a major issue when considering proposals for mineral development, as the generation of significant amounts of road traffic can and does have negative impacts on the amenity of the local community and the environment.</p> <p>The potential of each site to reduce the distance minerals travel by road (through the use of more sustainable transport modes) is covered under SA Objective 17 below.</p> <table border="1"> <tr> <td>++</td> <td>N/A</td> </tr> <tr> <td>+</td> <td>N/A</td> </tr> <tr> <td>0</td> <td>           Potential minerals sites which are:           <ul style="list-style-type: none"> <li>• Within 1km of the strategic highway network <u>but</u> not within 1km of an AQMA are expected to have a negligible impact on protecting air quality, although this impact is very dependent on the type of mineral site, the scale of the operations and the type of activities undertaken within the site and potential mitigation measures proposed, which would be assessed at the planning application stage.</li> </ul> </td> </tr> <tr> <td>-</td> <td>           Potential minerals sites which are:           <ul style="list-style-type: none"> <li>• Within 1km of an Air Quality Management Area (AQMA); and/or</li> <li>• More than 1km from the strategic highway network (and therefore travelling further along local roads)</li> </ul>           are expected to have a minor negative impact on protecting air quality, although this impact is very dependent on the type of mineral site, the scale of the operations and the type of activities undertaken within the site and potential mitigation measures proposed, which would be assessed at the planning application stage.         </td> </tr> <tr> <td>--</td> <td>N/A</td> </tr> </table>	++	N/A	+	N/A	0	Potential minerals sites which are: <ul style="list-style-type: none"> <li>• Within 1km of the strategic highway network <u>but</u> not within 1km of an AQMA are expected to have a negligible impact on protecting air quality, although this impact is very dependent on the type of mineral site, the scale of the operations and the type of activities undertaken within the site and potential mitigation measures proposed, which would be assessed at the planning application stage.</li> </ul>	-	Potential minerals sites which are: <ul style="list-style-type: none"> <li>• Within 1km of an Air Quality Management Area (AQMA); and/or</li> <li>• More than 1km from the strategic highway network (and therefore travelling further along local roads)</li> </ul> are expected to have a minor negative impact on protecting air quality, although this impact is very dependent on the type of mineral site, the scale of the operations and the type of activities undertaken within the site and potential mitigation measures proposed, which would be assessed at the planning application stage.	--	N/A	
++	N/A												
+	N/A												
0	Potential minerals sites which are: <ul style="list-style-type: none"> <li>• Within 1km of the strategic highway network <u>but</u> not within 1km of an AQMA are expected to have a negligible impact on protecting air quality, although this impact is very dependent on the type of mineral site, the scale of the operations and the type of activities undertaken within the site and potential mitigation measures proposed, which would be assessed at the planning application stage.</li> </ul>												
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--	N/A												
16. To protect and enhance water quality and quantity in Gloucestershire, and to ensure that minerals development does not		The Water Framework Directive <sup>23</sup> applies to all surface freshwater bodies (including lakes, streams and rivers), groundwater, groundwater dependent ecosystems, estuaries and coastal waters out to one mile from low-water. It aims to improve inland and coastal waters and protect them from diffuse pollution in urban and rural areas; increase the sustainable use of water as a natural resource and create better habitats for wildlife that lives in and around water.	GIS data from GCC relating to Source Protection Zones, analysis of OS base maps for surface water										

<sup>21</sup> The Gloucestershire Minerals and Waste Core Strategies Joint Technical Evidence Paper 1: Transport (Living Draft – January 2008)

<sup>23</sup> The European Water Framework Directive into force in December 2000, and was transposed into UK law by December 2003.

SA Objective and Sub Questions <sup>12</sup>	Score	Justification/reasons for score	Data sources (and limitations)								
<p>compromise sustainable sources of water supply.</p> <p>- <i>What is the proximity of vulnerable surface or groundwater and what are the likely impacts on these features?</i></p> <p>- <i>What are the impacts on water consumption?</i></p>		<p>The extent to which a minerals site will affect ground and surface water on a potential site depends on the type of mineral worked, site design and characteristics, and the geological conditions. Mineral sites that are in Source Protection Zone (SPZ) 1 or adjacent to a water body could potentially lead to loss of contaminants or accidental pollution incidents. However, the NPPF states that local planning authorities should set out environmental criteria against which planning applications will be assessed so as to ensure that permitted operations do not have unacceptable adverse impacts on the natural environment, including from impacts on the flow and quantity of surface and groundwater and migration of contamination from sites.</p> <p>GCC commissioned hydrogeological assessments for each of the proposed site allocations in the Pre-publication draft of the Minerals Local Plan (September 2016). Reports have been produced by Atkins for each of the allocated sites (dated March 2016), which assess whether quarrying of crushed rock or sand and gravel at the allocated site is likely to have a significant impact on flood risk, water quality or changes in water quantity. Therefore, the conclusions of the Atkins reports have been used to inform the judgement of sustainability effects for this SA objective on water quality and quantity, as well SA objective 13 above on flood risk. However, the Atkins reports state that the conclusions reached are “possible effects that could occur in the absence of appropriate mitigation. It is expected that applicants will complete detailed assessment and develop appropriate mitigation measures. It is likely therefore that the impacts of any particular scheme would not approach those detailed.” Although the Atkins reports conclude that there could be a number of significant impacts on water quality from mineral extraction at the potential sites, there is an explanation of the measures that would be included to reduce these impacts, and a conclusion is reached regarding residual effects which are generally negligible for most of the sites. Therefore, it is assumed that the potential significant effects identified in the Atkins reports are very unlikely to occur, and only minor negative effects on water quality have been identified, with uncertainty attached as they will depend on the detailed proposal for the site and any mitigation measures included, which would be assessed at the planning application stage.</p> <table border="1"> <tr> <td>++</td> <td>N/A</td> </tr> <tr> <td>+</td> <td>N/A</td> </tr> <tr> <td>0</td> <td> <ul style="list-style-type: none"> <li>Sites where the Atkins hydrogeological report concludes an insignificant impact on water quality and quantity are not expected to have an effect this objective.</li> </ul> </td> </tr> <tr> <td>-?</td> <td> <ul style="list-style-type: none"> <li>Sites where the Atkins hydrogeological report concludes a significant impact for either water quality or quantity</li> </ul> </td> </tr> </table>	++	N/A	+	N/A	0	<ul style="list-style-type: none"> <li>Sites where the Atkins hydrogeological report concludes an insignificant impact on water quality and quantity are not expected to have an effect this objective.</li> </ul>	-?	<ul style="list-style-type: none"> <li>Sites where the Atkins hydrogeological report concludes a significant impact for either water quality or quantity</li> </ul>	<p>bodies, and information within GCC's site assessments on water-related issues.</p>
++	N/A										
+	N/A										
0	<ul style="list-style-type: none"> <li>Sites where the Atkins hydrogeological report concludes an insignificant impact on water quality and quantity are not expected to have an effect this objective.</li> </ul>										
-?	<ul style="list-style-type: none"> <li>Sites where the Atkins hydrogeological report concludes a significant impact for either water quality or quantity</li> </ul>										

SA Objective and Sub Questions <sup>12</sup>	Score	Justification/reasons for score	Data sources (and limitations)
		could have a minor negative effect on this objective, although this is uncertain because it is very likely that sufficient mitigation measures will be implemented to reduce the residual risk to negligible.	
	--	N/A	
<p>17. To reduce the adverse impacts of lorry traffic on the environment and communities through means such as:</p> <p>a) reducing the need to travel</p> <p>b) promoting more sustainable means of transport e.g. by rail or water</p> <p>c) sensitive lorry routing</p> <p>d) the use of sustainable alternative fuels</p> <p>- <i>What is the capacity of the site and transport infrastructure to support the sustainable movement of minerals and products arising from resource recovery?</i></p>		<p>All mineral sites will involve road transportation of minerals with some involving more movements than others. For example, crushed rock quarries typically have larger annual outputs than sand and gravel sites and may therefore involve more traffic movements within and outside of the sites. However, proximity to rail lines/depots/sidings, rivers/canals or wharves could provide opportunities to explore more sustainable modes of transporting waste.</p> <p>The NPPF states that plans and decisions should ensure developments that generate significant movements can maximise the use of sustainable transport modes; and that plans should protect and exploit opportunities for the use of sustainable transport modes for the movements of goods. As discussed above under SA Objective 15, air emissions from transport of minerals are likely to have more of an effect on the environment and communities than air emissions from the facility itself, therefore, opportunities to reduce road transport of minerals would have positive effects on this objective.</p> <p>Direct impacts of lorry traffic (i.e. noise, nuisance, safety, congestion as opposed to air pollution) on communities relates to how much access is reliant on local roads, therefore to provide some indication of this, the proximity to the strategic high network has been used to assess the potential effects on this objective. For potential sites which are closer to the strategic highway network, it is assumed that lorry traffic would spend less time on local roads, and have less of an impact on nearby communities. Where GCC's site assessment notes that new access routes may be required, this could also have a positive effect on communities as it may reduce impact on existing local roads. Some of the sub-questions for this objective are also covered under the assumptions for SA Objectives 4 and 15 above in relation to employee transport opportunities and air quality impacts of lorries travelling on local roads.</p>	National datasets and OS base map.
	++	N/A	
	+	<p>Potential sites which are:</p> <ul style="list-style-type: none"> <li>• Within 1km of the strategic highway network</li> </ul> <p>could have a minor positive effect on reducing the impacts of lorry traffic on the environment and communities.</p>	
	0	N/A	
	-	Potential sites which are:	

SA Objective and Sub Questions <sup>12</sup>	Score	Justification/reasons for score	Data sources (and limitations)
		<ul style="list-style-type: none"> <li>More than 1km from the strategic highway network could have a minor negative effect on reducing the impacts of lorry traffic on the environment and communities.</li> </ul>	
	--	N/A	
<p>18. To reduce contributions to and to adapt to Climate Change.</p> <p>- <i>How flexible or adaptable is the site or facility in terms of a) adapting to Climate Change and b) using new technology to reduce greenhouse gas emissions as it develops.</i></p>		<p>Aggregate quarrying is energy intensive and consequently reducing energy consumption and the industry's overall carbon footprint are important matters. Quarry operations should and do aim to be as energy efficient as possible and implement measures to offset or reduce the size of their carbon footprint, whereby some sites calculate their carbon output per tonne of product. However, it is very difficult to take carbon footprint and therefore potential contributions to and adaptations to climate change into account at this stage in the planning process; as it will depend on the information that proposed developments can provide at the application stage.</p>	No data needed.
	++	N/A	
	+	N/A	
	0	N/A	
	?	At this stage in the planning process it is not possible to determine the impacts of minerals sites on their ability to reduce contributions to and to adapt to climate change as it will depend on the proposal, which would be assessed at the planning application stage.	
	-	N/A	
	--	N/A	

## 5 Sustainability Appraisal Findings

- 5.1 This Chapter describes the findings of the SA of the MLP (April 2018) Vision, Objectives, Policies and Site Allocations. A detailed assessment has been undertaken, considering their likely effects against each of the SA objectives. It is difficult, however, to make firm judgements on the potential for effects until full details of mineral proposals (e.g. the exact nature and design of sites) are submitted at the planning applications stage. It is also important to note that for planning applications to be permitted they will need to meet the requirements of all of the relevant policies of the MLP.

### Summary of SA Findings for the Vision, Objectives and Policies

- 5.2 The MLP includes a proposed Vision for Gloucestershire at the start of 2033, as well as seven Objectives, and a number of Policies. The SA findings for the Vision and Objectives and a summary of the SA findings for the Policies are summarised below. The full appraisal matrices for the Policies are presented in **Appendix 5**.

#### Vision

- 5.3 The Vision for Gloucestershire sets out a positive vision for the future which encourages sustainable economic growth as required by the NPPF, and is likely to have a positive effect on all of the SA objectives as shown in **Table 5.1**.
- 5.4 Positive effects have been identified for **social** SA objectives, as the Vision aims for Gloucestershire to be a healthy and safe place in which to live, work and visit, and to successfully contribute towards sustainable communities. The Vision also puts the amenity, health and quality of life at the core of the decision making process where mineral working takes place. This will lead to positive effects for SA objectives 1 and 2, which seek to promote sustainable development and sustainable communities, improve health and wellbeing and safeguard the amenity of local communities from the adverse effects of mineral development.
- 5.5 Contributing to local and national mineral supply by ensuring primary minerals remain an essential part of the county's mineral supply, and ensuring that local mineral resources are integral to delivering renewal, regeneration and growth in the county, should have significant positive effects on **economic** SA objectives 3 (sustainable economic development) and 4 (employment opportunities). Positive effects are likely for SA objective 5 (safety of commercial or military aerodromes) as birdstrike will be minimised at restored mineral sites. The Vision should also have positive effects on SA objective 6 (conservation of minerals resources) because although primary minerals will remain an essential part of the County's mineral supply, greater emphasis will be placed upon maximising the reuse of materials, reducing on-site waste and promoting the most appropriate use of minerals.
- 5.6 Significant positive effects are expected for many **environmental** SA objectives, including SA objectives 7 (biodiversity), 8 (landscape), 9 (restoration of mineral sites) and 11 (geodiversity). The Vision supports mineral working to act as a positive driver for the protection and enhancement of environmental assets and designations, such as the Cotswolds and Wye Valley Areas of Outstanding Natural Beauty (AONBs). The Vision seeks to ensure that the restoration of mineral sites will be delivered to a high standard, maximising after use benefits and used as a key resource for increasing biodiversity and geodiversity. It therefore supports the protection, conservation and enhancement of biodiversity, geodiversity and landscape in Gloucestershire.
- 5.7 Ensuring that Gloucestershire will be a cleaner, greener, more healthy and safer place in which to live, work and visit, and the high standard of mineral site restoration that will be provided (including widening access to leisure and recreational facilities), will support the protection and enhancement of Gloucestershire's material, cultural and recreational assets, thereby having

positive effects on SA objective 10. Furthermore, ensuring specialist minerals have an important role in Gloucestershire's historic and built environment will support the character and cultural assets in the area. The expansion of knowledge of Gloucestershire's archaeological past via mineral working will also have positive effects for SA objective 12 (historic environment, heritage assets and their setting). The Vision seeks to protect and enhance the quality of environmental assets through specifying that mineral develops minimise any adverse impact on flooding (SA objective 13) and the restoration of mineral sites will aim to improve water quality (SA objective 16). It is likely this could also lead to positive effects on SA objective 14 (soil quality) but as this is not specified in the wording of the Vision, effects are currently minor and uncertain.

- 5.8 SA objectives 15 (air quality), 17 (impacts of lorry traffic) and 18 (climate change) are supported by the Vision, as by the start of 2033, Gloucestershire aims to be a successful contributor towards reducing the impacts of climate change, and seeks to ensure that stricter haulage routes and more efficient practices are used for the transport of minerals, which will reduce the impacts of mineral transportation on local roads and reduce vehicle emissions. The Vision states that restoration of mineral workings should facilitate measures to increase resilience and adaptation to climate change and increase the effectiveness of flood prevention, alleviation and improvements in water quality.

### MLP Objectives

- 5.9 The MLP Objectives are generally compatible with and supportive towards the SA objectives, although there is no relationship between a number of the SA objectives and the MLP Objectives as the aims of the MLP Objective and SA objective focus on different issues, as shown in **Table 5.1**. For example, MLP Objective 5 (Local Communities) aims to avoid impacts on local communities and businesses, therefore, while it would have minor positive effects on the social and economic SA objectives, it has no effect on or no relationship with most of the environmental SA objectives (e.g. biodiversity, heritage, landscape etc.). Conversely, MLP Objective 4 (The Environment) has no effect or no relationship with the social and economic SA objectives, but positive effects for most of the environmental SA objectives.
- 5.10 MLP Objectives 1 (Reuse & Recycling), 5 (Local Communities), 6 (Restoration) and 7 (Transport) support the promotion of sustainable development and sustainable communities, improve health and wellbeing and safeguard the amenity of local communities from the adverse effects of mineral development; thereby having minor positive effects on **social** SA objectives 1 and 2. The other three MLP Objectives (2 (Resource Management), 3 (Provision & Supply) and 4 (The Environment)) are unlikely to affect the social SA objectives.
- 5.11 Significant positive effects are identified for **economic** SA objective 6 (conservation of minerals resources), as MLP Objectives 1 (Reuse & Recycling) and 2 (Resource Management) support the conservation of mineral resources through the reuse and recycling of materials thereby encouraging the optimum use of minerals alongside effective resource management through the prevention of mineral sterilisation. MLP Objective 3 (Provision & Supply) is also expected to have significant positive effects on SA objectives 3 (sustainable economic development) and 4 (employment opportunities), as it supports employment and economic development by ensuring that appropriate provision and supply of minerals to meet demand is maintained. MLP Objective 3 could have mixed, minor positive and minor negative effects on SA objective 6 (conservation of minerals resources), as while resources will be worked appropriately to meet the needs of society and not exhausted unnecessarily, minerals are still a finite resource and working them will result in the resources not being available in the future.
- 5.12 Minor positive effects are expected for SA objectives 4 (employment opportunities) and 5 (Safety of commercial or military aerodromes) as a result of MLP Objectives 5 (Local Communities), 6 (Restoration) and 7 (Transport). These Priorities support sound and enforceable working practices which will mitigate impacts on businesses, encourage and ensure aerodrome safeguarding through mineral sites reclamation, and encourage more sustainable forms of transport and improvements to infrastructure.
- 5.13 MLP Objectives 2 (Resource Management), 5 (Local Communities), and 7 (Transport) are unlikely to affect the majority of the **environmental** SA objectives (7 – 18). However, positive effects are identified for all environmental SA objectives from at least one of the MLP Objectives. For example, MLP Objective 4 (The Environment) and 6 (Restoration) are expected to have positive

effects on the majority of environmental SA Objectives (including significant positive effects on SA objectives 7 (biodiversity), 8 (landscape), 9 (restoration of minerals sites) and 11 (geodiversity), as they seek to conserve, protect and enhance biodiversity, landscape, geodiversity and heritage. They also seek to secure enhanced environmental standards and take a spatial view of after use opportunities for biodiversity, geodiversity, agriculture (including safeguarding soil resources), native woodland, public access, regeneration, the historic environment, recreation and contributing towards reducing climate change impacts. In addition, minor positive effects on SA objectives 10 (cultural and recreational assets), 15 (air quality), 17 (impacts of lorry traffic) and 18 (climate change) are also identified for MLP Objective 7 (Transport) as the aim of this objective is to reduce the amount of road haulage and reduce the impacts of minerals workings on Gloucestershire's roads.

- 5.14 There are also mixed, minor positive/minor negative effects expected for many of the **environmental** SA objectives. For example, MLP Objective 3 (Provision and Supply) may have minor negative effects on most environmental SA objectives due to the nature of impacts associated with the working of minerals (e.g. traffic, noise, land take, landscape). However, working sites may also have the potential to have positive effects on environmental SA objectives due to the mitigation they can put in place and the benefits and enhancements they can provide during working and once restored (e.g. sympathetic restoration so that sites contribute to the landscape setting, net gains in biodiversity, or by having the potential to contribute towards flood storage).



**Table 5.1: Summary of SA scores for the Vision and MLP Objectives**

Vision/Objectives	Vision	1. Reuse & Recycling (SR)	2. Resource Management (RM)	3. Provision & Supply (PS)	4. The Environment (ENV)	5. Local Communities (LC)	6. Restoration (RA)	7. Transport (MM)
<b>SA Objective</b>								
<b>Social</b>								
1. Health and wellbeing	+	+	0	0	0	+	+	+
2. Amenity of local communities	+	+	0	0	0	+	+	+
<b>Economic</b>								
3. Sustainable economic development	++	0	0	++	0	0	+	0
4. Employment opportunities	++	0	0	++	0	+	+	+
5. Safety of commercial or military aerodromes	+	0	0	0	0	+	+	0
6. Conservation of minerals resources	+	++	++	+/-	0	0	0	0
<b>Environmental</b>								
7. Biodiversity	++	+/-	0	+/-	++	0	+	0
8. Landscape	++	+/-	0	+/-	++	0	+/-	0
9. Restoration of mineral sites	++	+	+	0	0	0	++	0
10. Material, cultural and recreational assets	++	0	0	+/-	+	+	+	+
11. Geodiversity	++	0	0	+/-	++	0	+	0
12. Historic environment, heritage assets and their setting	+	0	0	+/-	+	0	+	0
13. Flooding	++	0	0	+/-	+/-	0	+/-	0
14. Soil / land quality	+?	+	+	+/-	+	0	+	0
15. Air quality	+	+/-	0	+/-	+	0	+/-	+
16. Water quality and quantity	++	0	0	+/-	+	0	+/-	0
17. Impacts of lorry traffic on the environment and communities	+	+/-	0	+/-	+	0	+/-	+
18. Climate Change	++	+/-	0	+/-	+	0	+	+

## MLP Section 6: Secondary and Recycled Aggregate Supplies

- 5.15 The SA findings for the one policy in Section 6: Secondary and Recycled Aggregate Supplies Policies of the MLP Consultation Draft (April 2018) are summarised in **Table 5.2**. This section covers:
- Policy SR01 Maximising the use of secondary and recycled aggregates.
- 5.16 There is one significant positive effect attributed to policy SR01 on SA objective 6 (conservation of mineral resources) as through supporting the use of recycled and secondary aggregate, the policy will help reduce the need to work primary minerals which is in direct alignment with the aim of this SA objective.
- 5.17 Two minor positive effects have been identified for the two economic objectives as the policy would support a wide range of end uses and industries and it is therefore important that there is a sufficient supply of material to supply construction and to provide the infrastructure, buildings, energy and goods that Gloucestershire and the country need which is in line with SA objective 3 (sustainable economic development). In addition, encouragement of secondary and recycled aggregates within the construction of new developments could stimulate growth in the market for these types of aggregate, which in turn could lead to more employment opportunities, thereby creating a positive effect on SA objective 4 (employment opportunities).
- 5.18 Minor negative effects are identified for the social SA objectives as the policy supports the processing of secondary and recycled aggregates, facilities for which could generate noise and dust that can have adverse effects on local residents, communities and amenity. Similarly, a minor negative effect is expected for SA objective 17 (lorry traffic) as recycled and secondary aggregate activity may promote some additional transportation of materials, which in Gloucestershire is mostly via the road network (lorries) and could therefore contribute to reduced air quality and negatively contribute towards climate change. The use of secondary and recycled aggregates in place of primary aggregates can reduce HGV journeys and/or miles as most of the fixed recycled inert sites in Gloucestershire are located relatively close to development areas compared to primary extraction sites, which are rural and peripheral. For this reason, a minor positive effect is also identified for SA objective 17, resulting in an uncertain mixed minor positive and minor negative effect.
- 5.19 Furthermore, through supporting secondary and recycled aggregate use, the policy reduces the need for primary won aggregate which is usually an energy and emission intensive activity, thereby resulting in a minor positive effect on climate change (SA objective 18).
- 5.20 Similarly to above, mixed effects (minor positive and minor negative) are also identified for many of the environmental SA objectives as policy SR01 encourages operations that cause the production of noise, dust and vibrations that can have adverse effects on biodiversity (SA objective 7), landscape (SA objective 8), material, cultural and recreational assets (SA objective 10), the historic environment (SA objective 12), flooding (SA objective 13), air quality (SA objective 15) and water quality and quantity (SA objective 16). In contrast, through supporting secondary and recycled aggregate facilities, the demand for primary won aggregates may decline which generally has a greater negative impact on receptors, so a minor positive effect is also identified for these objectives. Furthermore, infrastructure required for recycled and secondary facilities are likely to occur on existing premises for construction/demolition, minerals or waste management thereby reducing potential adverse impacts of such facilities.

**Table 5.2: Summary of SA scores for Secondary and recycled aggregate supplies**

SA objective	Policy SR01 Maximising the use of secondary and recycled aggregates
1. Health and wellbeing	-?
2. Amenity of local communities	-?
3. Sustainable economic development	+

SA objective	Policy	SR01 Maximising the use of secondary and recycled aggregates
4. Employment opportunities		+
5. Safety of commercial or military aerodromes		0
6. Conservation of minerals resources		++
7. Biodiversity		+/-?
8. Landscape		+/-?
9. Restoration of mineral sites		0
10. Material, cultural and recreational assets		+/-?
11. Geodiversity		0
12. Historic environment, heritage assets and their setting		+/-?
13. Flooding		+/-?
14. Soil / land quality		0
15. Air quality		+/-?
16. Water quality and quantity		+/-?
17. Impacts of lorry traffic on the environment and communities		+/-?
18. Climate Change		+

### MLP Section 7: Mineral Safeguarding

- 5.21 The SA findings for the Mineral Safeguarding Policies included in Section 7 of the MLP are summarised in **Table 5.3**. These Policies cover:
- Policy MS01 Non-mineral development within MSAs (Minerals Safeguarding Areas)
  - Policy MS02 Safeguarding mineral infrastructure.
- 5.22 Similar effects are likely for Mineral Safeguarding Policies MS01 (Non-mineral developments within MSAs) and MS02 (Safeguarding Mineral Infrastructure). Mixed minor positive/minor negative effects are expected on over half of the SA objectives from Policies MS01 (Non-mineral developments within MSAs) and MS02 (Safeguarding Mineral Infrastructure), including both of the social objectives (1 and 2), two of the economic objectives (3 and 4) and four of the environmental objectives (8, 10, 12 and 17). This is generally because the Mineral Safeguarding Areas may potentially restrict non-mineral developments that could themselves have negative effects on sensitive receptors such as communities, landscape, and heritage assets etc., hence a minor positive effect. However, the MSAs may also lead to mineral extraction activities that could also have negative effects on sensitive receptors, hence the mixed effects identified. In addition, while employment opportunities from non-minerals development may be reduced in some cases within MSAs, they may be gained from minerals extraction in the MSAs. It must be emphasised, however, that the principle of minerals safeguarding does not mean that extraction will be automatically allowed in all areas identified as MSAs, or that non-mineral development will be prevented in these areas. Therefore most effects are uncertain, and will depend very much on the specific nature and design of proposals that come forward within MSAs, which will not be known until the planning application stage.
- 5.23 Significant positive effects are expected for SA objectives 6 (conservation of mineral resources) for both policies as the principle of safeguarding, and the definitions of MSAs and MCAs (Mineral Consultation Areas) should ensure that mineral resources will be protected from unnecessary

sterilisation by other development, and that ongoing mineral extraction activities can continue unhindered by other sensitive land-uses nearby. Due to these considerations in MSAs, geological formations may be preserved and in some instances created, depending on whether mineral extraction takes place, and this should contribute to maintaining and enhancing geodiversity resulting in a second significant positive effect for Policy MS01.

- 5.24 While Policy MS02 (Safeguarding minerals infrastructure) has generally similar effects as Policy MS01, it is unlikely to have an effect on SA objectives 5 (aerodrome safety), 9 (restoration), 11 (geodiversity) or 14 (soil/land quality). This is because the nature of the infrastructure to be safeguarded (i.e. existing rail heads, wharves, concrete batching plants etc.) would not attract birds to the sites, would not themselves be restored, are unlikely to contribute to or affect geodiversity and would not lead to loss of agricultural land. Policy MS01 is not considered likely to have any effect on three of the environmental SA objectives: 13 (flooding), 15 (air quality) and 18 (climate change).
- 5.25 Minor positive effects are identified on Policy MS01 on SA objectives 7 (biodiversity) and 9 (aftercare and restoration) as the potential restriction of non-mineral development in MSAs that would prejudice mineral workings may prevent development that could harm biodiversity. Also, areas used for mineral activity within MSAs, in the long-term, could benefit biodiversity as a result of the restoration of mineral sites. Similarly, if non-mineral developments were restricted following consideration of the proposal within the MSAs, there could be less likelihood of a development occurring that would not result in the same benefits of restoration of the area following mineral extraction. Furthermore, MSAs may lead to more mineral extraction activities (e.g. where the mineral needs to be worked before non-mineral development can take place) that could provide benefits via site restoration. Again, these effects are uncertain as the principle of minerals safeguarding does not mean that extraction will be automatically allowed in all areas identified as MSAs, or that non-mineral development will be prevented in these areas, and all effects will be site-specific and based on the nature and design of proposals that come forward within MSAs.
- 5.26 Minor positive uncertain effects are likely for the economic SA objectives for both policies because other non-mineral developments such as regeneration schemes or housing would need to be weighed against the need for minerals development and may not be permitted within the MCA boundary.

**Table 5.3: Summary of SA scores for Mineral Safeguarding Policies**

Policy	MS01 Non-mineral development within MSAs	MS02 Safeguarding mineral infrastructure
SA Objective		
1. Health and wellbeing	+/-?	+/-?
2. Amenity of local communities	+/-?	+/-?
3. Sustainable economic development	+/-	+/-
4. Employment opportunities	+/-	+/-
5. Safety of commercial or military aerodromes	+/-?	0
6. Conservation of minerals resources	++	++
7. Biodiversity	+?	+/-?
8. Landscape	+/-?	+/-?

Policy SA Objective	MS01 Non-mineral development within MSAs	MS02 Safeguarding mineral infrastructure
9. Restoration of mineral sites	+?	0
10. Material, cultural and recreational assets	+/-?	+/-?
11. Geodiversity	++?	0
12. Historic environment, heritage assets and their setting	+/-?	+/-?
13. Flooding	0	+/-?
14. Soil / land quality	?	0
15. Air quality	0	+/-?
16. Water quality and quantity	?	+/-?
17. Impacts of lorry traffic on the environment and communities	+/-?	+/-?
18. Climate Change	0	+/-?

### MLP Section 8: The Future Supply of Minerals

- 5.27 The SA findings for all of the Future Supply of Minerals Policies included in Section 8 of the MLP are summarised in **Table 5.4**. These Policies cover:
- Policy MW01 Aggregate provision.
  - Policy MW02 Natural building stone.
  - Policy MW03 Clay for civil engineering purposes.
  - Policy MW04 Brick clay.
  - Policy MW05 Coal.
  - Policy MW06 Ancillary minerals development.
- 5.28 The SA scores are summarised in **Table 5.4** for the above policies, under each SA objective. There is a mix of potentially positive, negative and mixed effects arising from the policies, however, for a number of the SA objectives, negligible and no effects are expected to occur. One significant positive effect has been identified alongside a minor negative effect on SA objective 12 (Historic Environment).
- 5.29 Many of the identified effects are also uncertain, as the potential for effects will depend on the exact nature and design of sites, which would not be known until the planning application stage. Also, the policies which have been identified to have potential negative effects on SA objectives will be supported by other policies within the MLP, when determining proposals, which should help to mitigate some of the negative effects identified. Many of the minerals supply policies themselves (e.g. Policy MW01 Aggregate provision) include criteria that need to be met and may also provide mitigation, for example: only permitting operations where the need to maintain the aggregate landbanks is demonstrated and where the key development criteria of the MLP are satisfied.

## Social Objectives

### SA Objective 1 (*Health and wellbeing*) and SA Objective 2 (*Amenity*)

- 5.30 Nearly all of the minerals supply policies are expected to have some minor negative effects on SA objectives 1 and 2, as they support the continuation of mineral operations within Gloucestershire. This may therefore continue to have effects on health and wellbeing, and the local amenity of communities in Gloucestershire due to impacts such as dust from blasting/drilling and other sources (e.g. haul roads, machinery and stockpiles), vibration, noise and traffic congestion. However, planning applications will be required to meet the criteria of other policies within the MLP, such as the Development Management Policies identified in Section 10, therefore helping to mitigate the effects on communities, and on the health and wellbeing of people living and working in Gloucestershire. Furthermore, research undertaken for the government<sup>24</sup> concluded that dust generated by surface mineral operations did not result in any specific health impacts, and research for the former Department for the Environment, Transport and the Regions (DETR) found that practice on the assessment and control of noise at surface mineral workings had improved; thereby emphasising that effects are unlikely to be greater than minor. Negligible effects are expected for MW03 as clay sites for engineering purposes are not intensive or extensive and are only contributing to a relatively small-scale demand. Some of the minor negative effects are mixed with a minor positive effect e.g. for MW01 and MW05. Policy MW01 supports maintaining an adequate and steady supply of aggregate minerals, which is vital for the development and maintenance of public infrastructure (road, services, healthcare etc.), and economic development and growth more generally. These matters have an important role to play in establishing sustainable communities. As a consequence, a mixed minor positive and negative effect is identified. Policy MW05 offers a presumption against future working of coal unless they are considered to be environmentally acceptable or they provide national, local or community benefits that clearly outweigh impacts likely to arise as a result of their working. This represents a strong approach to controlling proposed new development within the MLP and could therefore have a minor positive effect with respect to protecting health and wellbeing of local communities, particularly for those nearby to potentially extractable resources. However, the potential for some coal working to be allowed to take place, particularly where 'other' matters beyond environmental acceptability are taken into account means that there may still be some potential effects on health and wellbeing. □

## Economic Objectives

### SA Objective 3 (*Economic development*) and SA Objective 4 (*Employment*)

- 5.31 All of the minerals supply policies are expected to have minor positive effects on these economic objectives, except for policy MW05 which could have mixed minor positive/negative effects. The minor positive effects are identified on SA objective 3 as aggregates are important local and national resources and are essential to support sustainable economic growth, and the development of aggregate operations supported by these policies will support economic prosperity and make a positive contribution to the local and national economy. Similarly, nearly all the future supply policies have the potential to have minor positive effects on SA objective 4, as the policies support the supply of minerals, which will have positive effects on increasing employment levels. Policy MW05 offers a presumption against future working of coal unless environmental acceptability can be shown or benefits beyond environmental acceptability can be demonstrated. This represents a strong approach to controlling proposed new development within the MLP and from an economic / employment perspective this could have a minor negative effect.

### SA Objective 5 (*Aerodrome safety*)

- 5.32 There are three aerodrome safeguarding areas within Gloucestershire; these are for Gloucestershire Airport, RAF Fairford and RAF Brize Norton. Gloucestershire Airport and RAF Brize Norton are unlikely to be affected by the future minerals supply policies, due to their location in respect of the location of existing and allocated minerals sites and geological resources. However, RAF Fairford has the potential to be affected by sand and gravel extraction if the workings are restored to open water uses and therefore policy MW01 is the only policy projected to have a

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<sup>24</sup> Office of the Deputy Prime Minister (by Arup Environmental/Ove Arup and Partners). The Environmental Effects of Dust from Surface Minerals Workings, 1995.

minor negative effect on this SA objective. This is because the policy supports the continuation of aggregate operations within the defined Allocations in Gloucestershire to ensure that adequate and steady supplies of aggregates can meet predicted needs. This may include proposals for sand and gravel extracted in the Cotswolds Water Park which is located within and in close proximity to the safeguarding zone for RAF Fairford. Therefore, Policy MW01 could have minor negative effects on the safety of commercial or military aerodromes if sand and gravel is extracted in the Cotswolds Water Park area, due to the potential for birds to become a hazard to aircraft, which would be associated with restoration of sites to a form of open water use.

- 5.33 It is difficult to determine whether policy MW03 is likely to affect this SA objective, as the County's clay resources are widespread and occur within and outside of the influence of local aerodromes. The remaining policies are expected to have negligible effects on this SA objective as these types of mineral sites are likely to be outside of aerodrome safeguarding areas, and/or the restoration of these sites is unlikely to cause effects that would compromise the safety of commercial or military aerodromes

#### *SA Objective 6 (Conservation of mineral resources)*

- 5.34 Five of the future minerals supply policies are unlikely to affect SA objective 6, as minerals sites permitted under these policies will not be classed as inappropriate development, as they are contributing to the extraction of mineral resources, not limiting the ability to extract resources. However, policies MW01 and MW02 could have minor positive effects. Policy MW01 could have a minor positive effect in terms of providing for the supply of aggregates sufficient for the needs of society, as the core aim of the policy is to facilitate steady and adequate supplies. Similarly, Policy MW02 could have a minor positive effect in terms of the conservation of mineral (building stone) resources from inappropriate development as the core aim of the policy is to facilitate sufficient supplies of mineral that will meet local need, including maintenance of the historic built environment.

#### **Environmental Objectives**

##### *SA Objective 7 (Biodiversity) and SA Objective 8 (Landscape)*

- 5.35 All minerals supply policies are expected to have mixed minor positive/minor negative effects on SA objectives 7 and 8, as the policies could lead to proposals that could have potential impacts on designated biodiversity sites, protected species or habitats, landscape or landscape character, or be located within landscape designations (e.g. Cotswolds or Wye Valley AONBs). However, it may be appropriate and sustainable to make provision for some aggregate extraction in designated landscapes (e.g. the Cotswolds resource area) to meet local need. These policies could also have positive effects on these SA objectives, as many sites may have the potential to achieve net gains for biodiversity during working or restoration via biodiversity enhancement opportunities that may exist, or the policies may lead to the sympathetic restoration of sites that could have positive effects on landscape character.

##### *SA Objective 9 (Mineral site restoration)*

- 5.36 Three of the minerals supply policies (MW01, MW02 and MW06) have been identified to have minor positive effects on SA objective 9, as sites that come forward may have the potential to be restored to a high standard, achieving maximum after use benefits and enhancing the landscape and biodiversity. Policies MW03, MW04 and MW05 are unlikely to affect this objective because they offer no specific provisions relating to achievement of certain standards of mineral restoration or support for the conservation and / or enhancement of certain post-extraction activity or land-uses.

##### *SA Objective 10 (Material, cultural and recreational assets)*

- 5.37 One minerals supply policy (MW07) is expected to have negligible effects on SA objective 10, as aggregate workings determined by this policy is unlikely to meaningfully protect, conserve or enhance Gloucestershire's material, cultural or recreational assets. The remaining policies are likely to have mixed minor positive and negative effects because they could support sites coming forward which could have potential negative effects on the access to and the enjoyment of recreational facilities (e.g. Public Rights of Way), although this is uncertain and may not be the case for all sites, and where there is the potential for effects upon recreation they will be temporary. However, they could all have minor positive effects because post-working restoration

could offer opportunities to enhance these recreation assets. Policy MW02 is also likely to have minor positive effects as natural building stone is likely to contribute to conserving and maintaining the local distinctiveness of Gloucestershire and support the use of traditional, local building stones, thereby conserving and enhancing Gloucestershire's material, cultural and recreational assets. A minor positive effect is also likely for Policy MW05 as coal workings is limited to the Forest whereby it has been traditionally worked a small scale thereby this policy is predicated to help maintain the heritage and culture of the area.

#### *SA Objective 11 (Geodiversity)*

- 5.38 All of the minerals supply policies, aside from policy MW06 are likely to have mixed minor positive/minor negative effects on SA Objective 11, as the continued or new extraction and/or processing of primary aggregate may uncover and harm geological interests. Conversely, extraction sites can also potentially contribute to geodiversity by preserving and conserving geological features or making them visible and available for learning opportunities.
- 5.39 Policy MW06 is not expected to have any effects on SA objective 11, as ancillary aggregate facilities in Gloucestershire are unlikely to affect geodiversity due to their nature, scale and type of operation.

#### *SA Objective 12 (Historic environment and heritage assets)*

- 5.40 Policy MW02 is predicted to have a significant positive effect on this SA objective as the policy encourages the workings of natural stone that can be used to augment the existing building stock in the county. The use of local stone will help conserve buildings using similar, local building stones, thereby helping to conserve and enhance Gloucestershire's historic environment, heritage assets and their setting. Sites permitted by the policy may also be able to preserve archaeological findings and therefore benefit our understanding of the local archaeology. A minor negative effect is also identified for this policy because the workings of some sites may disrupt archaeological remains and minerals activity can have adverse effects on historic assets and their setting through dust, noise and visual impacts for example. The same reason applies to the minor negative effects attributed to Policies MW01 and MW04. Policies MW01 and MW04 may also have minor positive effects if archaeological findings are able to be preserved. All of these mixed effects are uncertain as it depends on specific proposals that come forward at the planning application stage.
- 5.41 A minor positive effect is expected for policies MW03 and MW06 as the policy wording supports the conservation of cultural heritage.

#### *SA Objective 13 (Flooding)*

- 5.42 Two of the minerals supply policies (MW04 and MW06) are likely have negligible effects on flood risk areas, as they are classed as less vulnerable uses, which means these sites are potentially compatible with all flood zones except for Flood Zone 3b, which they are unlikely to be located within, and are therefore not expected to affect this SA objective. Sand and gravel extraction sites are classed as water-compatible development and are potentially suitable for all flood zones including 3b, the functional floodplain, and therefore have the potential to increase flood capacity and have minor positive effects on this SA objective. Also, Policy MW06 encourages other fixed and temporary facilities to be associated with mineral workings, which is also not expected to affect this SA Objective.
- 5.43 Policies MW01 and MW02 are expected to have an uncertain, minor negative effect on flood risk areas, as MW01 supports aggregate operations within the ten Allocations, and the Atkins hydrogeological reports (March 2016) have identified potentially significant effects on flood risk for all of the ten Allocations, due mainly to backfilling during restoration using low permeability material. Similarly, Policy MW02 may have a negative effect upon the risk of flooding by virtue of facilitating building stone working, which has the potential to be disruptive to existing hydrological systems. However, the effects would be uncertain as the potential for effects will depend on the exact nature and design of the proposals that come forward within the allocations, which will not be known until the planning application stage. In addition, the Atkins hydrogeological reports note that mitigation measures implemented during operations can reduce the significance of any negative residual impacts.



- 5.44 Policy MW03 by contrast could have a minor positive, uncertain effect on reducing flooding, because the supporting text to the policy notes that proposals to extract clay for engineering purposes which support the deliverability of critical local infrastructure such as flood defence work could be supported, therefore, the policy may contribute to reducing flooding in some areas and could have a minor positive effect on this SA objective.

*SA Objective 14 (Soil / land quality)*

- 5.45 Almost all the minerals supply policies may potentially have minor negative effects on SA objective 14, as all mineral extraction sites could range from small to medium scale (i.e. less than 20ha) to large (i.e. over 20ha), and therefore have the potential to impact on soil/land quality. However, the exact land take and extent of agricultural land quality (i.e. Grades 1 – 5) will not be known until the planning application stage. Similarly, any opportunities for improvements to soil quality through site restoration which could be possible will not be known until specific proposals come forward. However, Policy MW05 offers a presumption against future working of coal unless environmental acceptability can be shown or benefits beyond environmental acceptability can be demonstrated. This represents a strong approach to controlling proposed new development within the MLP and it could therefore also have a minor positive effect with respect to preserving soil/land quality.
- 5.46 Policy MW06 is likely to have a negligible effect as ancillary development usually occurs on existing minerals sites therefore it is unlikely for any additional land to be worked through this policy.

*SA Objective 15 (Air Quality)*

- 5.47 Minor negative effects are likely on this SA objective from policy MW01 because the policy supports minerals workings that require the transportation of minerals (which is predominantly by lorry) that contributes to poor air quality.
- 5.48 Minor negative effects are expected for Policy MW02 and MW04 on this SA objective as the distribution of natural stone and brick clay is usually confined to the local rural areas including the AONBs within the county which are not usually on the primary road network thereby increasing traffic movement and associated emissions resulting in a minor negative effect. However, working natural stone and brick clay is generally on a lesser scale compared to other mineral industries and therefore its associated transportation mileage is less leading to uncertainty against this effect. Policy MW05 could have a mixed minor positive/minor negative effect because although air pollution could arise from coal workings, the policy offers a strong presumption against future working of coal unless environmental acceptability can be shown or benefits beyond environmental acceptability can be demonstrated.
- 5.49 The remaining mineral supply policies are considered unlikely to have an effect on air quality due to their small-scale and localised nature.

*SA Objective 16 (Water quality and quantity)*

- 5.50 While all the minerals supply policy policies have some potential to affect water quality and quantity in Gloucestershire, at this stage in the planning process it is not possible to determine the impacts of all of these policies on water quality (surface or groundwater) or water use and efficiency, as it will very much depend on the specific proposals (location, design, method of working etc.) that come forward, which would be assessed at the planning application stage. Therefore, effects are generally uncertain for SA objective 16, apart from Policy MW06 where ancillary workings are situated on existing mineral sites and is therefore unlikely to affect this SA objective resulting in a negligible effect.
- 5.51 By contrast, Policy MW01 could have a minor negative effect, as it supports aggregate operations within the ten Allocations, and the Atkins hydrogeological reports (March 2016) have identified potentially low, moderate and significant effects on water quality and quantity for all of the ten Allocations, due mainly to dewatering and diversion of groundwater, and increases in suspended solids or discharges of polluted water. However, the effects would be uncertain as the potential for effects will depend on the exact nature and design of the proposals that come forward within the allocations, which will not be known until the planning application stage. In addition, the Atkins hydrogeological reports note that mitigation measures implemented during operations can reduce the significance of any negative residual impacts. Policy MW05 could have a mixed effect

for the same reasons as explained above; although coal workings could impact on water quality and quantity, the policy offers a strong presumption against future working of coal unless environmental acceptability can be shown or benefits beyond environmental acceptability can be demonstrated, hence the minor positive effect as well.

#### *SA Objective 17 (Lorry traffic)*

- 5.52 . The minor negative effects for MW02, MW04 and MW05 are attributed to the fact that natural stone, brick clay and coal are generally located mainly within rural areas that are usually located beyond the primary road routes and could lead to increased lorry movement. However, these effects are uncertain as building stone (MW02), brick clay (MW04) and coal (MW05) are likely to have low outputs compared to other mineral sites and therefore have lower lorry traffic movements and actual effects will depend on exact development proposals. Negligible uncertain effects are recorded against Policy MW03 (brick clay) as site outputs are expected to be low and locally used, therefore increased lorry traffic is likely to be negligible. Policy MW06 could have a minor positive effect because it requires materials from ancillary production to be sourced on site or from the most sustainable location, both of which will reduce the amount of transportation. Policy MW01 could have minor negative effects as primary aggregate proposals will involve lorry traffic movements, which at some sites may comprise multiple movements per day, and the levels of lorry traffic associated with oil and gas sites can be substantial due to the transport of water used in operations and the transportation of extracted oil and gas. The exact location of proposals, traffic levels, lorry routing and access arrangements will not be known until the planning application stage, therefore these effects are uncertain.

#### *SA Objective 18 (Climate change)*

- 5.53 Policy MW06 requires materials to be used by ancillary production to be sourced on site or from the most sustainable location, both of which will reduce the amount of transportation therefore reducing climate change contributions, therefore it is the only policy to have a straight minor positive effect. The rest of the policies are expected to have mixed minor positive and negative effects on this SA objective. They all facilitate new minerals development, which involves energy intensive activities and use fossils fuels (and in particular policies MW05 and MW06 facilitate the workings of coal, oil and gas which themselves contribute to greenhouse gas emissions). However, the policies do advocate making use of local provision of minerals, which should diminish the need to import aggregates and other minerals from distances that carry a larger carbon footprint.

**Table 5.4: Summary of SA scores for the Future Supply of Minerals**

SA Objective	Policy	MW01 Aggregate Provision	MW02 Natural Building Stone	MW03 Clay for civil engineering purposes	MW04 Brick Clay	MW05 Coal	MW06 Ancillary minerals development
1. Health and wellbeing		+/-?	0/-?	0?	0/-?	+/-?	-?
2. Amenity of local communities		-?	0/-?	0?	0/-?	+/-?	-?
3. Sustainable economic development		+?	+?	+?	+?	+/-?	+
4. Employment opportunities		+?	+?	+?	+?	+/-?	+
5. Safety of commercial or military aerodromes		-?	0	?	0	0	0
6. Conservation of minerals resources		+	+	0	0	0	0
7. Biodiversity		+/-?	+/-?	+/-?	+/-?	+/-?	+/-?
8. Landscape		+/-?	+/-?	+/-?	+/-?	+/-?	+/-?
9. Restoration of mineral sites		+?	+?	0	0	0	+
10. Material, cultural and recreational assets		+/-?	+/-?	+/-?	+/-?	+/-?	0
11. Geodiversity		+/-?	+/-?	+/-?	+/-?	+/-?	0
12. Historic environment, heritage assets and their setting		+/-?	++/-?	+?	+/-?	+/-?	+
13. Flooding		-?	-?	+?	0?	+/-?	0
14. Soil / land quality		-?	-?	-?	-?	+/-?	0
15. Air quality		-?	-?	0?	-?	+/-?	0
16. Water quality and quantity		-?	?	?	?	+/-?	0
17. Impacts of lorry traffic on the environment and communities		-?	-?	0?	-?	+/-?	+?
18. Climate Change		+/-?	+/-?	+/-?	+/-	+/-?	+?

## MLP Section 9: Areas for Future Aggregate Working

- 5.54 The SA findings for the Area for Future Aggregate Working included in Section 9 of the MLP are summarised in **Table 5.5** below. These policies cover:
- Policy MA01 Aggregate working within allocations.
  - Policy MA02 Aggregate working outside of allocations.
- 5.55 Under Policy MA01 Aggregates working within allocations, the seven sand and gravel and crushed rock site Allocations are presented. The sites, preferred areas and areas of search making up these seven Allocations have each been appraised, and the findings are presented further ahead in this chapter of the SA Report, and **Appendix 6**.
- 5.56 These two policies are likely to have the same effects on all of the SA objectives. Minor negative effects are likely on SA objectives 1 (health and wellbeing) and 2 (amenity) as both policies support aggregate operations in Gloucestershire which will subject local communities to adverse effects associated with these minerals workings such as dust, noise and increased traffic, thus affecting their well-being and the local amenity.
- 5.57 In contrast, positive effects are likely on both SA objectives 3 (sustainable economic development) and 4 (employment opportunities) as aggregates support a wide range of end uses and industries and it is therefore important that there is a sufficient supply of material to supply construction and to provide the infrastructure, buildings, energy and goods that Gloucestershire and the country need.
- 5.58 Policies MA01 and MA02 would support aggregate workings for sand and gravel extracted in the Cotswolds Water Park which is located within and in close proximity to the safeguarding zone for RAF Fairford. Therefore, this policy could have minor negative effects on the safety of commercial or military aerodromes due to the potential for birds to provide a hazard to aircraft.
- 5.59 Mixed effects are likely for SA objectives 7 (biodiversity), 8 (landscape), 10 (material, cultural and recreational assets), 11 (geodiversity) and 12 (historic environment). The minor negative effects are associated with aggregate workings resulting in adverse effects on biodiversity (including habitats and designated sites), landscape (the presence of machinery and building structures), recreational assets (e.g. Public Rights of Way), geodiversity and the historic environment (the noise and visual intrusiveness can affect the setting of historic assets). Following the termination of aggregate workings, Policy MA02 stipulates that the site needs to be restored therefore resulting in a minor positive effect. Although policy MA01 does not specify any restoration requirements, restoration is likely to be fulfilled through the site plans found in Appendix 6 of the MLP, thereby resulting in minor positive effects for these SA objectives.
- 5.60 SA objective 11 (geodiversity) is also likely to encounter mixed effects from these policies as the continued extraction and/or processing of primary aggregate may uncover and harm geological interests leading to a minor negative effect. However, a minor positive effect is also identified as potential sites can also contribute to geodiversity by preserving and conserving geological features or making them visible and available for learning opportunities.
- 5.61 Both policies could have minor negative effects on SA objectives 13 to 17. Flooding (SA objective 13) is likely to result in minor negative effects as the Atkins hydrogeological reports identified potentially significant effects on flood risk for all of the seven Allocations, due mainly to backfilling during restoration using low permeability material. Other extraction proposals on sites outside of the allocations could have similar effects on flooding. However, the effects would be uncertain as the potential for effects will depend on the exact nature and design of the proposals that come forward, which will not be known until the planning application stage. In addition, the Atkins hydrogeological reports note that mitigation measures implemented during operations can reduce the significance of any negative residual impacts.
- 5.62 Policies MA01 and MA02 are likely to lead to mineral site workings that could result in the loss of land of varying agricultural quality (Grades 1-5) thereby resulting in minor negative effects for SA objective 14 (soil / land quality). It is uncertain how these policies are likely to affect SA objective 16 (water quality) as it would depend on the location of the site and proposed methods of working.

- 5.63 Policies MA01 and MA02 could have uncertain, minor negative effects on SA objective 16 (water quality and quantity), as the Atkins hydrogeological reports identified potentially low, moderate and significant effects on water quality and quantity for all of the seven Allocations (due mainly to dewatering and diversion of groundwater, and increases in suspended solids or discharges of polluted water). These same effects could occur on extraction sites that come forward outside of the allocations as well.
- 5.64 Promoting aggregate workings through Policies MA01 and MA02 result in minor negative effects for air quality (SA objective 15) and impacts on lorry traffic on the environment and communities (SA objective 17) as aggregate activities are likely to involve increased lorry traffic and the production of dust which result in adverse effects for air quality.
- 5.65 At this stage in the planning process it is not possible to determine the impacts of either policy on their ability to help reduce contributions to and to adapt to climate change as it will depend on the specific proposals they are used to determine and how successfully they are implemented, which would not be known until the planning application stage.

**Table 5.5: Summary of SA scores for the Area for Future Aggregate Working**

SA Objective	Policy	MA01 Aggregate working within allocations	MA02 Aggregate working within allocations
1. Health and wellbeing		-?	-?
2. Amenity of local communities		-?	-?
3. Sustainable economic development		+	+
4. Employment opportunities		+	+
5. Safety of commercial or military aerodromes		-?	-?
6. Conservation of minerals resources		0	0
7. Biodiversity		+/-?	+/-?
8. Landscape		+/-?	+/-?
9. Restoration of mineral sites		+?	+?
10. Material, cultural and recreational assets		+/-?	+/-?
11. Geodiversity		+/-?	+/-?
12. Historic environment, heritage assets and their setting		+/-?	+/-?
13. Flooding		-?	-?
14. Soil / land quality		-?	-?
15. Air quality		-?	-?
16. Water quality and quantity		-?	-?
17. Impacts of lorry traffic on the environment and communities		-?	-?

SA Objective	Policy	MA01 Aggregate working within allocations	MA02 Aggregate working within allocations
18. Climate Change		?	?

### MLP Section 10: Development Management Policies

5.66 The MLP includes a number of development management policies, in Section 10 (Development Management). The SA findings for the Development Management Policies included in Section 10 of the MLP are summarised in **Table 5.6**.

5.67 In general, the proposed development management policies are only likely to affect a limited number of the SA objectives as they are 'topic-specific' policies (e.g. flood risk, landscape, biodiversity etc.). Therefore, a number of negligible effects are identified for many of the SA objectives. Where the development management policies are likely to affect SA objectives, the effects are generally positive, with some significant positive effects identified (as highlighted in bold text in the following sections).

#### *Policy DM01: Amenity*

5.68 This policy is expected to have a positive effect on health and wellbeing (SA objective 1) as minerals development will only be permitted where adverse impacts on local communities in terms of noise, air pollution, vibration and visual intrusion can be avoided or mitigated.

5.69 In addition, Policy DM01 is expected to have **a significant positive effect on the amenity of local communities** (SA objective 2) as its purpose is to ensure that mineral developments avoid or mitigate adverse impacts on the amenity of local communities in Gloucestershire and neighbouring areas by means of noise, air pollution, vibration and visual intrusion.

#### *Policy DM02: Cumulative Impact*

5.70 This policy requires that when determining applications for minerals related development the Council will have regard to: the cumulative effects of previous and existing minerals development on local communities; to social cohesion and inclusion; and that an assessment of health, noise, dust, and odour impacts is included. As such, a positive effect is expected on health and wellbeing (SA objective 1) and the amenity of local communities (SA objective 2).

5.71 Policy DM02 also requires regard to be given to economic potential, which suggests that positive effects can be expected on sustainable economic development (SA objective 3) and employment opportunities (SA objective 4).

5.72 In addition, positive effects are expected on the majority of environmental objectives, as regard should be given to environmental quality. However, all of the minor positive effects identified are uncertain as the policy does not specifically refer to reducing impacts on particular sensitive receptors.

#### *Policy DM03: Transport*

5.73 Policy DM03 is expected to have positive effects on a number of SA objectives. Minor positive effects are expected on health (SA objective 1) and the amenity of local communities (SA objective 2), as the policy restricts mineral developments that would generate adverse traffic impacts on residential amenity.

5.74 Policy DM03 may also have positive effects on a number of the environmental objectives as it encourages alternative modes of transport and requires development proposals to demonstrate that unacceptable adverse impacts on road safety and the highway network will be avoided. Minor positive effects are therefore expected on biodiversity (SA objective 7), landscape (SA objective 8), the historic environment (SA objective 12), and climate change (SA objective 18). In addition, as the policy directly addresses **air quality** (SA objective 15) and **supports sustainable transport modes** (SA objective 17), **the positive effects on these objectives are expected to be significant**. In addition to the highway network, Policy DM03 requires

minerals development proposals to demonstrate that Public Rights of Way (PROWs) will be retained, or if temporary or permanent diversion of PROW routes is required that these are justified and that unacceptable adverse impacts will be avoided or satisfactorily mitigated (e.g. on the safety, integrity and enjoyment of affected routes). Therefore, it is likely to have a positive effect on conserving and enhancing some of Gloucestershire's recreational assets (SA objective 10).

*Policy DM04: Flood Risk*

5.75 Flooding can endanger lives, damage settlements, the amenity of local communities, and can also adversely affect the health of people<sup>25</sup>. As Policy DM04 seeks to reduce the likelihood and impact of flooding related to mineral workings, it is expected to have a positive effect on health (SA objective 1) and the amenity of local communities (SA objective 2) that may otherwise be adversely affected by flooding. It would also have a positive effect on adaptation to the impacts of climate change (SA objective 18).

5.76 As Policy DM04 directly relates to flooding issues, a **significant positive effect is expected on reducing flooding** (SA objective 13). In addition, by reducing the likelihood of flooding, there may be associated positive effects on biodiversity (SA objective 7), landscape (SA objective 8), material assets (SA objective 10), and heritage assets (SA objective 12) that may otherwise be adversely affected by flooding. Policy DM04 requires mineral development proposals in Flood Zone 3b to be 'water compatible' development, and in some cases mineral development e.g. sand and gravel workings can possibly assist in adding to flood capacity where the restoration is water based and does not lead to a net loss in flood plain storage. Therefore, it could have a positive effect on water-based restoration of mineral sites (SA objective 9).

*Policy DM05: Water Environment*

5.77 As this policy specifically seeks to protect water quality, ensuring any potentially harmful effects of minerals extraction are avoided and/or satisfactorily mitigated, a **significant positive effect is expected on water quality** (SA objective 16). There are also likely to be associated positive effects on health (SA objective 1) by protecting public drinking water supplies and on biodiversity (SA objective 7) by protecting aquatic ecosystems.

*Policy DM06: Biodiversity and Geodiversity*

5.78 Policy DM06 requires all minerals development proposals to assess their impact on biodiversity and geodiversity, and is therefore expected to have a **significant positive effect on biodiversity and geodiversity** (SA objectives 7 and 11). As minerals restoration can have a major role in enhancing the natural environment<sup>26</sup>, Policy DM06 is also likely to have a minor positive effect on landscape (SA objective 8) due to the strong relationship between landscape and habitats.

*Policy DM07: Soils*

5.79 As this policy seeks to avoid unacceptable adverse impacts on the quality of soil resources as defined through the Best and Most Versatile agricultural land grades, a **significant positive effect is expected on soil quality** (SA objective 14) as the policy directly relates to soil resources in Gloucestershire. There may also be positive effects on employment opportunities (SA objective 4), in particular within the agriculture industry. A further minor positive effect is identified for soils (SA objective 18) as through minimising soil disturbance and promoting soil restoration, the policy supports the function of soil as a carbon sink.

*Policy DM08: Historic Environment*

5.80 This policy is likely to have **significant positive effects on the historic environment** (SA objective 12), as the main aim of the policy is to avoid and/or satisfactorily mitigate harm to the significance of heritage assets, Scheduled Monuments and other non-designated assets of archaeological interest. As such Policy DM08 is likely to have a positive effect on landscape (SA

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<sup>25</sup> Gloucestershire County Council. Planning and Environmental Considerations Evidence Paper to Support the MLP Site Options and Draft Policy Framework Consultation. March 2014.

<sup>26</sup> Gloucestershire County Council. Planning and Environmental Considerations Evidence Paper to Support the MLP Site Options and Draft Policy Framework Consultation. March 2014.

objective 8) as the policy also protects historic landscapes and Conservation Areas and Listed Buildings which are located within these landscapes.

*Policy DM09: Landscape*

- 5.81 This policy is likely to have positive effects on landscape (SA objective 8) by avoiding unacceptable adverse impacts on the wider landscape as well as valued landscapes of AONB designations or those forming part of their setting. Positive effects from Policy DM09 are expected to be **significant for landscape**. In addition, this policy is expected to have associated positive effects on biodiversity (SA objective 7), restoration (SA objective 9), and cultural and recreational assets (SA objective 10).
- 5.82 Policy DM09 may also have positive effects on amenity of local communities (SA objective 2) as the policy aims to prevent adverse effects of minerals development on the local landscape and ensuring AONBs are safeguarded from adverse effects, and appropriately considered and enhanced via restoration in the longer term. In addition, the policy might have an indirect minor positive effect on economic development (SA objective 3) as it requires minerals development proposals within the Cotswolds, Wye Valley and Malvern Hills AONBs to demonstrate that the local economy will not be subject to unacceptable adverse impacts.

*Policy DM10: Gloucester-Cheltenham Green Belt*

- 5.83 Policy DM10 may have positive effects on health and wellbeing (SA objective 1) as maintaining the extent of open space in the countryside may encourage recreational uses for residents thus promoting healthier lifestyles. A positive effect is also likely on amenity of local communities (SA objective 2) as the policy aims to preserve the openness of the Green Belt which will be likely to help protect the visual amenity of residents and visitors alike.
- 5.84 This policy is likely to have positive effects on biodiversity (SA objective 7) and landscape (SA objective 8) as it seeks to ensure that minerals development within the Green Belt preserves its openness, which can contribute to landscape character, and retention of green fields and hedgerows within the Green Belt, which can contribute to biodiversity.

*Policy DM11: Aerodrome safeguarding and aviation safety*

- 5.85 Due to the specific nature of Policy DM11, no effects are expected on the majority of SA objectives. As the policy directly safeguards the safety of aerodromes by restricting mineral developments that may pose a hazard to aviation safety, a **significant positive effect is expected for SA objective 5** (safety of commercial or military aerodromes).



**Table 5.6: Summary of SA scores for Development Management Policies in Section 10 of the MLP**

MLP Proposed Development Management Policies	Amenity	Cumulative Impact	Transport	Flood Risk	Water resources	Biodiversity & geodiversity	Soils	Historic environment	Landscape	Gloucester-Cheltenham Green Belt	Aerodrome safeguarding & Aviation Safety
SA Objectives											
1. Health and wellbeing	+	+?	+?	+	+	0	0	0	0	+	0
2. Amenity of local communities	++	+?	+?	+	0	0	0	0	+	+	0
3. Sustainable economic development	0	+?	0	0	0	0	0	0	+?	0	0
4. Employment opportunities	0	+?	0	0	0	0	+?	0	0	0	0
5. Safety of commercial or military aerodromes	0	0	0	0	0	0	0	0	0	0	++
6. Conservation of minerals resources	0	0	0	0	0	0	0	0	0	0	0
7. Biodiversity	0	+?	+?	+	+	++	0	0	0	+	0
8. Landscape	0	+?	+?	+	0	+	0	+	++	+	0
9. Restoration of mineral sites	0	0	0	+?	0	0	0	0	+?	0	0
10. Material, cultural and recreational assets	0	+?	+	0	0	0	0	0	0	0	0
11. Geodiversity	0	+?	0	0	0	++	0	0	0	0	0
12. Historic environment, heritage assets and their setting	0	+?	+?	+	0	0	0	++	+?	0	0
13. Flooding	0	+?	0	++	0	0	0	0	0	0	0
14. Soil / land quality	0	+?	0	0	0	0	++	0	0	0	0
15. Air quality	0	+?	++?	0	0	0	0	0	0	0	0
16. Water quality and quantity.	0	+?	0	0	++	0	0	0	0	0	0
17. Impacts of lorry traffic on the environment and communities	0	+?	++?	0	0	0	0	0	0	0	0
18. Climate Change	0	+?	+?	+	0	0	+	0	0	0	0

### MLP Section 11: Mineral Restoration

- 5.86 The SA findings for the Mineral Restoration Policy included in Section 11 of the MLP are summarised in **Table 5.7**. This section covers:
- Policy MR01 Restoration, aftercare and facilitating beneficial after-uses.
- 5.87 The majority of effects from policies relating to the restoration policy would be uncertain as effects would be dependent on the type of restoration proposed and eventually implemented on a site, which will not be known until a the planning application process.
- 5.88 As the policy directly relates to the restoration of mineral sites, it is expected to have a **significant positive effect on restoration** (SA objective 9), by seeking to ensure that mineral sites are restored at the earliest opportunity and to an acceptable environmental condition. In general, the policy is also likely to have positive effects on the environmental and social objectives because it requires proposals to demonstrate that beneficial and sustainable after-uses will be facilitated that will positively contribute towards improvements to environmental quality, biodiversity and/or the health, well-being and quality of life of local communities. Therefore, minor positive effects are identified on biodiversity (SA objective 7), landscape (SA objective 8), cultural and recreational assets (SA objective 10), geodiversity (SA objective 11), historic environment and heritage assets (SA objective 12), flooding (SA objective 13), soil / land quality (SA objective 14), air quality (SA objective 15), water quality and quantity (SA objective 16), climate change (SA objective 18), as well as health and well-being of local communities (SA objective 1) and their amenity (SA objective 2). These effects would be uncertain as it is dependent on the specific type of restoration proposed and eventually developed on a site.
- 5.89 Minerals site restoration is expected to have negligible effects on economic SA objectives as environmental improvement is unlikely to bring effects to the local economy.

**Table 5.7: Summary of SA scores for Minerals Restoration**

SA Objective	Policy MR01 Restoration aftercare and facilitating beneficial after- uses
1. Health and wellbeing	+?
2. Amenity of local communities	+?
3. Sustainable economic development	0
4. Employment opportunities	0
5. Safety of commercial or military aerodromes	0
6. Conservation of minerals resources	0
7. Biodiversity	+?
8. Landscape	+?
9. Restoration of mineral sites	++
10. Material, cultural and recreational assets	+?
11. Geodiversity	+?
12. Historic environment, heritage assets and their setting	+?
13. Flooding	+?
14. Soil / land quality	+?
15. Air quality	+?
16. Water quality and quantity	+?

SA Objective	Policy	MR01 Restoration aftercare and facilitating beneficial after-uses
17. Impacts of lorry traffic on the environment and communities		0
18. Climate Change		+?

## Summary of SA Findings for the allocations

- 5.90 Policy MA01: Aggregate working within allocations in Section 9 of the MLP lists the seven Allocations where the principle of mineral working for aggregates has been accepted. The Allocations include Preferred Areas, which are areas likely to contain economically viable minerals resources and are expected to have a reasonable prospect of coming forward during the plan period. The Allocations also include one Area of Search, which is a less certain type of allocation, as while there is knowledge of strategic-scale mineral resources present and landowner interest, deliverability over the plan period is unknown with respect to operator interest. The assessments do not distinguish between Preferred Areas and Areas of Search, as any may come forward for minerals development in line with the MLP.
- 5.91 Appendix 4 of the MLP sets out detailed development requirements for each of the allocations. These have been taken into account when assessing the allocations, in addition to the baseline data sources described in **Table 4.2**.
- 5.92 The findings of the SA matrices for the seven Allocations are summarised in **Table 5.8** below. Note that all of the allocations are made up of one or more land parcels that were appraised in 2014/15 at the Site Options and Development Framework stage and many were also assessed in whole or in part as Preferred Areas or Areas of Search in 2016. The relationships between the allocations and the sites assessed in previous versions of the SA are presented in **Table 5.8**. The SA of the Pre-Publication MLP (2016) presented separate assessments for the different land parcels from the Site Options consultation where multiple parcels related to a single Allocation. As many of the allocations do not directly overlay these parcels, the assessment of allocations in this SA Report has considered the allocations as a whole (i.e. not separating assessments of different land parcels). This reflects the fact that Allocations are made as a whole in the MLP. Although only part of the site may be worked in the plan period, this will not be known until the planning application stage.

**Table 5.8: Evolution of Allocations**

Allocation in Publication MLP	Reference in Pre-Publication MLP (2016)	Reference in Site Options consultation (2014/15)
Allocation 01: Land east of Stowe Hill Quarry	Preferred Area at Stowe Hill / Clearwell	CRFD1 Stowe Hill/Clearwell Parcel B and part of Parcel A
Allocation 02: Land west of Drybrook Quarry	Preferred Area at Drybrook	CRFD2 Drybrook part of Parcel A
Allocation 03: Depth extension to Stowfield Quarry	Preferred Area at Stowfield	CRFD3 Stowfield Parcel C
Allocation 04: Land northwest of Daglingworth Quarry	Preferred Area at Daglingworth	CRCW1 Daglingworth Parcel A
Allocation 05: Land south and	Preferred Area at Huntsmans	Part of CRCW2 Huntsmans

Allocation in Publication MLP	Reference in Pre-Publication MLP (2016)	Reference in Site Options consultation (2014/15)
west of Naunton Quarry <sup>27</sup>		part of Parcel A and Parcel C
Allocation 06: Land south east of Down Ampney	Part of Area of Search at Down Ampney and Charlham Farm	SGCW5 Down Ampney part of Parcel A and part of Parcel C
Allocation 07: Lady Lamb Farm, west of Fairford	Area of Search at Lady Lamb Farm, Fairford	SGCW3 Horcott/Lady Lamb Farm Parcel A

- 5.93 There is a mix of potential positive and negative effects arising from the development of the allocations for mineral extraction, however, for some of the SA objectives, no effect is expected to occur. The potential for **significant negative effects** has only been identified for some of the sites for the SA objectives relating to **landscape** (SA Objective 8), **cultural and recreational assets** (SA Objective 10), **geodiversity** (SA Objective 11), **historic environment and heritage assets** (SA Objective 12) and **soil/land quality** (SA Objective 14).
- 5.94 Mitigation of most of the potentially negative effects could be achieved through implementation of good operational practices, adherence to the development management policies in the MLP, and requiring certain surveys or detailed assessments to be undertaken as part of the planning application process. These requirements are included within the detailed development requirements for each Allocation in Appendix 4 in the MLP.

### Social Objectives

#### SA Objective 1 (Health and wellbeing)

- 5.95 Five of the allocations may have a minor negative effect (as part of a mixed effect) on SA objective 1 due to them being within proximity of nearby sensitive receptors (e.g. properties and settlements). However, two of the allocations are expected to have no effect on health, as they are further than 100m from sensitive receptors. The Allocations likely to have no negative effects are: 03: Depth extension to Stowfield Quarry and 04: Land northwest of Daglingworth Quarry. All allocations are also expected to have minor positive effects on this SA objective, as the detailed development requirements in Appendix 4 of the MLP require commitments to maximise positive effects on health and wellbeing. It should also be noted that mineral extraction at any of the potential sites will be well operated and that mitigation measures implemented to meet the development requirements and DM policies in the MLP should be sufficient to avoid any potential long term effects on health and wellbeing.

#### SA Objective 2 (Amenity)

- 5.96 All of the allocations have the potential to have a minor negative effect on SA objective 2, due to proximity of nearby sensitive receptors that may be affected by noise, dust, vibration etc. However, the extent of effects on local amenity will depend on the type of mineral extracted, the scale of the operations and the type of activities undertaken within the site. For example, noise and vibration may be greater near hard rock sites (e.g. crushed rock) due to the need for blasting prior to excavation, which is rarely needed at sand and gravel sites. It should be noted that mineral extraction at any of the potential sites will be well operated and that mitigation measures implemented to meet the development requirements and DM policies in the MLP should be sufficient to avoid any potential long term amenity effects.
- 5.97 There are two Allocations which are not within 100m of a sensitive receptor but still have potential to have a minor negative effect on SA objective 2, as the sites are within 1km of a settlement and other existing mineral sites are also within 1km of the same settlement, therefore, continuing mineral extraction activity in the area could have a cumulative effect on the amenity of the local community. These are: Allocation 03: Depth extension to Stowfield Quarry and 04: Land northwest of Daglingworth Quarry.

<sup>27</sup> As of November 2017 the quarry formerly known as "Huntsman's Quarry" has been renamed Naunton Quarry by the site owner.

## **Economic Objectives**

### *SA Objective 3 (Economic development) and SA Objective 4 (Employment)*

- 5.98 All of the allocations are likely to have negligible effects on SA objective 3 as they are unlikely to present opportunities for spin off employment or other opportunities (e.g. growth and investment in industries associated with aggregate sites such as haulage companies and engineers for processing plant machinery) as minerals sites are often self-served by the operators that own them. However, due to the likely job creation directly associated with new mineral extraction sites, all sites are likely to have minor positive effects on SA objective 4, irrespective of their location.

### *SA Objective 5 (Aerodrome safety)*

- 5.99 Allocations located within the Sand and Gravel Cotswold Water Park resource area have the potential to have minor negative effects on SA Objective 5, as the whole area lies within the RAF Fairford safeguarding zone. Therefore, minor negative effects may occur at sand and gravel Allocations 06: Land east of Down Ampney and 07: Lady Lamb Farm, west of Fairford, as they may be restored to open water where birds may congregate in large areas. As these site options are within close proximity to RAF Fairford they may provide a hazard to aircraft due to the increased risk of bird-strike. However, the effects would be uncertain as they are dependent on the type of restoration proposed and eventually implemented on a site, which will not be known until the planning application stage. For example, sites may be restored to dry after uses due to being located within the RAF Fairford safeguarding zone. While this would be positive in terms of protecting the safety of the aerodromes, this could increase the risk of flooding as discussed under SA Objective 13 below.
- 5.100 All other Allocations are expected to have no effect on SA objective 5, as they are not within an aerodrome safeguarding area.

### *SA Objective 6 (Conservation of mineral resources)*

- 5.101 All allocations are expected to have no effect on SA objective 6, as new potential mineral sites would not be classed as inappropriate development in terms of conserving mineral resources. The inappropriate development relates to other development types such as housing or employment, which could 'sterilise' the mineral resource from being extracted if developed on top of it. It is noted that the detailed development requirements in Appendix 4 of the MLP require an Economic Impact Assessment to be undertaken for any proposal.

## **Environmental Objectives**

### *SA Objective 7 (Biodiversity)*

- 5.102 The Allocations have the potential to have either mixed minor negative and positive effects or minor positive effects on SA objective 7, as they may be likely to impact on national or local nature conservation designations; however, if the minerals sites are enhanced through restoration they could make contributions to biodiversity enhancement and have positive effects on designated sites and wider biodiversity initiatives. However, this is uncertain as the potential for effects will depend on the exact nature and design of the site, which would not be known until the planning application stage. All of the allocations except for 01: Land east of Stowe Hill Quarry are not likely to have significant effects on European designated sites. The 2016 HRA Report prepared by GCC<sup>28</sup> concluded after screening, that this was the only Allocation that might have minor residual effects alone (only in relation to the area previously referred to as Parcel B), and taking a precautionary approach some uncertainty remained, and therefore a consideration of in combination effects alongside other plans and projects was needed. The minor residual effects identified were in relation to potential impacts on bat habitat and flyways at CRFD1 which could be important to the well-being of the Wye Valley & Forest of Dean Bat Sites SAC (Old Bow & Old Ham Mines) which is at its nearest point about 750 metres away to the north east, and another component part of the SAC (Devil's Chapel Scowles) 2.8km to the south east, plus the Wye Valley Woodlands SAC which is 1.8km away to the south west at its closest point. The main issue is whether horseshoe bats from or associated with the Wye Valley Woodlands or the Forest of Dean Bat Sites SAC may depend on what remains of a much degraded hedgerow network within

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<sup>28</sup> HRA Main Report for Gloucestershire MLP (Vers. 1.2 at Pre-Publication Stage), Gloucestershire County Council, 2016.

Allocation 1. Following the review of other plans and projects, the 2016 HRA Report concluded that there is not likely to be a significant effect on the SACs in combination with the other relevant plans and projects, and therefore the Appropriate Assessment stage was not required.

- 5.103 The detailed development requirements in each Allocation in Appendix 4 of the MLP specify the need for an analysis of potential impacts on the natural environment, with reference to particular relevant nearby nature conservation sites. The analysis will also need to investigate impacts on priority habitats and species which have been adjacent or near to the site. The detailed development requirements also specify that restoration plans should be explored, along with opportunities to achieve biodiversity enhancements. This should help provide mitigation for the potential negative effects identified.

#### *SA Objective 8 (Landscape)*

- 5.104 **Two of the allocations** have the potential to have a **significant negative effect** on SA objective 8, as the landscape assessment carried out by Atkins (June 2015) for each site judged that there would be a 'significant Moderate Adverse' or 'significant Major Adverse' impact on the landscape character and/or local landscape features. These were: Allocation 01: Land east of Stowe Hill Quarry and Allocation 06: Land south east of Down Ampney.
- 5.105 One Allocation (02: Land west of Drybrook Quarry) was identified as having a minor negative effect on this objective because it were judged as having 'minor' landscape impacts in the Atkins Landscape Report.
- 5.106 The remaining Allocations (or parcels within them) were judged in the Atkins landscape assessments as unlikely to have an effect on landscape character or features, and therefore would have no effect on SA objective 8.
- 5.107 The detailed development requirements for each Allocation in Appendix 4 of the MLP specify the need for a Landscape & Visual Impact Assessment once proposals come forward, which should help to inform mitigation measures to reduce the potential significant effects identified.

#### *SA Objective 9 (Mineral site restoration)*

- 5.108 All site options irrespective of their location are expected to have a minor positive effect on SA objective 9, as the restoration of minerals sites is increasingly adopting innovative practice and therefore, any minerals site could have positive effects on landscape character, biodiversity, amenity and recreation in the longer term, once restored. However, this is uncertain as it will depend on the specific restoration proposals put forward at the planning application stage.

#### *SA Objective 10 (Material, cultural and recreational assets)*

- 5.109 Most of the allocations have the potential for minor negative effects on SA objective 10, as Public Rights of way (PRoW) are either within 250m of the sites or run through areas of the sites and the GCC PRoW Team have identified that diversions would be required. None of the allocations are expected to affect other leisure or recreational facilities or open space, including cycle routes, due to their location in relation to these assets.

#### *SA Objective 11 (Geodiversity)*

- 5.110 Allocation 02: Land west of Drybrook Quarry and Allocations in the Sand and Gravel Cotswold Water Park resource area (06 and 07) are expected to have no effect on SA objective 11 as they are more than 500m from a national site of geological interest (SSSI) or Regionally Important Geological Site (RIGS)<sup>29</sup>.
- 5.111 Allocations 01 (Stowe Hill), 04 (Daglingworth) and 05 (Naunton Quarry) could have a minor negative effect on SA objective 11, as they are within 500m of a SSSI of geological interest or RIGS. However, Allocation 03 (**Stowfield**) could have a **significant negative effect** as the Allocation is located within the existing consented Stowfield Quarry which is designated as a Regionally Important Geological Site. This effect is uncertain as further workings of the site may expose more geological features.

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<sup>29</sup> While the government has proposed to change the name of Regionally Important Geological Sites (RIGS) to Local Geological Sites; in Gloucestershire they are still referred to as RIGS.

### *SA Objective 12 (Historic environment and heritage assets)*

- 5.112 All of the allocations have the potential to have a negative effect on SA Objective 12, as they are within 1km of a Historic Park or Garden or Registered Battlefield, Scheduled Monument or Listed Building, or a Conservation Area, and minerals extraction sites could potentially affect the setting of these heritage assets. However, three of the allocations (01 (**Stowe Hill**), 04 (**Daglingworth**) and 06 (**Down Ampney**) could have **significant negative effects** on SA objective 12. The Atkins landscape assessment concluded for Allocation 01 that development of this site would result in a localised and significant Major Adverse impact on the setting of the Toll House Grade II Listed Building to the east of the site and for Allocation 06 development would result in Moderate Adverse effects on the settlement at Bean Hay Copse Scheduled Monument and the Grade II Listed Buildings at Castle Hill Farm. Allocation 04 is not likely to have significant effects on the historic landscape character or particular local designated heritage assets, however, the GCC site assessment 2016 identifies the site of a possible Bronze Age barrow, and an earthwork bordering the south eastern boundary of the site which forms a part of the late Iron Age-early Roman settlement of Bagendon. The latter is of national importance and parts of the complex are a Scheduled Monument. The possible presence of other features contemporary with Bagendon was also raised by GCC, and it was recommended that the linear earthwork was excluded from the extraction area, and that the rest of the site should be assessed/evaluated. Therefore, the site could have a significant negative effect on archaeology, however, the effects would be uncertain as a more detailed assessment would be required once proposals are known.
- 5.113 The detailed development requirements for these Allocations in Appendix 4 of the MLP specify the need for Heritage Statements to be prepared, and where necessary, one that incorporates an analysis of its potential archaeological interest. Assessments must include both an evaluation of the presence and significance of heritage assets; and a mitigation strategy, which could introduce constraints upon future mineral working and associated activities in order to preserve key heritage assets and their settings; and the appropriate and proportionate recording and / or excavation of all other heritage assets.

### *SA Objective 13 (Flooding)*

- 5.114 The hydrogeological assessments carried out by Atkins for all of the allocations found that there could be a significant impact on flood risk from all of the allocations. During operation, dewatering is likely to be required, and discharge of water may give rise to increased flood risk if the capacity of the receiving stream is exceeded. Stockpiling of materials in areas that are susceptible to flooding may increase flooding off site due to reduction in flood plain storage. After restoration the use of lower permeability materials may cause rainwater events to increase risk of flooding. With the use of lower permeability materials, the migration of groundwater through the site is likely to be blocked, allowing water levels to rise upstream of the site. This could give rise to an increased risk of groundwater flooding locally. However, the Atkins reports conclude that subject to appropriate design, especially with regard to storage and stockpiles, and the inclusion of appropriate mitigation measures it is likely that any impacts can be reduced to acceptable levels. Therefore, a minor negative effect is identified on this SA objective for all ten Allocations. However this effect is uncertain as it will depend on the specific proposals that come forward and mitigation measures proposed.
- 5.115 The detailed development requirements for the allocations in Appendix 4 of the MLP outline the need for a Flood Risk Assessment with reference to particular aspects that need to be considered relevant to each Allocation.

### *SA Objective 14 (Soil / land quality)*

- 5.116 The majority of the allocations could have minor negative effects on SA objective 14, as they are large (i.e. over 20ha) and partially within grade 1, 2 or 3 agricultural land, or are small to medium (i.e. less than 20ha) and entirely within grade 1, 2 or 3 agricultural land. In both of these situations, mineral extraction at the site could result in the loss of high quality agricultural land. However, Allocation 06 (**Down Ampney**) could have **significant negative effects** on SA objective 14 as the site is large (i.e. over 20ha) and located entirely within grades 2 and 3 agricultural land, and could therefore result in the loss of large areas of high quality agricultural land.

- 5.117 All of these effects are uncertain however, as there may be opportunities to redress the loss of agricultural land during restoration. This is uncertain because it will depend on the specific restoration proposals put forward which will not be known until the planning application stage.
- 5.118 The detailed development requirements for these Allocations in Appendix 4 of the MLP require preparation of a Soil Strategy and Agricultural Land Classification Reports, due to the presence (or potential presence) of agricultural land of high grade.

*SA Objective 15 (Air Quality)*

- 5.119 The majority of the allocations could have minor negative impacts on SA Objective 15, as they are more than 1km from the strategic highway network, and it is assumed that HGV traffic associated with the sites is therefore likely to travel further along local roads before reaching the strategic highway network. Only Allocation 03, 04 and 07 are expected to have no impact on SA objective 15 as they are all within 1km of the strategic highway network, and therefore HGVs are likely to spend less time on local roads.

*SA Objective 16 (Water quality and quantity)*

- 5.120 All of the allocations have the potential for minor negative effects on water quality and/or quantity, based on the conclusions of the hydrogeological impact assessments carried out by Atkins. This was due to generally significant impacts being identified from either de-watering and diversion of groundwater away from the areas of the principal aquifer and secondary A aquifer, leading to a decrease in water quality, or potential decreases in water quality impacting particular surface water bodies including Local Wildlife Sites and SSSIs. The potential for changes in water quality identified in the Atkins reports are due to possible increases in suspended sediments during operation. De-watering during operation can also result in diversion of water from water bodies as groundwater flow paths are interrupted. After restoration, where sites are likely to be partially backfilled, this would increase overland flow.
- 5.121 Although the Atkins reports conclude that there could be a number of significant impacts on water quality from mineral extraction at the potential sites, there is an explanation of the measures that would be included to reduce these impacts, and a conclusion is reached regarding residual effects which are generally negligible for most of the sites. Therefore, it is assumed that the potential significant effects identified in the Atkins reports are very unlikely to occur, and only minor negative effects on water quality have been identified, with uncertainty attached to the effects as they will depend on the detailed proposal for the site and any mitigation measures included, which would be assessed at the planning application stage.
- 5.122 The detailed development requirements for each Allocation in Appendix 4 of the MLP require further hydrological / hydrogeological impact assessments to be completed, which will consider potential risks, their significance and possible mitigation measures, if required, on the nearby surface water bodies, plus review the underlying geology to identify the presence of a designated aquifer. In preparing any hydrological mitigation, attention should be given to reducing the impact of any dewatering that may be proposed through sub-dividing the working area into smaller cells to reduce the active perimeter; and restricting the practice during storm events to ensure receiving waters have appropriate capacity for the flow. For minimising the risk to water quality, bunded tanks and drip trays to prevent spillages should be proposed, along with settlement (silt) ponds or proprietary equipment.

*SA Objective 17 (Lorry traffic)*

- 5.123 The majority of allocations are located more than 1km from the strategic highway network and as traffic associated with the sites is assumed likely to travel further along local roads, minor negative effects are expected on reducing the impacts of lorry traffic on the environment and communities for SA objective 17. However, these effects are uncertain for a large proportion of the allocations as they have the potential lead to positive or negative effects on the amenity of local communities due to reducing or increasing the effects of lorry traffic. For example, extensions to some sites may provide opportunities for new highway access which would enable lorries to reach the strategic road network with less impact on communities, thereby reducing lorry traffic on existing local roads. Alternatively, due to the location of some site options, GCC Highways has major concerns in relation to highways access, due to the width and alignment of the local road network. However, this is uncertain as the potential for effects will depend on the



exact nature and design of the site, which would not be known until the planning application stage.

- 5.124 Allocations 03 (Stowfield) and 04 (Daglingworth) are within 1km of the strategic highway network and could therefore have minor positive effects on reducing the impacts of lorry traffic on the environment and communities for SA objective 17. Allocation 07 (Lady Lamb Farm) has the potential to have mixed effects as while the site is within close proximity to the strategic road network it is not associated with any current mineral operations and the suitability of and the mitigation for the road network would need to be determined, and safe and suitable access would be required. Again, effects would be uncertain as the potential for effects will depend on the exact nature and design of the site, which would not be known until the planning application stage.

#### SA Objective 18 (Climate change)

- 5.125 At this stage in the planning process it is not possible to determine the impacts of minerals site Allocations on their ability to contribute towards climate change and / or hinder proposed actions that seek to reduce its scale and significance as it will depend on the specific proposals for how minerals will be extracted, which would be assessed at the planning application stage. However, it is noted that the detailed development requirements in Appendix 4 of the MLP states that all proposed restoration solutions must seek to deliver greater resilience to the likely impacts of climate change.

**Table 5.9: Summary of SA scores for the seven Allocations**

Allocation	01	02	03	04	05	06	07
<b>Social objectives</b>							
1. Health and wellbeing.	-/+?	-/+?	+?	+?	-/+?	-/+?	-/+?
2. Amenity of local communities.	-	-	-	-	-	-	-?
<b>Economic objectives</b>							
3. Sustainable economic development.	0	0	0	0	0	0	0
4. Employment opportunities.	+	+	+	+	+	+	+
5. Safety of commercial or military aerodromes.	0	0	0	0	0	-?	-?
6. Conservation of minerals resources.	0	0	0	0	0	0	0
<b>Environmental objectives</b>							
7. Biodiversity.	-/+?	+?	-/+?	-/+?	+?	-/+?	+?
8. Landscape.	--?	-?	0	0	0	--?	0
9. Restoration of mineral sites.	+?	+?	+?	+?	+?	+?	+?
10. Material, cultural and recreational assets.	-	-	0	-	-?	-	-
11. Geodiversity.	-?	0	--?	-?	-?	0	0
12. Historic environment.	--?	-?	-?	--?	-?	--?	-?
13. Flooding.	-?	-?	-?	-?	-?	-?	-?

Allocation	01	02	03	04	05	06	07
14. Soil / land quality.	-?	-?	0	-?	-?	--?	-?
15. Air quality.	-	-	0	0	-	-	0
16. Water quality and quantity.	-?	-?	-?	-?	-?	-?	-?
17. Impacts of lorry traffic.	-?	-?	+	+	-	-	+/-?
18. Climate Change.	?	?	?	?	?	?	?

## Summary of SA Effects of MLP

- 5.126 The SEA Directive requires that the assessment of effects should include “secondary, cumulative, synergistic, short, medium and long-term, permanent and temporary effects” (SEA Directive Annex I).
- 5.127 Gloucestershire’s MLP sets out how the future minerals development of the County should develop and operate and how the minerals needs of Gloucestershire and the markets it supplies will be met up to 2033. Therefore, this means that the timescales for effects resulting from policies within the MLP could be at least 15 years. In reality, some of the policies may have short-term effects (defined for this SA as over the next 5 years), medium-term effects (defined as over the next 10 years), or long-term effects (defined as over the whole plan period). In many instances, given the generic nature of the policies in the MLP, it is difficult to be precise about when, where and in what form the effects will arise, and how one effect might relate to another.
- 5.128 However, it is possible to draw some broad conclusions about the nature and interrelationship of the effects that the SA has identified:
- Most of the effects will be long-term, in that the MLP aims to provide minerals that will last over time. There will inevitably be some temporary and short or medium term effects during the construction or operation of facilities (see below).
  - The effects which have been identified in the appraisal of the MLP, both positive and negative, are likely to increase over time, as the policies in the MLP are implemented, and more minerals development is delivered in Gloucestershire, although some operations may be completed as new excavation sites are developed so some effects may balance out.

### Short-term effects of the MLP

- 5.129 The impacts of the MLP in the short-term are mostly related to the initial impacts of commencing minerals extraction. This will include the removal of vegetation, top soil, sub soil, and provision of infrastructure required. Such works could have negative impacts on biodiversity, health and wellbeing, amenity of local communities (possible disruption to rights of way, traffic flows, noise generation, vibration, dust etc.), soil quality, and the landscape (including historic landscape). However, these impacts are temporary in nature and some may be minimised through good design, adherence to the policies in the MLP or reversed through restoration measures in the medium to long-term.

### Medium-term effects of the MLP

- 5.130 Medium-term positive impacts relate to the employment and economic benefits of the minerals sites. Negative impacts in the medium-term include the implications of operational minerals extraction sites on health and wellbeing, and the amenity of local communities (e.g. noise, dust, increased traffic etc.). However, as discussed previously in this chapter, these impacts should be avoided or mitigated through good practices by the minerals operators, and adherence to all the policies in the MLP when planning proposals are assessed and determined by GCC.

### Long-term effects of the MLP

- 5.131 Long-term, permanent benefits that would result from the MLP include the provision of sufficient minerals operations to meet Gloucestershire’s needs, potential flood alleviation (e.g. sand and gravel sites in the Cotswolds Water Park resource area), habitat creation and biodiversity enhancement, or recreation enhancement opportunities through the restoration of minerals working sites, or the incorporation and preservation of important geological features within sites. Long-term, permanent negative impacts of the MLP policies are potentially: loss of habitats, areas of best and most versatile agricultural land; climate change implications of the energy required to operate facilities and vehicle movements to minerals; and the disturbance and/or removal of archaeological remains, some of which may be of national significance. However, there may also be some long-term, permanent positive impacts for biodiversity and landscape through the creation of new habitats, and enhancement of landscape through well designed and implemented

restoration of minerals sites; and long term, permanent positive impacts for the historic environment as sites may benefit our understanding of the local archaeology which is found during minerals operations, and aggregates and building stone, for example, could also make a positive contribution towards local vernacular.

### Significant effects of the MLP

5.132 As previously discussed in this Chapter a range of significant effects, both positive and negative, are expected as a result of the MLP. The relevant elements of the MLP that have the potential to have significant effects on the SA objectives are summarised in **Table 5.10** and **Table 5.11** below. Potentially significant positive effects (**Table 5.10**) have been identified for all of the SA objectives from at least one of the Vision, MLP Objectives or Policies. Potentially significant negative effects (**Table 5.11**) have only been identified in relation to some of the allocations, but none of the policies.

**Table 5.10: Likely significant positive effects of the MLP**

SA Objective	MLP - Vision, Objectives, Policies, Allocations
<b>Social SA Objectives</b>	
1. Health and wellbeing	<ul style="list-style-type: none"> <li>N/A</li> </ul>
2. Amenity of local communities	<ul style="list-style-type: none"> <li>Policy DM01: Amenity</li> </ul>
<b>Economic SA Objectives</b>	
3. Sustainable economic development	<ul style="list-style-type: none"> <li>Vision</li> <li>Objective 3: Provision &amp; Supply (PS)</li> </ul>
4. Employment opportunities	<ul style="list-style-type: none"> <li>Vision</li> <li>Objective 3: Provision &amp; Supply (PS)</li> </ul>
5. Safety of commercial or military aerodromes	<ul style="list-style-type: none"> <li>Policy DM11: Aerodrome safeguarding &amp; Aviation Safety</li> </ul>
6. Conservation of minerals resources	<ul style="list-style-type: none"> <li>Objective 1: Reuse &amp; Recycling (SR)</li> <li>Objective 2: Resource Management (RM)</li> <li>Policy SR01: Maximising the use of secondary and recycled aggregates</li> <li>Policy MS01: Non-minerals development within MSAs</li> <li>Policy MS02: Safeguarding mineral infrastructure</li> </ul>
<b>Environmental SA Objectives</b>	
7. Biodiversity	<ul style="list-style-type: none"> <li>Vision</li> <li>Objective 4: The Environment (ENV)</li> <li>Policy DM06: Biodiversity and Geodiversity</li> </ul>
8. Landscape	<ul style="list-style-type: none"> <li>Vision</li> <li>Objective 4: The Environment (ENV)</li> <li>Policy DM09: Landscape</li> </ul>
9. Restoration of mineral sites	<ul style="list-style-type: none"> <li>Vision</li> <li>Objective 6: Restoration (RA)</li> <li>Policy MR01: Restoration aftercare and facilitating beneficial after-uses</li> </ul>
10. Material, cultural and recreational assets	<ul style="list-style-type: none"> <li>Vision</li> </ul>
11. Geodiversity	<ul style="list-style-type: none"> <li>Vision</li> <li>Objective 4: The Environment (ENV)</li> <li>Policy MS01: Non-minerals development within MSAs</li> <li>Policy DM06: Biodiversity and Geo-diversity</li> </ul>
12. Historic environment, heritage assets and their setting	<ul style="list-style-type: none"> <li>Policy MW02: Natural Building Stone (as part of a mixed effect)</li> <li>Policy DM08: Historic Environment</li> </ul>

SA Objective	MLP - Vision, Objectives, Policies, Allocations
13. Flooding	<ul style="list-style-type: none"> <li>• Vision</li> <li>• Policy DM04: Flood Risk</li> </ul>
14. Soil / land quality	<ul style="list-style-type: none"> <li>• Policy DM07: Soils</li> </ul>
15. Air quality	<ul style="list-style-type: none"> <li>• Policy DM03: Transport</li> </ul>
16. Water quality and quantity	<ul style="list-style-type: none"> <li>• Vision</li> <li>• Policy DM05: Water Environment</li> </ul>
17. Impacts of lorry traffic on the environment and communities	<ul style="list-style-type: none"> <li>• Policy DM03: Transport</li> </ul>
18. Climate Change	<ul style="list-style-type: none"> <li>• Vision</li> </ul>

**Table 5.11: Likely significant negative effects of the MLP**

SA Objective	MLP - Vision, Objectives, Policies, Allocations
<b>Environmental SA Objectives</b>	
8. Landscape	<ul style="list-style-type: none"> <li>• Allocation 01 – Land east of Stowe Hill Quarry</li> <li>• Allocation 06 - Land south east of Down Ampney</li> </ul>
11. Geodiversity	<ul style="list-style-type: none"> <li>• Allocation 03 – Depth extension to Stowfield Quarry</li> </ul>
12. Historic environment, heritage assets and their setting	<ul style="list-style-type: none"> <li>• Allocation 01 – Land east of Stowe Hill Quarry</li> <li>• Allocation 04 – Land northwest of Daglingworth Quarry</li> <li>• Allocation 06 – Land south east of Down Ampney</li> </ul>
14. Soil / land quality	<ul style="list-style-type: none"> <li>• Allocation 06 - Land south east of Down Ampney</li> </ul>

## Cumulative effects of the MLP

5.133 Looking at the summary tables of SA scores above enables a judgement to be made regarding the overall cumulative effects of the MLP on each SA objective.

### *Social SA Objectives*

5.134 A cumulative mixed, minor positive/minor negative effect on SA objectives 1 (Health and wellbeing) and 2 (Amenity of local communities) is likely to result from the MLP. While a number of the allocations are likely to have minor negative effects on the SA objectives many of them are uncertain, and many of the policies are likely to have mixed, minor positive effects, negligible effects or even no effects on these SA objectives.

### *Economic SA Objectives*

5.135 The MLP mainly has either minor positive or no effects on SA Objective 3 (Economic Development), therefore cumulatively it is likely that minor positive effects will occur on this SA objective. Similarly, policies are likely to have either minor positive or no effects on SA Objective 4 (Employment), although all allocations are also expected to have minor positive effects on this SA objective. Therefore, cumulative effects on SA objective 4 are considered likely to be minor positive.

5.136 All allocations in the Sand and Gravel Cotswold Water Park resource area are likely to have minor negative effects on SA objective 5 (Aerodrome Safety), however, these are all uncertain as it is dependent on the type of restoration proposed and eventually implemented on a site. All other sites are expected to have no effect on SA objective 5. The few MLP policies that are likely to have effects on SA objective 5 are generally likely to be minor negative (apart from the Aerodrome Safeguarding and Aviation Safety policy which is likely to have a significant positive

effect). Therefore, cumulative effects on SA objective 5 overall are considered to be minor negative.

- 5.137 A cumulative significant positive effect on SA objective 6 (Conservation of mineral resources) is likely to result from the MLP, as the policies that are likely to affect this SA objective are expected to either have significant positive or minor positive effects.

#### *Environmental SA Objectives*

- 5.138 The MLP mainly has either positive effects or mixed, minor positive/minor negative effects on SA objective 7 (Biodiversity), many of which are uncertain. Therefore, cumulative effects on SA objective 7 are considered to be mixed, minor positive/minor negative.
- 5.139 All allocations are expected to have minor positive effects on SA objective 9 (Mineral site restoration). Similarly, most policies in the MLP are also expected to have either positive or negligible effects on SA objective 9, in some cases significant positive effects. Therefore, overall minor positive effects are likely for SA objective 9.
- 5.140 Cumulative mixed, minor positive/minor negative effects are expected for many of the Environmental SA objectives (SA objectives 8, 10, 11, 14, 15 and 17). Whilst a number of allocations are expected to have minor negative effects, and even significant negative effects on these SA objectives, many of the MLP policies are expected to have positive effects, in some cases significant, on the SA objectives or mixed, minor positive/minor negative effects.
- 5.141 All of the allocations have the potential to have minor negative effects on SA objective 13 (Flooding) and SA objective 16 (Water quality and quantity) and minor or significant negative effects on SA objective 12 (Historic Environment). However, many of the MLP policies are likely to have either minor positive or mixed no effect/minor positive effects on these SA objectives, and should help to avoid the potential negative effects occurring if allocation sites are developed. Therefore, overall, cumulative mixed, no effect/minor negative effects on SA objectives 8 (Historic Environment), 13 (Flooding) and 16 (Water quality and quantity) are likely to result from the MLP.
- 5.142 Cumulatively, the MLP is likely to have minor positive effects on SA objective 18 (Climate change). Whilst some policies in the MLP are expected to have minor positive effects on these SA objectives, at this stage in the planning process is not possible to determine the impacts of the minerals sites or some policies on these SA objectives as it will depend on the proposal (mineral type, design, method of working etc.), which would be assessed at the planning application stage.

## 6 Monitoring

- 6.1 The SEA Directive requires that “member states shall monitor the significant environmental effects of the implementation of plans or programmes... in order, *inter alia*, to identify at an early stage, unforeseen adverse effects, and be able to undertake appropriate remedial action” (Article 10.1) and that the environmental report should provide information on “a description of the measures envisaged concerning monitoring” (Annex 1 (i)). Monitoring proposals should be designed to provide information that can be used to highlight specific issues and significant effects, and which could help decision-making.
- 6.2 Monitoring should be focused on the significant sustainability effects that may give rise to irreversible damage (with a view to identifying trends before such damage is caused) and the significant effects where there is uncertainty in the SA and where monitoring would enable preventative or mitigation measures to be taken.
- 6.3 As discussed in **Chapter 5** and shown in **Table 5.10** and **Table 5.11**, a number of the policies and site options included in the MLP could have potential significant positive or negative effects on the SA objectives. Therefore, it is recommended that monitoring is undertaken to determine whether these effects do indeed occur due to implementation of the MLP, and in order to seek to remedy or reverse any negative effects and to secure and maximise any positive effects.
- 6.4 **Table 6.1** sets out a number of suggested indicators for monitoring the potential effects of implementing the MLP. In order to make best use of existing monitoring arrangements, a number of indicators have been drawn from Gloucestershire’s Minerals and Waste Authority Monitoring Report–2011 - 2012<sup>30</sup> (shown in *italic* text), as well as Section 12 in the MLP.

**Table 6.1: Suggested framework for monitoring potential significant sustainability effects arising from implementation of the Gloucestershire MLP**

SA objectives for which potential significant effects have been identified	Policies and Allocations that are likely to lead significant effects	Proposed indicators (from Gloucestershire’s Minerals and Waste Authority Monitoring Report and MLP)
<b>Social SA Objectives</b>		
2. Amenity of local communities	<ul style="list-style-type: none"> <li>Policy DM01: Amenity</li> </ul>	<p><i>The number and % of minerals permissions, which include conditions relating to: Noise, hours of operations, traffic and lighting.</i></p> <p><i>The number and % of minerals refusals where amenity was cited within the reason for refusal.</i></p> <p>Planning applications for minerals development being permitted where amenity issues were relevant and underwent scrutiny.</p>
<b>Economic SA Objectives</b>		
3. Sustainable economic development	<ul style="list-style-type: none"> <li>Vision</li> <li>Objective 3: Provision &amp; Supply (PS)</li> </ul>	<p><i>Annual production of minerals.</i></p> <p><i>Permitted reserves of minerals.</i></p> <p><i>Amount/% of minerals consumed locally/imported per year by type.</i></p>

<sup>30</sup> Available at: [https://www.gloucestershire.gov.uk/media/5919/amr\\_2012-55902.pdf](https://www.gloucestershire.gov.uk/media/5919/amr_2012-55902.pdf) (Note that although a new Authority Monitoring Reports were published for 2014 and for April 2012 to December 2013, these either use the same indicators as the previous report or, do not present detailed indicators for these areas).



SA objectives for which potential significant effects have been identified	Policies and Allocations that are likely to lead significant effects	Proposed indicators (from Gloucestershire's Minerals and Waste Authority Monitoring Report and MLP)
4. Employment opportunities	<ul style="list-style-type: none"> <li>• Vision</li> <li>• Objective 3: Provision &amp; Supply (PS)</li> </ul>	<p><i>Number of new minerals developments permitted during the monitoring period. 'New' in this context only relates to brand new facilities and does not include extended, expanded or revised minerals operations.</i></p> <p><i>Employment in the Minerals sector in Gloucestershire.</i></p>
5. Safety of commercial or military aerodromes	<ul style="list-style-type: none"> <li>• Policy DM11: Aerodrome safeguarding &amp; Aviation Safety</li> </ul>	<p><i>Number of minerals developments permitted within aerodrome safeguarding areas.</i></p> <p>Planning applications for minerals development being permitted where aerodrome safeguarding and / or aviation safety issues were relevant and underwent scrutiny.</p>
6. Conservation of minerals resources	<ul style="list-style-type: none"> <li>• Objective 1: Reuse &amp; Recycling (SR)</li> <li>• Objective 2: Resource Management (RM)</li> <li>• Policy SR01: Maximising the use of secondary and recycled aggregates</li> <li>• Policy MS01: Non-minerals development within MSAs</li> <li>• Policy MS02: Safeguarding mineral infrastructure</li> </ul>	<p><i>The number and % of minerals developments permitted upon existing sites or Preferred Areas (Allocations) identified within the Minerals Plan.</i></p> <p><i>The number of non-minerals developments permitted upon Preferred Areas (Allocations) identified within the adopted Minerals Local Plan.</i></p> <p><i>Number of non-mineral applications determined for sites within Mineral Safeguarding Areas, which required a minerals consultation.</i></p>
<b>Environmental SA Objectives</b>		
7. Biodiversity	<ul style="list-style-type: none"> <li>• Vision</li> <li>• Objective 4: The Environment (ENV)</li> <li>• Policy DM06: Biodiversity and Geodiversity</li> </ul>	<p><i>The number of minerals proposals determined upon international, national and local environmental designations.</i></p> <p><i>The number and % of minerals and refusals where environmental matters such as designated sites, were cited in the refusal reasons.</i></p> <p><i>The number and % of all permitted minerals applications that included conditions related to ecology and biodiversity.</i></p> <p>Planning applications for minerals development being permitted where biodiversity issues were relevant and underwent scrutiny.</p>
8. Landscape	<ul style="list-style-type: none"> <li>• Vision</li> <li>• Objective 4: The Environment (ENV)</li> <li>• Policy DM09: Landscape</li> <li>• Allocation 01 – Land east of Stowe Hill Quarry</li> <li>• Allocation 06 - Land south east of Down Ampney</li> </ul>	<p><i>The number of minerals proposals determined upon international, national and local environmental designations.</i></p> <p><i>The number and % of minerals refusals where environmental matters such as landscape or designated sites, were cited in the refusal reasons.</i></p> <p>Planning applications for minerals development being permitted where historic environment issues were</p>

SA objectives for which potential significant effects have been identified	Policies and Allocations that are likely to lead significant effects	Proposed indicators (from Gloucestershire's Minerals and Waste Authority Monitoring Report and MLP)
		relevant and underwent scrutiny.
9. Restoration of mineral sites	<ul style="list-style-type: none"> <li>• Vision</li> <li>• Objective 6: Restoration (RA)</li> <li>• Policy MR01: Restoration aftercare and facilitating beneficial after-uses</li> </ul>	<i>The number and % of mineral permissions that include conditions concerning the delivery of mineral restoration schemes.</i>
10. Material, cultural and recreational assets	<ul style="list-style-type: none"> <li>• Vision</li> </ul>	<i>The number and % of mineral permissions proposing the loss of material, cultural and recreational assets.</i>
11. Geodiversity	<ul style="list-style-type: none"> <li>• Vision</li> <li>• Objective 4: The Environment (ENV)</li> <li>• Policy MS01: Non-minerals development within MSAs</li> <li>• Policy DM06: Biodiversity and Geo-diversity</li> <li>• Allocation 03 – Depth extension to Stowfield Quarry</li> </ul>	<p><i>The number of minerals proposals determined designations e.g. RIGS.</i></p> <p>Planning applications for minerals development being permitted where geodiversity issues were relevant and underwent scrutiny.</p>
12. Historic environment, heritage assets and their setting	<ul style="list-style-type: none"> <li>• Policy MW02: Natural Building Stone (as part of a mixed effect)</li> <li>• Policy DM08: Historic Environment</li> <li>• Allocation 01 – Land east of Stowe Hill Quarry</li> <li>• Allocation 04 – Land northwest of Daglingworth Quarry</li> <li>• Allocation 06 - Land south east of Down Ampney</li> </ul>	<p><i>The number and % of all permitted minerals applications that included conditions related to archaeology.</i></p> <p><i>Number and % of Listed Buildings and Scheduled Ancient Monuments on Buildings at Risk Register (English Heritage)</i></p> <p><i>The need for, frequency and outcomes of planning enforcement investigations/ planning appeals concerning aspects of the historic environment, such as damage or pollution affecting the historic environment, or the loss of locally important buildings within a Conservation Area.</i></p> <p>Planning applications for minerals development being permitted where historic environment issues were relevant and underwent scrutiny.</p>
13. Flooding	<ul style="list-style-type: none"> <li>• Vision</li> <li>• Policy DM04: Flood Risk</li> </ul>	<p><i>The number and % of minerals permissions located upon designated floodplain land.</i></p> <p><i>The number and % of minerals refusals where the floodplain acted as part of the reason for the refusal.</i></p> <p>Planning applications for minerals development being permitted where flood risk issues were relevant and underwent scrutiny.</p>
14. Soil / land quality	<ul style="list-style-type: none"> <li>• Policy DM07: Soils</li> <li>• Allocation 06 - Land south east of Down Ampney</li> </ul>	<p><i>The number and % of all minerals refusals where environmental protection acted as part of the reason for refusal.</i></p> <p>Planning applications for minerals development being permitted where soil resources issues were relevant and underwent scrutiny.</p>

SA objectives for which potential significant effects have been identified	Policies and Allocations that are likely to lead significant effects	Proposed indicators (from Gloucestershire's Minerals and Waste Authority Monitoring Report and MLP)
15. Air quality	<ul style="list-style-type: none"> <li>Policy DM03: Transport</li> </ul>	<p><i>The number and % of minerals approvals that included conditions concerning air pollution control.</i></p> <p><i>The number and % of all minerals refusals where environmental protection acted as part of the reason for refusal.</i></p>
16. Water quality and quantity	<ul style="list-style-type: none"> <li>Vision</li> <li>Policy DM05: Water Environment</li> </ul>	<p><i>The number and % of minerals refusals where safeguarding water supplies acted as part of the reason for the refusal.</i></p> <p><i>The number and % of minerals approvals that included conditions concerning water pollution control.</i></p> <p><i>The number and % of all minerals refusals where environmental protection acted as part of the reason for refusal.</i></p> <p>Planning applications for minerals development being permitted where water environment issues were relevant and underwent scrutiny.</p>
17. Impacts of lorry traffic on the environment and communities	<ul style="list-style-type: none"> <li>Policy DM03: Transport</li> </ul>	<p><i>The number and % of minerals permissions that included one or more of the following highway conditions: Restricted vehicle numbers; Restricted tonnages; Restricted routings; and Highway mitigation measures – the need for wheel washing, lorry sheeting etc.</i></p> <p><i>The number and % of all minerals refusals, where highways was cited as part of the reason for refusal.</i></p> <p>Planning applications for minerals development being permitted where transport issues were relevant and underwent scrutiny.</p>
18. Climate Change	<ul style="list-style-type: none"> <li>Vision</li> </ul>	<p>Planning applications for minerals development being permitted where climate change issues, including concerns relating to greenhouse gas emissions, were relevant and underwent scrutiny.</p> <p>Planning applications for minerals development being permitted where flood risk issues were relevant and underwent scrutiny.</p> <p>Planning applications for minerals development being permitted where transport issues were relevant and underwent scrutiny.</p>

## 7 Conclusions

- 7.1 The policies and allocations in the MLP (April 2018) have been subject to a detailed appraisal against the SA objectives which were developed at the scoping stage of the SA process.
- 7.2 The MLP provides well-reasoned policies and a clear guide to minerals development based on sound sustainable development principles. In general, the MLP has been found to have a wide range of positive and significant positive effects on the SA objectives, although a few significant negative and a number of minor negative effects have also been identified (mainly in relation to the allocation of particular sites for crushed rock or sand and gravel extraction). The severity of these impacts will depend very much on the details of the proposed development, its proximity to sensitive receptors if only part of the Allocation is worked, and its nature and scale, which may not be known until the planning application stage. Allocations have been identified for minerals development through a comprehensive site selection methodology undertaken by the Council including additional technical assessments for hydrogeological and landscape impacts, as well as Habitats Regulations Assessment. Through this process the Council has sought to minimise the potential sustainability effects of minerals development in Gloucestershire. In addition, when the MLP is considered as a whole, and alongside the other documents in the MWDP, the SA team consider that all of the policies will work together to reduce the negative effects of minerals development.
- 7.3 We have inevitably had to make assumptions in coming to judgements of the effects of the MLP . Our assumption with respect to effects, cumulative or otherwise, is on the basis of the intention of the MLP (i.e. what it is trying to achieve). Past experience suggests that, when considering development proposals, there will often be tensions when applying different policies, and deciding where weight should apply. Despite the best intentions of the planning authority, it may not always be possible to deliver development that meets all policy criteria and good practice guidance, and difficult choices will often have to be made.

LUC

April 2018

# Appendix 1

## Summary of consultation responses received

Summary of consultation responses received during the Gloucestershire Minerals Local Plan SA Scoping Report consultation (March-May 2013)

Respondent	Section	Comment	How/where consultation comments were addressed	
			SA Scoping Report – Update 4 (July 2013)	Gloucestershire MLP Consultation Document (June 2014) SA (and carried over to this report, where applicable)
Tewkesbury Borough Council (BC)	Pg.9 & pg.96	Reference should be to the 'Tewkesbury Borough Local Plan to 2011', which comprises the extant development plan policies for the Borough until replaced by the Joint Core Strategy (JCS) (anticipated adoption 2014) and the Tewkesbury Borough Plan (anticipated adoption 2015). The latter is intended to sit beneath the strategic JCS to cover non-strategic issues of local importance in the Borough. A similar hierarchy of plans is also being pursued by Cheltenham and Gloucester.	Table 1, Section 5. Appendix 2.	Table 3.1, Chapter 3. Appendix 3.
Tewkesbury BC	Section 5	Reference should be made to the emerging JCS (for Gloucester, Cheltenham and Tewkesbury) rather than to 'local development frameworks'. The evidence on housing numbers referred to in the assessment of housing needs will be of use in preparing your baseline evidence, although these are still subject to agreement by the three councils. The JCS production timeframe is fairly dynamic with the latest schedule set out on the JCS website. The sustainability appraisal work for the JCS is on-going but you may find some of the objectives and indicators of use. Further updating will take place with regards the preferred options consultation in July/Aug 2013.	Table 1, Section 5. Appendix 2.	Table 3.1, Chapter 3. Appendix 3.
Tewkesbury BC	Section 5	Additionally, TBC are preparing a flood and water management supplementary planning document which, for completeness, should be included in the list of documents in section 5. Initial discussions have taken place with the County (David Lesser), Environment Agency and key local stakeholders. An initial draft is anticipated imminently with public consultation in the summer 2013 and adoption in autumn 2013.	Not available for inclusion in Scoping report Update 4.	Table 3.1, Chapter 3. Appendix 3.
Gloucester City Council	Section 5	Having looked at the revised Scoping Report (2013) I notice that it makes no mention at the Plans Policies and Programmes Section of the evidence base that is publicly available on the Gloucester, Cheltenham	Table 1, Section 5.	Table 3.1, Chapter 3. Appendix 3.

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		and Tewkesbury Joint Core Strategy (JCS) website at <a href="http://www.gct-jcs.org">www.gct-jcs.org</a> , nor does it refer to any of the JCS consultation documents. With regard to Gloucester City Council documentation the current Community Strategy is known as the "City Vision" and the Gloucester City Plan is in the process of updating the 2002 2nd Deposit Local Plan and emerging Local Development Framework documents. I would be grateful if the above matters could be taken into consideration as part of your consultation.	Appendix 2.	
Gloucestershire County Council (GCC) - Ecology	Pg.7	(International) Suggest under international the EU Biodiversity Strategy to 2020 is added <a href="http://ec.europa.eu/environment/nature/biodiversity/comm2006/2020.htm">http://ec.europa.eu/environment/nature/biodiversity/comm2006/2020.htm</a>	Table 1, Section 5. Appendix 2.	Table 3.1, Chapter 3. Appendix 3.
GCC – Ecology	Pg.8	(National) DELETE 'UK Biodiversity Plan', 'Working with the Grain of Nature: A Bio-diversity Strategy for England' and 'The Conservation of Habitats and Species (Amendment) Regulations 2012'.  ADD 'The Conservation of Habitats and Species Regulations 2010 (as amended)' and 'Biodiversity 2020 – A strategy for England's wildlife and ecosystem services'.  Consider ADDING 'National Character Area Profiles – Natural England' see <a href="http://www.naturalengland.org.uk/publications/nca/default.aspx">http://www.naturalengland.org.uk/publications/nca/default.aspx</a>	Table 1, Section 5. Appendix 2.	Table 3.1, Chapter 3. Appendix 3.
GCC – Ecology	Pg.8	(Regional) all documents in here subject to deletion from my perspective KEEP 'South West Nature Map' but DELETE 'South West Biodiversity Implementation Plan'.	Table 1, Section 5. Appendix 2.	Table 3.1, Chapter 3. Appendix 3.
GCC – Ecology	Pg.9	(Local) DELETE 'Biodiversity Action Plan for Gloucestershire' but ADD 'Gloucestershire Biodiversity Framework & Delivery Plan 2010' – see <a href="http://gloucestershirebiodiversity.net/actionplan/index.php">http://gloucestershirebiodiversity.net/actionplan/index.php</a>	Table 1, Section 5. Appendix 2.	Table 3.1, Chapter 3. Appendix 3.
GCC – Ecology	Pg.11	(Biodiversity) ADD a bullet point – 'Impacts on ecosystem services such as flood defence, water purification, soil formation and pollination'. This might however be woven into the two bullet points – 'Changes in soil	Table 2, Section 6.	Table 3.2, Chapter 3.

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		conditions and or quality' and 'Changes in the quality of air and water. Pollution potential in terms of noise, vibration, light, dust.'		
GCC – Ecology	Pg.18	(Item 12) REPLACE 'Gloucestershire Biodiversity Action Plan (BAP)' with 'Gloucestershire Biodiversity Framework & Delivery Plan'	Table 3, Section 7.	Table 3.3, Chapter 3.
GCC – Ecology	Pg.18	(Item 13) REPLACE first sentence with: Biodiversity decline: The priority species on the English List relevant to Gloucestershire are referenced on the Gloucestershire Biodiversity website at: <a href="http://gloucestershirebiodiversity.net/actionplan/priority-species.php">http://gloucestershirebiodiversity.net/actionplan/priority-species.php</a>	Table 3, Section 7.	Table 3.3, Chapter 3.
GCC – Ecology	Pg.18	Under 'Bird populations' DELETE '(The specifics are contained in the Gloucestershire BAP)'	Table 3, Section 7.	Table 3.3, Chapter 3.
GCC – Ecology	Appendix 1	Needs UPDATING to reflect suggested deletions and additions above. I can help with 'Gloucestershire Biodiversity Framework & Delivery Plan' which replaces the Gloucestershire BAP. The rest you can fill in the table with information from the documents concerned and/or websites.	Appendix 1	Appendix 3
GCC – Ecology	Appendix 2	(Other Baseline Information) (Biodiversity) Page 126 – EDIT first sentence to read: As a rural county Gloucestershire is relatively rich in habitats and species and much has been achieved through the Biodiversity Action Plan (BAP) process and ongoing through the new Local Nature Partnership, see: <a href="http://www.gloucestershirebap.org.uk/">http://www.gloucestershirebap.org.uk/</a> for more details.	Appendix 2, Page 114.	Appendix 4.
GCC – Ecology	Pg.127	REPLACE map of European Sites with this one from the latest HRA Baseline Update 3 report.	Appendix 2, Page 115.	Appendix 4.
GCC – Ecology	Pg.128	(Paragraph 1, last sentence) REPLACE with: Four SSSI areas have been additionally designated as National Nature Reserves (NNRs).	Appendix 2, Page 116.	Appendix 4.
GCC – Ecology	Pg.129	DELETE last two sentences of the first paragraph under the AONB map as ESAs no longer exist as such due to new agri-environment schemes.	Appendix 2, Page 117.	Appendix 4.
GCC –	Pg.129	Map 4 of Key Wildlife Sites is missing use this one below/next page	Appendix 2,	Appendix 4.



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Ecology			Page 118.	
GCC – Ecology	Pg.134	<p>Page 134 (Flora and Fauna) REPLACE all text under this heading with amended updated text below:</p> <p>Flora and Fauna - Despite the large number of statutory and local designations, Gloucestershire has suffered from large-scale habitat and species loss over the last 50 years. This has largely been due to changes in farming practices. Among the species that have suffered from decline are farmland birds. At present approximately 100 species identified in the as UK priority species are thought to occur in Gloucestershire. Many of these species are also listed for protection under the European Union Habitats Directive including: the European Otter, the Dormouse, the Lesser Horseshoe and Greater Horseshoe Bat and the Pipistrelle Bat. Over 60 bird species listed under the EU Birds Directive have been recorded in Gloucestershire. Wetlands areas such as the Severn Estuary, Slimbridge Wildfowl Centre and the Cotswolds Water Park centre provide important habitats for over-wintering and migratory birds.</p> <p>In terms of the protection of flora and fauna, under Section 41(3) of the Natural Environment and Rural Communities Act 2006 (NERC) the Secretary of State must take steps (where they are reasonably practicable), and promote the taking of steps by others, to further the conservation of certain listed habitats and species. In light of this duty, seven sectors have been identified where actions taken by public bodies and other stakeholders could deliver significant conservation benefits for the habitats and species on the list. The English List is available on the Natural England website at:  <a href="http://www.naturalengland.org.uk/ourwork/conservation/biodiversity/protectandmanage/habsandspeciesimportance.aspx">http://www.naturalengland.org.uk/ourwork/conservation/biodiversity/protectandmanage/habsandspeciesimportance.aspx</a></p> <p>The Gloucestershire Biodiversity Framework &amp; Delivery Plan 2010 provides a basis for the conservation of local biodiversity which targets the conservation, enhancement and creation of priority habitats within the Gloucestershire Nature Map. The Gloucestershire Nature Map consists of a number of priority areas called Strategic Nature Areas (SNAs). When viewed alongside the rivers targeted by the Environment Agency through the Water Framework Directive process the</p>	Appendix 2, Page 123.	Appendix 4.

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		Gloucestershire Nature Map represents a strategic ecological network for Gloucestershire. Additional to the County approach the Cotswold Water Park Biodiversity Action Plan 2007-2016 provides detailed information and biodiversity targets for the south west corner of the County and into Wiltshire and Swindon which can be found at: <a href="http://www.waterpark.org/wp-content/uploads/2013/01/FINALCWP-BAP-2007-16-v8print.pdf">http://www.waterpark.org/wp-content/uploads/2013/01/FINALCWP-BAP-2007-16-v8print.pdf</a>		
GCC - Ecology	Pg.145	(Landscape) (1st paragraph) (3rd sentence) – replace ‘natural’ with ‘priority’.	Appendix 2, page 132.	Appendix 4.
GCC - Ecology	Pg.148	(Item 7) delete ‘(From PPS10 Annex E)’	Appendix 3.	Table 4.1, Chapter 4.
GCC - Archaeology		Plans, policies etc. referenced in the text – omissions: Although PPS 5 Planning for the Historic Environment is now superseded by the NPPF, the practice guide that accompanied it is still in force and will presumably remain so until government determines what further guidance it will issue to support the NPPF. The practice guide should therefore be referenced in the text and can be found at: <a href="http://www.english-heritage.org.uk/publications/pps-practice-guide/">http://www.english-heritage.org.uk/publications/pps-practice-guide/</a>  The Minerals and Waste Core Strategies Joint Technical Evidence Paper WCS- MCS-6 section 6 lists a number of other information sources regarding the historic environment of the county that should be referenced as well.	Appendix 1.	Appendix 3.
GCC - Archaeology		<b>Historic Environment statistics</b> - These need to be updated at Table 3 no 15, and on page 144 as follows: Scheduled Monuments: 602, Listed Buildings: 13432, Conservation Areas: 287 (6901 ha), Other archaeological sites/structures/buildings: 24,962.	Table 3, Section 7.	Table 3.3, Chapter 3.
GCC - Archaeology		<b>Appendix 2 Baseline information pages 144-5</b> - The description of the historic environment here is rather thin. Section 2 of the Minerals and Waste Core Strategies Joint Technical Evidence Paper WCS-MCS-6 contains some useful material at Section 6 that could be used for this	Appendix 2, page 131.	Appendix 4.

Respondent	Section	Comment	How/where consultation comments were addressed	
		purpose.		
GCC - Archaeology		<b>Appendix 3 Question 12</b> - This currently covers only those sites which are designated. It should include reference to other archaeological sites and the wider historic landscape.	Appendix 3.	Table 4.1, Chapter 4.
English Heritage		<p><b>General Principles</b> - There are a number of general principles that English Heritage recommends are considered throughout this SA process:</p> <ul style="list-style-type: none"> <li>· The importance of a broad definition of the historic environment covering a wide range of heritage assets<sup>31</sup> including areas, buildings, features and landscapes with statutory protection, together with those parts of the historic environment which are locally valued and important, and also the historic character of the landscape and townscape* <i>[Note that the asterisk refers to the section of EH's letter called "Designation and Beyond – see below.]</i>.</li> <li>· Heritage assets and the wider historic environment are finite resources that are irreplaceable.</li> <li>· The historic environment is more than an environmental and cultural asset; it is an important driver for economic development and delivering social objectives. The historic environment contributes positively to all aspects of sustainable development.</li> <li>· The concept of significance requires careful consideration in the context of the historic environment and the SA process, which is focused on the identification and assessment of 'significant effects'.</li> <li>· The National Planning Policy Framework (NPPF) requires that heritage assets are conserved in a manner appropriate to their significance. The concept of significance in relation to heritage refers to the value of a heritage asset, because of its heritage interest which may be archaeological, architectural, artistic or historic. The setting of a heritage</li> </ul>	Some of these general principles have been reflected in Tables 2, 3, 4/Sections 6, 7, 8/Appendices 1 and 2, and will continue to inform each stage in the SA.	The general principles provided by English Heritage are very useful and have been reflected in the SA work and SA Report as follows: the description of environmental baseline (Chapter 3 and Appendix 4); the SA Framework (Table 4.1, Objectives 10 and 12); and the assumptions used for defining significant effects (see Table 4.2); cumulative effects and mitigation measures have also been considered (see Chapter 5 and Appendix 6); the expertise of GCC's archaeology team has also been drawn on as GCC's in-house site assessment findings have helped to inform the SA of the potential mineral sites (Chapter 5 and Appendix 6). Recommendations for monitoring have also been described (see Chapter 6).

<sup>31</sup> The National Planning Policy Framework (2012) defines a Heritage Asset as 'A building, monument, site, place, area or landscape identified as having a degree of significance meriting consideration in planning decisions, because of its heritage interest. Heritage asset includes designated heritage assets and assets identified by the local planning authority (including local listing).' Designated heritage assets are listed as 'A World Heritage Site, Scheduled Monument, Listed Building, Protected Wreck Site, Registered Park and Garden, Registered Battlefield or Conservation Area designated under the relevant legislation.' The Directive uses the term 'cultural heritage', which covers all aspects of the historic environment as defined by the NPPF. In addition, 'significant effects' on historic landscapes and townscape might be addressed under the Directive issue of landscape.

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		<p>asset can also contribute to its significance.</p> <ul style="list-style-type: none"> <li>· The SA process is iterative in that the findings of each stage should be used to inform the next and this progression is clearly documented.</li> <li>· The assessment of potential impacts on the historic environment and heritage assets should include the consideration of cumulative effects.</li> <li>· An effective SA should avoid or minimise any adverse effects created by the plan in respect of the historic environment. It should also maximise potential benefits for the historic environment.</li> <li>· All appropriate mitigation, enhancement and monitoring for the historic environment and heritage assets should be clearly identified for delivery at the implementation stage.</li> <li>· Local authority conservation and archaeological staff are a key resource when developing a SA. These professionals are best placed to provide baseline information on the historic environment and heritage assets and advise on: <ul style="list-style-type: none"> <li>o The significance of heritage assets;</li> <li>o Local historic environment issues and priorities;</li> <li>o How a policy or proposal can be tailored to avoid or minimise potential adverse impacts on the historic environment;</li> <li>o The nature and design of any required mitigation measures; and</li> <li>o Opportunities for securing wider benefits for the future conservation and management of heritage assets.</li> </ul> </li> </ul>		
English Heritage		<p><b>*Designation and Beyond</b> - The historic environment includes all aspects of the environment resulting from the interaction between people and places through time, including all surviving physical remains of past human activity, whether visible, buried or submerged, including landscaped, planted or managed flora. Consequently, covering statutory designations is just one part of the baseline information on this topic. Other important considerations include: information held on Historic Environment Records; locally listed heritage assets; the character of the</p>	Noted.	As far as possible the SA process has sought to consider all aspects of the historic environment, although this can be difficult in a strategic level assessment that is not as detailed as a site-specific Environmental Impact Assessment, as specific proposals for

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		wider historic landscape, townscape or seascape and other valued historic landscapes; areas of archaeological importance and the potential for unrecorded archaeology. The condition of the historic environment is an important consideration, especially when analysing and updating the baseline and monitoring frameworks. Existing data sources include the English Heritage 'Heritage at Risk' Register, which includes Grade I and II* Listed Buildings at risk, (also Grade II Listed Buildings at risk in London), Scheduled Monuments, registered parks and gardens, registered battlefields, Conservation Areas and protected wreck sites: <a href="http://risk.englishheritage.org.uk/register.aspx">http://risk.englishheritage.org.uk/register.aspx</a> Appendix 1 to this letter provides an extensive list of sources for a wide variety of historic environment information.		development at a site are unknown. The SA assumptions table (Table 4.2) sets out how the historic environment data sources have been used.
English Heritage		<p><b>Scoping</b> - You should reassure yourself that at this scoping stage you have demonstrated the report has:</p> <ol style="list-style-type: none"> <li>1. Established the baseline for the historic environment, including any trends and targets and gaps in the existing information;</li> <li>2. Identified sustainability issues and opportunities for the historic environment and heritage assets – <i>don't forget the potential impact on the setting of all heritage assets;</i></li> <li>3. Developed sustainability appraisal objectives – <i>again consider a broad definition not just archaeology and architecture;</i></li> <li>4. Identified indicators and targets;</li> <li>5. Considered how alternatives will be assessed;</li> <li>6. Provided sufficient information on the proposed methodology for the appraisal to assess whether effects upon the historic environment will be properly addressed.</li> </ol>	Noted. These points have been reflected in Tables 2, 3, 4/Sections 6, 7, 8, and Appendix 2 and will continue to inform each stage in the SA.	Noted, as above, the SA Report has sought to address these points, as set out in Chapters 3, 4 and 5 and Appendices 2, 3, 4).
English Heritage		<p><b>1. Baseline information</b> - English Heritage recommends that the baseline information describes the current and future likely state of the historic environment. This provides the basis for:</p> <ul style="list-style-type: none"> <li>· identifying sustainability issues;</li> </ul>	Table 2, Section 6. Appendix 2.	Noted, as above, the SA Report has sought to address these points, as set out in Table 3.2, Chapter 3. Appendix 4.

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		<ul style="list-style-type: none"> <li>· predicting and monitoring effects; and</li> <li>· identifying alternative solutions.</li> </ul> <p>Maps, charts (current and historic) and photographs and other images can be very effective in synthesising data and illustrating its relevance to the plan area as well as demonstrating historic environment effects, particularly where supported by an analytical narrative. When collating and analysing the baseline data on the historic environment, it is also useful to identify relevant trends and targets. This process can be informed by the plan review and drawn from national, sub-national and local data sets. Baseline information can be both quantitative and qualitative, and needs to be kept up-to-date. There may also be a need to look at the wider geographic area in order to assess the likely significant environmental effects on the historic environment and heritage assets (e.g. traffic generation, setting issues). It is important that meaningful conclusions can be drawn from the baseline information, particularly what it means for the plan and how the historic environment is to be dealt with. Where there are gaps in information, we recommend that these are explained as part of the baseline description. Ways of tackling any identified gaps in the baseline can then be included in proposals for monitoring the implementation of the plan.</p> <p>Are you reassured the above information has been gathered, understood and applied?</p> <p>To determine the adequacy and scope of the baseline information available, English Heritage recommends that you are able to positively respond to the following questions:</p> <p>Which parts of the Gloucestershire are rich in heritage assets (designated and non-designated)?</p> <p>Are there areas which may have the potential for sites of historic or archaeological interest which are currently unidentified?</p> <p>Has the landscape character of the plan area been defined, if so, what are its distinctive features?</p> <p>In what ways does the historic environment contribute to local character</p>		

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		<p>and distinctiveness?</p> <p>Are there any areas where minerals workings are affecting the distinctive character of the place and the significance of heritage assets, including cumulative, small-scale changes?</p> <p>Are there expected to be such effects in the future?</p> <p>Are there implications for the setting of heritage assets?</p> <p>In what ways does the historic environment deliver other social, cultural, economic and environmental benefits?</p> <p>Which areas or features should be conserved or enhanced?</p> <p>How good or bad is the condition or quality of heritage assets and historic places?</p> <p>Do trends show that it is getting better or worse?</p> <p>Are heritage assets at risk from damage or neglect?</p> <p>How far is the current situation from any established thresholds or targets?</p> <p>Are existing problems reversible or irreversible, permanent or temporary?</p>		
English Heritage		<p><b>Sustainability issues</b> - Analysis of such baseline information for the historic environment will help identify sustainability issues relating to the historic environment. There is a need to understand the contribution of the historic environment to sustainable development and its role in delivering wider social, cultural, economic and environmental benefits. For example, heritage-led regeneration can provide opportunities for sustainable tourism, leisure and recreation activities, and help to strengthen the character of a place. Environmental problems, issues and opportunities affecting the historic environment, and to be addressed in the SA process may include:</p> <p><b>Issues:</b></p> <ul style="list-style-type: none"> <li>· Heritage assets at risk from neglect, decay, or development pressures;</li> <li>· Areas where, on current trends, there is likely to be further significant</li> </ul>	Noted. The updated Scoping Report addresses these points, covering them in Table 2, Section 6 and Table 3, Section 7 for example.	The SA seeks to address these points. For example: Table 3.3, Chapter 3, Table 4.1, Chapter 4 and Chapter 5, and Appendix 4.

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		<p>loss or erosion of landscape/ townscape character or quality;</p> <ul style="list-style-type: none"> <li>· Areas where development has had or is likely to have significant impact (direct and or indirect) upon the historic environment and/or people's enjoyment of it;</li> <li>· Traffic congestion, air quality, noise pollution and other problems affecting the historic environment;</li> <li>· Conserving and enhancing designated and non-designated heritage assets and the contribution made by their settings;</li> <li>· Conserving specific types of heritage assets, such as the rural heritage of a place;</li> <li>· Accommodating change and growth whilst sustaining and enhancing the significance of heritage assets and the valued character of a place.</li> </ul> <p><b>Opportunities:</b></p> <ul style="list-style-type: none"> <li>· Providing traditional building materials;</li> <li>· Promoting the innovative reuse of the existing building stock for social, cultural and or economic purposes;</li> <li>· Improving awareness, involvement, and understanding of, and access to, the historic environment;</li> <li>· Delivering heritage-led regeneration opportunities;</li> <li>· Promoting heritage based tourism;</li> <li>· Contributing to green infrastructure networks;</li> <li>· Encouraging traditional building and craft skills development; and</li> <li>· Using the historic environment as an educational resource.</li> </ul>		
English Heritage		<p><b>Sustainability Framework</b> - It is recommended that the application of the framework to the assessment of the historic environment is clear and iterative. Whatever method is used to review the framework and carry out the appraisal (i.e. use of a panel and/or consultants), there is a need to ensure the application of appropriate heritage expertise. While an</p>	Noted, to be addressed in SA Report.	Noted, independent consultants have undertaken the SA and drawn on expertise of GCC archaeology team. An objective-led approach has been used however, as this is



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		objectives-based approach has generally been used, the Planning Advisory Service suggests that an alternative approach is to base the framework on a series of identified topics and/or sub-areas. English Heritage considers that this narrative based approach, focusing on an assessment against the baseline situation, would avoid pages of matrices resulting from an objectives-based approach. This alternative approach can include a historic environment topic paper; something we also recommend for the objectives approach, as a way of interpreting the information set out in matrices.		consistent with the method used for the Waste Core Strategy, which was found sound and adopted. A commentary/narrative has still been provided seeking to describe the potential effects of the MLP as a whole on each SA objective, including objective 12 relating to the historic environment (see Chapter 5).
English Heritage		<b>Objectives</b> - English Heritage considers that for the SA to meet the requirements of the SEA Directive it needs to include a specific objective: <b>“Conserve and enhance the historic environment, heritage assets and their settings”</b> . At present reference to merely archaeology and architecture is too selective – see above*	This objective has been added to the SA Framework, Appendix 3.	Table 4.1, Chapter 4.
English Heritage		<b>Decision-making Criteria</b> - In developing your SA framework, you might benefit from using a more detailed decision-making criteria and related indicators to assess heritage. Such criteria can help to ensure that all the key heritage issues to be considered in the SA are incorporated in the SA framework and ensure that likely effects upon the historic environment are not masked. Examples of decision-making criteria are included in Appendix 2 to this letter.	Noted, to be addressed in SA Report.	Chapter 4 and Table 4.2. Chapter 5.
English Heritage		<b>Indicators and monitoring</b> - Indicators should clearly demonstrate the impact(s) of the plan on the historic environment. All proposed indicators for monitoring the significant effects of a plan should be set out in the Environmental / Sustainability Appraisal Report and finalised in the adopted plan. English Heritage’s annual series of national and regional reports, <i>Heritage Counts: State of the Historic Environment</i> , includes a suite of data sets for monitoring heritage assets and the historic environment. It is recommended that these be supplemented, wherever possible, by locally derived indicators. In devising historic environment indicators for the appraisal or monitoring of the significant effects of a	Noted. This will be borne in mind once the MLP is adopted and the indicators are set.	Chapter 6.

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		<p>development plan English Heritage recommends that:</p> <ul style="list-style-type: none"> <li>· the indicators clearly relate to the appraisal process, such as the accompanying objectives/sub-objectives (decision-making criteria), the baseline for the historic environment, and any identified effects and proposed mitigation measures;</li> <li>· the indicators are appropriate and relevant to the type and scale of the plan under consideration;</li> <li>· the indicators address positive and negative effects;</li> <li>· consideration is given to cumulative, secondary and synergistic effects; and</li> <li>· use is made of both qualitative and quantitative data.</li> </ul> <p>Selecting indicators which are directly linked to SA objectives is a complex process which is exacerbated in respect of the historic environment by the relative lack of consistently monitored data when compared to other topic areas. Notwithstanding this, a robust monitoring framework for the historic environment must be included to meet the requirements of SA in terms of:</p> <ul style="list-style-type: none"> <li>· Identifying any unforeseen adverse effects of implementing the plan and enabling appropriate remedial action to be taken;</li> <li>· Testing the accuracy of predictions made in the appraisal and improving future practice;</li> <li>· Determining whether the plan is contributing to the achievement of the desired objectives and targets for the historic environment;</li> <li>· Checking the delivery and performance of mitigation measures; and</li> <li>· Collecting information for future planning documents.</li> </ul> <p>Appendix 3 to this letter presents examples of indicators which can be tailored to local circumstances and the type and scale of the plan under consideration. The table shows the different ways in which indicators can be framed to:</p> <ul style="list-style-type: none"> <li>· describe the baseline or state of the historic environment;</li> </ul>		

Respondent	Section	Comment	How/where consultation comments were addressed	
		<ul style="list-style-type: none"> <li>monitor the type of impact or outcome; and track wider policy responses or actions taken to conserve and improve the historic environment, and mitigate any degradation (including avoiding or rectifying adverse impacts).</li> </ul>		
Natural England	Table 1	<p>Additions to Table 1 List of Plans, Projects and Documents - <i>Biodiversity 2020: A strategy for England's wildlife and ecosystem services</i>, at a national level builds on the Environmental White Paper to halt overall biodiversity loss, support healthy well-functioning ecosystems and establish coherent ecological networks, with more and better places for nature for the benefit of wildlife and people.</p> <p>It is underpinned by two international strategies:</p> <p><i>The Convention on Biological Diversity, COP Decision X/2, Strategic Plan for Biodiversity 2011-2020</i> - a Global Convention</p> <p><i>Our life insurance, our natural capital: an EU biodiversity strategy to 2020</i>, European Commission (2011)</p> <p><i>Biodiversity 2020: A strategy for England's wildlife and ecosystem services</i> has superseded <i>Working with the Grain of Nature: A Biodiversity Strategy For England</i> dated 2002.</p>	Table 1, Section 5. Appendix 1.	Table 3.1, Chapter 3. Appendix 3.
Natural England		<p>National Character Areas (NCA) have recently been updated by Natural England. These divide England into 159 distinct natural areas. Each is defined by a unique combination of landscape, biodiversity, geodiversity and cultural and economic activity. Their boundaries follow natural lines in the landscape rather than administrative boundaries, making them a good decision making framework for the natural environment. The environmental evidence bases (which will continue to be updated) and profiles themselves are being made more widely available. The NCA profiles are designed as guidance documents to help to achieve a more sustainable future for individuals and communities. The profiles include a description of the key ecosystem services provided in each character area and how these benefit people, wildlife and the economy. They identify potential opportunities for positive environmental change and provide the best available information and evidence as a context for local decision</p>	Appendix 2.	Appendix 4.

Respondent	Section	Comment	How/where consultation comments were addressed	
		making and action. Gloucestershire County Council administrative area is covered by 5 NCA. 103 Malvern Hills, 105. Forest of Dean and Lower Wye, 106. Severn and Avon Vales, 107. Cotswolds, 118. Bristol, Avon Valleys and Ridges. The NCA are supported by a local, sub-national and national evidence base which should also be consulted to ensure that these where relevant have been included in the list of Plans and Projects. It would also be helpful if the Mineral Plan also tabled the emerging Local Plans and Core Strategies since these already set out the broad principles of location of new development. The need for a coordinated approach to all development and the inter-relationships between all local plans to take into account pressures on landscapes and designated sites is vital.		
Natural England	Table 2	<p>Potential Environmental Effects of Minerals development and Likely Future Environmental Status in the Absence of the MWDF. We advise the following alterations:</p> <p><i>Indirect and Direct</i> Potential negative effects are:</p> <ul style="list-style-type: none"> <li>· Potential loss of <i>protected species and loss or deterioration of priority habitats</i></li> <li>· Habitat <i>deterioration</i>, loss and/or fragmentation from land take.</li> <li>· Changes in soil conditions and or quality <i>or loss of best and most versatile soils.</i></li> <li>· Pollution potential in terms of noise, vibration, light, dust, <i>air and water borne pollutants.</i></li> </ul>	Table 2, Section 6.	Table 3.2, Chapter 3.
Natural England	Table 2	Comment on the likely future environmental status in the absence of the Plan. It should be noted that the absence of a Plan would not lead to unregulated development (enforcement procedures should prevent this) but unplanned development which is not likely to be the most sustainable option.	Table 2, Section 6.	Table 3.2, Chapter 3.
Natural England	Table 2	<p>We advise the following alterations –</p> <ul style="list-style-type: none"> <li>· Plans contain policies which aim to protect <i>and enhance</i> the environment. Without these plans it is more likely that environmental</li> </ul>	Table 2, Section 6.	Table 3.2, Chapter 3.

Respondent	Section	Comment	How/where consultation comments were addressed	
		<p>designations would be damaged by unregulated <i>unplanned</i> development <i>and the opportunity to enhance the environment, and protect and improve environmental networks severely limited.</i></p> <ul style="list-style-type: none"> <li>· The value of nearby land, property or other material assets is not a material consideration for Planning and this should be excluded.</li> <li>· Impacts on Assets should also include conflicts with existing or planned infrastructure such green infrastructure assets. Potential landscape / visual effects as a result of quarrying may also include: distraction and blocking of views, by faces or accompanying development, change of scale, addition of feature (such as plant) and urbanisation of rural landscapes.</li> </ul>		
Natural England	Table 3	The SEA Directive Annex I directs that only existing environmental problems which are relevant to the plan or programme should be considered. Table 3. Sustainability Issues and Problems in Gloucestershire should therefore only consider issues are likely to have greater significance to the development of minerals policy in Gloucestershire and not general issues.	Table 3, Section 7.	Table 3.3, Chapter 3.
Natural England	Table 3	Point 10 of table 3 Difficulties in terms of protecting Gloucestershire's environment whilst providing minerals – this is a key issue and more over a fundamental reason for undertaking Strategic Environmental Assessment through Sustainability Appraisal. Other important environmental assets have not been considered and this issue warrants more careful consideration and perhaps a table of its own.	Table 3, Section 7.	Table 3.3, Chapter 3.
Natural England	Table 3	<p>This is also true of point 9 <i>issues with restoration</i> including that within the Cotswold Water Park. As a strategic location for mineral extraction, the correlation between mineral extraction in the Cotswold Water Park and biodiversity require a more detailed appraisal in the table, particularly</p> <ul style="list-style-type: none"> <li>· Protection and enhancement of designated sites as well as consideration of whole environmental asset</li> <li>· the need for a more coherent approach to restoration and after-use,</li> </ul>	Partially within Table 3, Section 7.	Comment has been fully addressed in Table 3.3, Chapter 3.

Respondent	Section	Comment	How/where consultation comments were addressed	
		<ul style="list-style-type: none"> <li>· matching mineral development to priorities for after-use</li> <li>· Ensuring that environmental priorities are considered for the lifetime of a quarrying operation.</li> <li>· Consideration of the need for an eco-systems services approach to balance the differing and sometimes conflicting needs of biodiversity and people.</li> </ul>		
Natural England	Table 3	Point 12 The general state of Gloucestershire's biodiversity, the condition of SSSIs / sites protected under the Habitat's Directive / locally designated sites and Point 13 Decline in species biodiversity - in particular of certain bird species in Gloucestershire appear to be based on older data at least 13 years old. This is not sufficient and should be updated with the use of more recent evidence such that contained or derived from National Character Areas or more recent SSSI condition surveys, the County Bird report and records in the Local Biodiversity Record Centre.	Table 3, Section 7.	Table 3.3, Chapter 3.
Natural England	Table 3	<p>In addition, particular issues that we also advise inclusion of are:</p> <ol style="list-style-type: none"> <li>1. Impacts on protected species in the Forest of Dean particularly bats associated with the Special Area of Conservation. Other proposed development in the area should also considered, in combination with mineral development.</li> <li>2. Over-abstraction of water from the River Severn</li> <li>3. The lack of an integrated county-wide strategic approach to all development leading to uncoordinated approach with subsequent pressures on protected landscapes and priority habitats and designated sites.</li> </ol>	Table 3, Section 4.	<p>Table 3.3, Chapter 3.</p> <p>Point 3 is not agreed with, as the Minerals Local Plan is trying to achieve this and there is also an adopted Waste Core Strategy.</p>
Natural England		We advise the following wording to be considered for the following objectives which should not just consider Gloucestershire but also consider the sustainability issues arising from mineral development there outside of the County particularly considering cross –border issues.	Appendix 2.	The proposed wording has been addressed as detailed in the rows below.

Respondent	Section	Comment	How/where consultation comments were addressed
		<i>Access</i> - To protect and enhance networks of pedestrian and cycle routes, to ensure connections between people and places and the integration of new development into the natural, built and historic environment.	The protection of recreational assets is already covered by SA Objective 10. The protection of pedestrian and cycle routes are included in the SA Assumptions for SA Objective 10. See Table 4.1 and 4.2, Chapter 4.
		<i>Air Quality</i> - To help to meet local, national and international objectives for air quality.	This has been added to SA Objective 15. See Table 4.1 and 4.2, Chapter 4.
		<i>Biodiversity</i> - To conserve and enhance biodiversity by establishing coherent, resilient ecological networks, protecting irreplaceable habitats (including Ancient Woodlands), minimising the impacts of development and providing net gains in habitats/biodiversity where possible.	These proposed amendments have been incorporated into the sub-objectives for SA Objectives 7 and 9. See Table 4.1 and 4.2, Chapter 4.
		<i>Countryside</i> - To protect intrinsic character and beauty of the countryside	SA Objective 8 includes wording with a similar meaning: "To protect, conserve and enhance the landscape in Gloucestershire." SA objective 8 has therefore not been amended. See Table 4.1 and 4.2, Chapter 4.
		<i>Energy</i> - To contribute to renewable or low carbon energy generation, while ensuring that adverse impacts are addressed.	Nothing specific is included on energy in the SA framework. However, SA Objective 18 addresses climate change; furthermore mineral sites do not hold much potential to contribute to renewables or low carbon energy production. See Table 4.1 and 4.2, Chapter 4.

Respondent	Section	Comment	How/where consultation comments were addressed
		<i>Geology</i> - To prevent harm to geological sites and features of conservation interests.	The wording of SA Objective 11 has a similar meaning to this suggestion. SA Objective 11 has therefore not been amended. See Table 4.1 and 4.2, Chapter 4.
		<i>Green Infrastructure</i> - To define Green Infrastructure - a network of multi-functional green space, both urban and rural, which supports economic growth and regeneration, delivers a wide range of quality of life benefits, supports natural systems and biodiversity and help reduces the negative impacts of climate change.	Reference to Green Infrastructure and its definition have been included in SA Objective 9 and its justification. See Table 4.1 and 4.2, Chapter 4.
		<i>Land / Soils</i> - To use areas of poorer quality land in preference to the best and most versatile agricultural land, where development in the countryside is demonstrated to be necessary (and previously developed land?)	This proposed amendment is already addressed in SA Objective 14 and the assumptions to be used in the SA. See Table 4.1 and 4.2, Chapter 4.
		<i>Protected Landscapes</i> - To conserve landscape and scenic beauty Areas of Outstanding Natural Beauty and their wildlife and cultural heritage encouraging more people to access these areas by public transport, cycling or walking	SA Objective 8 addresses protected landscapes, including AONBs. Additionally, SA Objective 10 seeks to protect and conserve recreational assets; however it is not within the remit of a Mineral Local Plan to encourage the use of sustainable public transport modes. See Table 4.1 and 4.2, Chapter 4.
		<i>Landscape</i> - To protect and enhance valued landscapes, sites of geological interests and soils;	This proposed amendment it already addressed in SA Objectives 8, 11 and 14. See Table 4.1 and 4.2, Chapter 4.
		<i>Minerals</i> - To maintain land-banks of non-energy minerals from outside Areas of Outstanding Natural Beauty and ensure mineral development, does not adversely impact the natural and historic environment, human	The proposed amendment "to maintain land-banks of non-energy minerals from outside Areas of



Respondent	Section	Comment	How/where consultation comments were addressed	
		health or aviation		Outstanding Natural Beauty" is already a requirement of Minerals Local Plans in accordance with paragraph 144 of the National Planning Policy Framework. Furthermore: impacts on the natural and historic environment are addressed in SA Objectives 7 and 12; impacts on human health are addressed in SA Objective 1; and impacts on aviation are addressed in SA Objective 5. See Table 4.1 and 4.2, Chapter 4.
		<i>Water</i> - To mitigate and adapt to climate change, taking full account of flood risk, coastal change and water supply and demand considerations		This proposed amendment is already addressed in SA Objective 13 and 16. Coastal Change is not addressed but this does not apply to Gloucestershire. See Table 4.1 and 4.2, Chapter 4.
Natural England	Appendix 3	The Appendix 3 questions could be more ambitious to reflect the need to enhance and opportunities to improve rather than only consider the protection of assets. For example, an additional environmental APPENDIX 3 Subsidiary Question would be how can restored mineral workings contribute to Biodiversity 2020 targets?	Appendix 3	Table 4.1, Chapter 4.
Wessex Water		I refer to your letter of 27 <sup>th</sup> March and advise we have no suggestions to alter the proposed Scoping Report.	N/A	N/A
Wessex Water		Please note, however, that reference is made to Wessex Water's Draft Water Resources Plan; this was Wessex Water's last Water Resources Management Plan which was published as a final version (not draft) in June 2010. Wessex Water has recently prepared a revised draft WRMP which is due to be published for public consultation next Tuesday, 7th May. <a href="http://www.wessexwater.co.uk/water-and">http://www.wessexwater.co.uk/water-and</a>	Table 1, Section 5. Appendix 1.	Table 3.1, Chapter 3. Appendix 3.

Respondent	Section	Comment	How/where consultation comments were addressed	
		sewerage/threecol.aspx?id=578&linkidentifier=id&itemid=578		
Environment Agency	Table 1	<p><b>Relevant plans, policies and documents.</b> We note the inclusion of Wessex, Thames and Severn Trent Water Management plans. Gloucestershire also includes the operational areas of Welsh Water and a small part of Bristol Water. These Water Management Plans may also therefore be relevant.</p> <p>We note the inclusion of the Gloucestershire Strategic Flood Risk Assessment (SFRA). We agree this is the appropriate SFRA to include in the SA. Since this SFRA was completed the various district Councils have undertaken additional Level 2 SFRAs in support of their emerging Local Plans. These SFRAs supplement the original SFRA, and therefore may provide useful flood risk information that focuses more closely on certain geographic areas. This information will be useful for the Minerals Core Strategy and any allocations included within it. As such you might consider including the various district SFRAs in the SA as well. We note the various district Local Plans / LDFs are referred to but the Cheltenham, Tewkesbury &amp; Gloucester Joint Core Strategy is not specifically referred to. This list may therefore need updating.</p> <p>The table does not currently include the following relevant environmental plans and strategies:</p> <p>River Basin Management Plans (RBMPs). These plans show the ecological status of water bodies. They identify the pressures facing the water environment, and the actions required under WFD to address issues. The RBMPs are available at: <a href="http://www.environment-agency.gov.uk/research/planning/33106.aspx">http://www.environment-agency.gov.uk/research/planning/33106.aspx</a> The Thames RBMP covers the Cotswolds District, and the Severn RBMP covers the other Gloucestershire Districts.</p> <p>Catchment Abstraction Management Strategies (CAMS). These documents are licensing strategies that set out how the EA will manage water resources, existing and future abstraction licences and water availability within river catchments. The CAMS area available at: <a href="http://www.environment-agency.gov.uk/business/topics/water/119927.aspx">http://www.environment-agency.gov.uk/business/topics/water/119927.aspx</a> There are 6 different</p>	Table 1, Section 5. Appendix 1. The Welsh Water and Bristol Water Management Plans are to be addressed in SA Report. Neither the CFMPs nor the SMPs are included as they are covered by the SFRAs.	Table 3.1, Chapter 3. Appendix 3.

Respondent	Section	Comment	How/where consultation comments were addressed	
		<p>CAMS that cover the river catchments in Gloucestershire listed under the different EA regions as follows: Midlands – Severn Corridor; Severn Vale, EA Wales – Wye, South West – Bristol Avon and North Somerset Streams, South East – Cotswold; Thames Corridor.</p> <p>In addition there are Catchment Flood Management Plans (CFMPs) and Shoreline Management Plans (SMPs). However the various SFRAs of the Districts, along with the original SFRA for the Minerals and Waste Development Frameworks included the relevant references to these plans. As such it may not be relevant to include the CFMPs or SMPs specifically as they are 'covered' by the SFRAs.</p>		
Environment Agency	Table 3	<p><b>Sustainability issues and problems in Gloucestershire</b> - We concur with the list of sustainability issues for Gloucestershire where relevant to our remit. Items 12 and 13 that relate to biodiversity may make useful reference to climate change as this is considered to be a relevant factor in biodiversity decline. We consider the table should also include the sustainability issue of water quality. The Water Framework Directive (WFD) aims to protect and enhance water bodies. Water bodies include watercourses, canals and groundwater bodies. There are various deadlines for meeting 'good' ecological status, the majority being by 2027 (although some deadlines are sooner – 2015 and 2022). Various aspects can affect the achievement of good ecological status, such as diffuse and point source pollution, low flows, biodiversity, barriers to fish passage and geomorphology. Development, including minerals development, can impact water bodies. Under the WFD, there must be no deterioration in the ecological status of water bodies. Therefore development must not result in such deterioration, and wherever possible it should seek opportunities to enhance water quality. In Gloucestershire the majority of the water bodies are not currently meeting 'good' status and are only at 'moderate' status or below. Accordingly water quality is a significant issue. The River Basin Management Plans show the current status including reasons for failure. Therefore there is good information available on this matter and a way of setting targets, indicators and monitoring progress. Accordingly we consider this aspect to be a relevant sustainability issue for the SA.</p>	Table 3, Section 7.	Table 3.3, Chapter 3.

Respondent	Section	Comment	How/where consultation comments were addressed	
Environment Agency	Table 4	<b>Sustainability appraisal objectives.</b> We concur with the sustainability objectives in table 4. We recommend number 13 on flood risk is amended to include an enhancement element. For example it could read: <i>“To prevent flooding, in particular preventing inappropriate development in the floodplain, <u>and reducing flood risk where possible</u>, and to ensure that minerals development does not compromise sustainable sources of water supply.”</i> Furthermore, we consider the inclusion of water supply / resources in the above objective may be confusing. It may be better to include water resources/supply in number 16 along with water quality. For example <i>“To protect and enhance water quality <u>and quantity</u> in Gloucestershire”</i>		Table 4.1 and Table 4.2, Chapter 4. Appendix 2.
Environment Agency	Appendix 1	<b>Relevant plans, programmes, strategies and initiatives.</b> Notwithstanding the above comments for Table 1, we note and welcome the inclusion of the WFD here and concur with the columns and references to the RBMPs. With regards to the SFRA, we note the PPS25 Sequential Test is referred to. PPS25 has now been removed and the NPPF is the relevant policy. The NPPF and its Technical Guidance includes many of the previous PPS25 requirements including the need for Sequential Testing.	Table 1, Section 5. Appendix 1.	Table 3.1, Chapter 3. Appendix 3.
Environment Agency	Appendix 2	<b>Baseline information.</b> As per our comments on Table 3 above, water quality is an issue for Gloucestershire as the majority of water bodies in the County are not yet meeting ‘good’ ecological status in accordance with the WFD. The information in the Water section will need updating in line with the latest RBMP information. Whilst the individual break down of biological and chemical water quality is still relevant, the overall picture in terms of the WFD goals and current ecological status is relevant to the SA and should also be referenced.	Table 3, Section 7.	Table 3.3, Chapter 3.
Environment Agency	Appendix 3	<b>Subsidiary questions.</b> The questions under section 13 on flood risk could be altered as follows: <i>Can the risk of flooding be <u>managed and reduced</u> through site design?, Will surface water runoff be <u>sustainably managed</u>?</i> We recommend the following addition to first question in section 16: <i>What is the proximity of vulnerable surface or groundwater</i>	Appendix 3.	Table 4.1, Chapter 4.

Respondent	Section	Comment	How/where consultation comments were addressed	
		<i>and what are the likely impacts on these features?</i>		

**Summary of SA-related consultation responses received during the Gloucestershire Minerals Local Plan Site Options and Draft Policy Framework consultation (June – August 2014) and the Additional Site consultation (February – March 2015)**

Respondent	SA-related response to consultation question in the MLP Consultation Document: Sustainability Appraisal - Do you have any comments in relation to the Sustainability Appraisal?	How/where consultation comments were addressed in the Gloucestershire Draft MLP (September 2016) SA (and carried over to this report)
<p>Mr Rohan Torkildsen, South West Region Historic England</p>	<p>Site options for crushed rock and sand and gravel</p> <p>Having considered the 35 options and initial site assessments in the Sustainability Appraisal (SA) I have the following comments.</p> <p>The GMLP and the SA sets out the heritage assets likely to be affected by development and in many cases suggest there may be a “negative effect”. However the degree of such harm (substantial or less than substantial?) cannot be determined until “proposals are known”. Nevertheless as the local authority probably already knows the likely form of the future extraction - due to similar current operations in the county - I believe you can, and should, be able to come to a view, at this stage.</p> <p>Without coming to such a view before sites are allocated the local authority will not be able to:</p> <ol style="list-style-type: none"> <li>1. demonstrate that an appropriate consideration has been made of how the sites contribute to the significance of the assets affected (NPPF Paragraph 129), nor be able to assert that it has;</li> <li>2. identified land where development would be inappropriate because of its historic significance in accordance with NPPF Paragraph 157.</li> </ol> <p>To address this matter could I strongly recommend the methodology in the Setting of Heritage Assets (English Heritage, October 2011, and revised draft for consultation August 2014) is applied, and an appropriate heritage assessment is undertaken. This methodology includes a straightforward step by step assessment process as follows:</p> <p>Step 1: identify which heritage assets and their settings are affected – you have already done this;</p> <p>Step 2: assess whether, how and to what degree these settings make a contribution to the significance of each of the affected heritage assets – this has yet to be undertaken;</p> <p>Step 3: assess the effects of the proposal, whether beneficial or harmful, on that significance – this has yet to be carried out, and;</p> <p>Step 4: explore the way to maximise enhancement and avoid or minimise harm – this is eluded</p>	<p>Noted. GCC commissioned Atkins to carry out landscape assessments for all of the site options, which included an assessment of potential impacts on historic landscape character and local heritage assets (reports are available for each Allocation, dated June 2015). In addition, GCC’s own assessment of the allocations includes reference to potential archaeological assets that could be affected by extraction. These assessments have been used to inform the SA findings for SA objective 12 for the proposed Allocations (see Chapter 5 and Appendix 6).</p>

Respondent	SA-related response to consultation question in the MLP Consultation Document: Sustainability Appraisal - Do you have any comments in relation to the Sustainability Appraisal?	How/where consultation comments were addressed in the Gloucestershire Draft MLP (September 2016) SA (and carried over to this report)
	<p>to but currently lacks clarity.</p> <p>Unfortunately without this evidence you will not be able to assert that the allocations, and the amount to be extracted, can be delivered without causing substantial harm to the affected heritage assets, contrary to explicit legislation and national planning policy.</p> <p>The GMLP and the SA also demonstrate that the local authority is unclear as to the degree of importance (national, regional or of local significance) of the archaeology at many of the sites. Before the principle for extraction can be agreed further assessment and clarification will be required.</p> <p>On numerous occasions the SA refers to site options where development is likely to cause significant harm. However the language of the NPPF is not used and therefore one cannot be sure whether an allocation would conform to government policy for the historic environment or not. A reassessment of the sites, as suggested above, should address this matter and help inform unambiguous conclusions.</p> <p>CRFD1 A B &amp; C. CRFD2 A. CRFD4. CRCW1. CRCW2 A, B &amp; C. CRCW3. CRCW4 etc.</p>	
Amanda Grundy Consultation Service Natural England	The SA has been an iterative process which appears to have provided a robust and systematic assessment of the draft Plan. The SA findings and recommendations have helped to refine emerging policies and site options and we are satisfied that the requirements of the Strategic Environmental Assessment (SEA) Directive have been met for this stage of the plan preparation process.	Noted, no action required.
Mr Mark Williams	Not had time to review.	Noted, no action required.
Mr Saleem Shamash	No.	Noted, no action required.

Respondent	SA-related response to consultation question in the MLP Consultation Document: Sustainability Appraisal - Do you have any comments in relation to the Sustainability Appraisal?	How/where consultation comments were addressed in the Gloucestershire Draft MLP (September 2016) SA (and carried over to this report)
Mr Andrew Scarth	<p>Table 3.3 No 15 makes no reference to the Upper Thames Catchment Area.</p> <p>Table 5.9 SGCW5 (A, B, and C) and SGCW6 have between them four very negative impacts and only nine marginally positive impacts; four of these are on employment opportunities which are limited at best and not sustainable as the employment lasts only as long as the workings continue; a further four are on restoration of the site which is a subjective view, putting man-made landscape ahead of natural; and the last being transport, the scoring of which is questionable at the least as it gives a positive score to any area within 1km of a major road. A more rational view would appreciate that the effect on traffic of any working will be negative, although clearly less negative the closer the major road.</p>	<p>Noted. The baseline information section and Table 3.3 has been updated by GCC in this 2016 SA Report.</p> <p>The parcels SGCW5 (A, B, and C) and SGCW6 now constitute Allocation 10 in the 2016 MLP Consultation Draft. The SA findings for this Allocation are shown in Chapter 5 and Appendix 6 of this SA Report, and reflect the assumptions regarding significant effects set out in Table 4.2.</p>
Mr D J Lockett	<p>No</p> <p>Additional Comments Received via email 23.7.14</p> <p>I write in follow-up to my completion of your Gloucestershire Minerals Local Plan Site Options and Draft Policy Framework Consultation Document Sustainability Appraisal questionnaire.</p> <p>There is a clear need for the plan to have considered all of the social, environmental and health issues before decisions are taken to include sites in the plan.</p> <p>The Sustainability Statement in the document is frankly not 'entirely reasonable' by virtue of the repetitive nature of the responses to the various issues and sweeping generalizations that seek to minimize impacts.</p> <p>There appears to be a rush to identify sites, based on recommendations made to the Council by developers that are clearly going to have significant adverse impacts on communities.</p> <p>Studies must be conducted into the likely adverse effects such extractions would have on the population especially where sites are located close to dwellings. Health, Social and Economic impact must be assessed prior to sites being given preferred status.</p>	<p>Noted. The SA follows NPPG and good practice, and has predicted social, environmental and health and amenity impacts from minerals extraction at the proposed Allocations against SA objectives 1, 2, 7-17 (see Chapter 5 and Appendix 6).</p>



Respondent	SA-related response to consultation question in the MLP Consultation Document: Sustainability Appraisal - Do you have any comments in relation to the Sustainability Appraisal?	How/where consultation comments were addressed in the Gloucestershire Draft MLP (September 2016) SA (and carried over to this report)
Mr Toby Catchpole Gloucestershire County Council	No comments.	Noted, no action required.

**Summary of SA-related consultation responses received during the Gloucestershire Minerals Local Plan Pre-publication Consultation (September – November 2016)**

Respondent	SA-related response to consultation question in the MLP Consultation Document: Do you have any comments or questions in relation to Section 1 - Introduction to Minerals Planning in Gloucestershire? (see paragraphs 1-16 of the Draft MLP)	How/where consultation comments have been addressed in this SA Report
<p>Mr. B. Brown - Campaign For The Protection Of Rural England (Gloucestershire - Minerals);</p> <p>Mr. B. Jones - Stowe Green Residents Association</p>	<p>We do not accept the statement in paragraph 11 that ‘the SA process has ensured all reasonable alternative options and approaches have been appropriately considered and effectively evaluated’. As we understand the Sustainability Appraisal, there has been no analysis or assessment of the effective implementation of the Duty-to-Cooperate (DtC).</p>	<p>Comments noted. The Duty-to-Cooperate (DtC) is a legal duty placed on local planning authorities, county councils in England and public bodies to engage constructively, actively and on an ongoing basis to maximise the effectiveness of local plan making in the context of strategic cross boundary matters. The duty to cooperate is not a duty to agree, but local planning authorities should make every effort to secure the necessary co-operation on strategic cross boundary matters before they submit their plans for examination. Local planning authorities must demonstrate how they have complied with the duty at the independent examination of their plans. There is no national policy or guidance requiring or advising that referencing the undertaking of DtC is necessary or appropriate for specific inclusion in a plan’s vision or objectives. The acceptability or otherwise of meeting this legal duty is judged by an independent inspector who is appointed to assess the respective plan. A sustainability appraisal (SA) is a systematic process that must be carried out during the preparation of a local plan. Its role is to promote sustainable development by assessing the extent to which the emerging plan’s content, when judged against reasonable alternatives, will help to achieve relevant environmental, economic and social objectives. Reasonable alternatives are the different</p>

		<p>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 option so that meaningful comparisons can be made. The alternatives must be realistic and deliverable, which requires a professional and considered judgement to be made. Whilst it is acknowledged that the implications of carrying DtC activities could yield possible reasonable alternative DtC policy options worthy of consideration through a SA process, no such clear, sufficiently detailed and realistically deliverable alternative options have arisen at this time with the MLP for plan maker to reasonable explore. Furthermore, there is no national policy or guidance requiring or advising that the effectiveness of implementing DtC should be incorporated and subject to a particularly SA analysis in its own right. No further actions proposed.</p>
<p>Mrs. M. Kavanagh;</p> <p>Mrs. F. Bouri;</p> <p>E. Godden</p>	<p>The Sustainability Appraisal for oil and gas has not been adequately evaluated and there is no evidence base.</p>	<p>Comments noted. The SA has been undertaken in a consistent and proportionate way, in line with the methodology that was consulted on at the Scoping Stage.</p> <p>With regards to evidence, the document sets out the baseline conditions, against which the plan is assessed, in Appendix 4 and in line with the methodology in Chapter 2. The assessments include an element of professional judgement, but sources are referenced where considered necessary as footnotes. The assumptions presented in Table 4.2 also provide further information regarding the evidence used to arrive at these judgements.</p> <p>With regards to oil and gas, key evidence documents include the following:</p>

		<ul style="list-style-type: none"> <li>- Minerals Technical Evidence papers prepared by Gloucestershire County Council</li> <li>- IPCC's Assessment Report on Climate change (referenced in Appendix 3, to be updated to fifth report)</li> <li>- Gloucestershire County Council records of mineral resources in the area (Appendix 4)</li> <li>- Committee on Climate Change reports, including 'The compatibility of UK onshore petroleum with meeting the UK's carbon budgets' (July 2016)</li> <li>- DECC (2016) Total final energy consumption at regional and local authority level</li> <li>- DEFRA (2011) Securing the Future: Delivering UK Sustainable Development Strategy</li> <li>- HM Government (2011): The Carbon Plan: Delivering our low carbon future.</li> </ul> <p>No further actions proposed.</p>
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Respondent	Response to consultation question in the MLP Consultation Document: Do you have any comments or questions in relation to the accompanying Sustainability Appraisal (SA)?	How/where consultation comments have been addressed in this SA Report
Mr Mark Bick	<p>It needs to be updated to include impacts of unconventional gas, CBM, CBG etc. This is a major omission.</p> <p>The paragraphs on Climatic factors fail to make any mention of rogue emissions from</p>	<p>Comment noted, although unconventional gas has been afforded considered through the assessment of Policy MW06 in Appendix 5. No further actions proposed</p>

	<p>unconventional gas etc. It also fails to mention the impact on climate of actually exploiting any reserves; Human health section does not reflect current knowledge of impact of pollution from diesel fuelled transport.</p> <p>Table 2 Key sustainability issues only obliquely mentions climate change, longer term this has to be a major threat to sustainability of the County. If we had sea level rise then we could face major population moves to the upland areas of the County including international migration. RSB have recognised the major threat that climate change present to wildlife, this is just one area that needs consideration, Climate change impacts then need to be written into all aspects of the minerals plan, particularly unconventional gas.</p> <p>Paragraph 18 needs to be far stronger in terms of any minerals sites needing to be designed from the outset to reduce contributions to climate change BEFORE planning permission is even given. Site infrastructure can be in place for decades, the adaptation needs to be now, not at some vague time in the future. Current version of section 18 of the sustainability appraisal objectives is utterly inadequate in the light of Paris Climate Change agreement.</p>	<p>Comment noted. The potential effects of minerals and waste development and likely future environmental status in the absence of the plan are derived from the review of baseline information, which serves to provide an overview of existing conditions in the county, rather than make any assessment of the impacts of the Plan or any new mineral-related development such as unconventional oil and / or gas, which is not currently present in Gloucestershire.</p> <p>In light of the comments made Table 3.2 of the Full SA (Table 1 of the NTS) will be slightly expanded to acknowledge other possible climatic effects associated with extraction of minerals such as oil and gas. In addition Table 3.3 will also incorporate specific references to climate change links where these are relevant and appropriate.</p> <p>Comment noted. The table in the Non-Technical Summary is a very brief overview of sustainability issues in the County. Climate change is a cross-cutting issue across many key issues. No further actions proposed.</p>
<p>Mr Owen Adams – Frack Off Our Forest</p>	<p>S1: 11 – The Sustainability Appraisal for oil and gas has not been adequately evaluated and there is no evidence base.</p>	<p>Comment noted. The SA has been undertaken in a consistent and proportionate way, in line with the methodology that was consulted on at the Scoping Stage. With regards to evidence, the document sets out the baseline conditions, against which the plan is assessed, in Appendix 4 and in line with the methodology in Chapter 2. The assessments include an element of professional judgement, but sources are referenced where considered necessary as footnotes. The assumptions presented in Table 4.2 also provide further information regarding the evidence used to arrive at these</p>

		judgements. No further actions proposed.
Ruth Clare – Environment Agency	<p>Sustainability Appraisal (SA)</p> <p>We have previously commented on the SA of the Minerals Plan. On this occasion we have unfortunately not been able to review in detail the SA document for this particular draft of the Plan due to current resources. We would expect the SA to assess the effectiveness of the plan and for the issues that we have identified above to be highlighted within it. We may make further comment at a later stage following further discussion with you on the matters we have raised above. Such issues include:</p> <ul style="list-style-type: none"> <li>- Recognition of non designated natural heritage and designated sites that may be affected further than 1km away;</li> <li>- Assessment of a range of water-related issues including flood risk and water quality;</li> <li>- The need to enhance the natural environment;</li> <li>- Cumulative environmental impacts of waste sites;</li> <li>- Resilience to climate change; and</li> <li>- Further comments with regards to specific sites and restoration measures.</li> </ul>	<p>In response to the specific matters highlighted in the bullet points the following comments are made: -</p> <p>Bullet 1 - The SA of Objective 12 has drawn on GCC site assessments regarding the relevant Historic Landscape Characterisation status of each site;</p> <p>Bullet 2 - Flood risk is assessed via SA Objective 13. Effects on water quality are assessed via SA Objective 16;</p> <p>Bullet 3 - This is assessed through the 'Environment' objectives, i.e. SA Objectives 7 to 18;</p> <p>Bullet 4 - Assessment of cumulative impacts is detailed from paragraph 5.50 onwards;</p> <p>Bullet 5 - This is assessed via SA Objective 18.</p> <p>Bullet 6 – The assessment of specific sites can be reviewed between paragraphs 5.5 and 5.42. For restoration measures see pages 72 and 73.</p>
Jane Lloyd;  Mike Birkin – Friends of the Earth Gloucestersh ire Network;  Chris McFarling	<p>The Sustainability Appraisal – as part of the council's evidence base fails to objectively evaluate the impacts of the current policy on sustainable development objectives, such as climate change, water, and air. The current policy wording of MW06 suggests that the council has underestimated the impacts the policy could have on these key areas.</p>	<p>Comment noted. The SA has been carried out by third party, experienced consultants to ensure objectivity in the process.</p> <p>The SA has been undertaken in a consistent and proportionate way, in line with the methodology that was consulted on at the Scoping Stage and detailed in Chapter 2 of the SA Report. The assumptions presented in Table 4.2 provide further information on how the SA framework was applied to assessments. Likely effects on climate change were assessed through SA objective 18, Likely effects on</p>

		<p>water were assessed through SA objective 16 and likely effects on air were assessed through SA objective 15.</p> <p>The SA acknowledges that 'Policy MW06 is likely to have a negative effect upon efforts to tackle climate change by virtue of facilitating oil and gas development' (Appendix 5). The SA also acknowledges negative effects on air quality by virtue of facilitating more oil and gas development and the uncertainty with regards to impacts on water. No further actions proposed.</p>
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## **Appendix 2**

Audit trail of reasonable alternatives considered during preparation of the Gloucestershire Minerals Local Plan



Minerals Core Strategy Issues & Options (2005-2007)	Minerals Core Strategy Preferred Options (2008)	Minerals Local Plan Site Options and Draft Policy Framework Consultation Document (June 2014)	Minerals Local Plan Pre-publication Consultation Draft (September 2016)	Minerals Local Plan Publication Draft (April 2018)
<b>Time period for MCS/MLP</b>				
<p><b>ISSUE M1. Setting an Appropriate Timeframe for the MCS</b></p> <p><b>(Option 1):</b> 10 years from the date of adoption.</p> <p>As detailed in the Minerals Core Strategy Issues &amp; Options Paper SA Report (September 2006) this option was not favoured, although there were a number of positive scores in the short to medium term. <b>This option was dropped</b> due to the SA test at Issues &amp; Options and the fact that this timeframe would forecast the MCS ending at the end of 2019. Although this option met the minimum timescale advised by PP12, it failed to reflect the time horizon of the RSS (which is to 2026) also as advised by PPS12. Furthermore, there were timeframe issues associated with published national and regional aggregate guidelines that were referred to and expanded upon in MPS1. Of particular interest was the advice to maintain reserves equal to a 10-year landbank for</p>	<p>In the 2008 Preferred Options Consultation paper the Vision refers to 2026, and the introduction to the Spatial Strategy (para. 92) stated that 2026 as the date up to which the county's mineral resources should be safeguarded or considered for future working.</p> <p>No further options for the time period for the MCS were considered at this stage.</p> <p>The time period was not subject to separate SA; generally, an extended time period just means that the sustainability effects identified for the rest of the plan will occur over a slightly different time period.</p>	<p>In the 2014 Consultation Document, the end date for the MLP changed to 2030, which reflected the NPPF requirement for local plans to cover an appropriate time scale, preferably a 15-year time horizon (para. 157 of the NPPF). Taking 2015 as the start date for the MLP, 2030 became the end date for the plan.</p> <p>No further options for the time period for the MLP were considered at this stage.</p> <p>The time period was not subject to separate SA; generally, an extended time period just means that the sustainability effects identified for the rest of the plan will occur over a slightly different time period.</p>	<p>In the 2016 Consultation Draft, the end date has been updated again to reflect the revised start date. The MLP will now run from 2018-2032.</p> <p>No further options for the time period for the MLP have been considered at this stage.</p> <p>The time period was not subject to separate SA; generally, an extended time period just means that the sustainability effects identified for the rest of the plan will occur over a slightly different time period.</p>	<p>In the 2018 Publication Draft, no changes have been made to the plan period. The MLP will still run from 2018-2032.</p> <p>No further options for the time period for the MLP have been considered at this stage.</p> <p>The time period was not subject to separate SA.</p>

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<p>crushed rock and a 7-year landbank for sand &amp; gravel. Based on the national and regional aggregate guidelines, which run through to 2016, this approach sets a policy timeframe of 2026 for crushed rock and 2023 for sand &amp; gravel.</p> <p><b>(Option 2):</b> To at least the end of the guideline period for aggregate provision (i.e. 2016).</p> <p>At Issues and Options stage the SA revealed uncertainties in the longer term. <b>This option was dropped</b>, see second part of the comments given for Option M1 above concerning MPS1 and the landbank requirements. This option did not specify how long after 2016 would potentially be acceptable.</p> <p><b>(Option 3):</b> To 2026, fitting in with Regional Spatial Strategy timescales.</p> <p>This option was generally favoured due to the fact that there are potentially positive long term effects in terms of the provision of aggregates. <b>This option became the preferred option.</b></p>				

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<b>Vision and strategic objectives</b>				
<p><b>ISSUE M2. Setting an Appropriate Spatial Vision and Strategic Objectives for the MCS</b></p> <p><b>(Option 1): <u>Business as usual</u></b> – The vision in Minerals Local Plan.</p> <p><b>(Option 2):</b> The proposed vision in the MCS.</p> <p>At Issues and Options stage the SA indicated that the ‘business as usual’ current vision in the MLP was very comprehensive and broadly positive in terms of the tests against the SA objectives. However <b>Option 1 was not favoured over Option 2 and it was dropped;</b> a primary reason being that given (for Issue M1 Option 1) above concerning MPS1 and the specific landbank requirements.</p> <p><b>Option 2 was favoured</b> at the Issues and Options stage but following consultation stakeholders and consultees such as GOSW indicated that a more ‘spatial’ and expanded vision would be desirable. (See</p>	<p><b>The Preferred Options included the following Spatial Vision (MPO1):</b></p> <p>“By 2026 Gloucestershire will be a clean, green, healthy and safe place in which to live, work and visit. It will be a leading county in managing its mineral resources and a successful contributor towards the achievements of sustainable development, sustainable communities, and reducing the impacts of climate change.</p> <p>Local mineral resources will be integral to delivering renewal, regeneration and urban growth for Gloucester, Cheltenham and elsewhere in the county. Specialist minerals will also have an important role in revitalising and restoring Gloucestershire’s historic and quality built environments.</p> <p>However, mineral supplies from Gloucestershire will no longer be focused on primary extraction. Instead, greater</p>	<p>A further revised vision was included in the 2014 MLP Consultation Document. Amendments were made to the 2008 vision, both in the light of the consultation responses made then and also to ensure that the vision was up-to-date and NPPF compliant, including the addition of a specific reference to minimising the risk of birdstrike, changing the date to 2030 and the removal of references to regional planning. However, due to comments about the vision being too lengthy, the revised version was shorter and more succinct (also in accordance with the NPPF).</p> <p><b>The Proposed Spatial Vision stated:</b></p> <p>By 2030 Gloucestershire will be a clean, green, healthy and safe place in which to live, work and visit. It will be a leading county in managing its mineral resources and a successful contributor towards</p>	<p>The Vision has been further amended in the 2016 MLP Consultation Draft. GCC has stated that all of the changes to the early part of the plan – vision and objectives represent a combination of taking into account previous consultation comments, the evolution of thinking about the plan’s policies and what can realistically and feasibly be achieved, and a tighter adherence to the content of the NPPF and PPG. The original vision and objectives had not been heavily scrutinised with regards to the changes that have occurred following the shift from the suite of national PPSs and MPSs to the NPPF.</p> <p><b>The Proposed Vision states:</b></p> <p>At the start of 2033, Gloucestershire will be a cleaner, greener, more</p>	<p>The Vision and Objective LC have been further amended in the 2018 Publication Draft.</p> <p>GCC has stated that the changes to the vision and objectives provide greater clarity particularly as to how securing the existing condition or improving well-being and quality of life of local communities is to be promoted. Other changes are to provide greater clarity in relation to climate change.</p> <p><b>The Proposed Vision states:</b></p> <p>At the start of 2033, Gloucestershire will be a cleaner, greener, more healthy and safer place in which to live, work and visit. It</p>

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<p>also the comments given above (for Issue M1 Option 1) concerning MPS1 and the specific landbank requirements.</p> <p>Furthermore, the revised spatial vision developed for the Preferred Options stage of the MCS needed to take into account the conclusion of the SA process. In this instance, there was a mandate for the revised vision to be clearly set out with a positive steer towards the future of Gloucestershire.</p> <p><b>The strategic objectives</b> were as follows:</p> <ol style="list-style-type: none"> <li>1. To identify, conserve and safeguard Gloucestershire's finite mineral resources from unnecessary sterilisation by other forms of development.</li> <li>2. To ensure that the appropriate provision is made to meet the local, regional and national demand for minerals from sustainable sources in Gloucestershire.</li> <li>3. To protect where possible, the natural, historic and cultural assets of Gloucestershire.</li> <li>4. To ensure minerals sites are</li> </ol>	<p>emphasis will be placed upon maximising the reuse of materials and recycling of construction &amp; demolition wastes. Support will also be given to the importation, by more sustainable forms of transport, of secondary and alternative aggregates from within and outside the region. The county will also be known as an active supporter of regional supply targets for aggregates derived from alternative sources.</p> <p>Nevertheless, primary minerals will remain an essential part of the county's mineral supply, not only in terms of meeting local need but also in contributing to regional guidelines. Mineral working will include; limestone used as a crushed rock and sand &amp; gravel for aggregate purposes; limestone and sandstone for natural building &amp; roofing stone; clay for civil engineering and brick making; and coal for energy generation. The key resource areas will be – the Forest of Dean; Cotswolds; Upper Thames Valley; and the Severn Vale Corridor.</p>	<p>the achievements of sustainable development, sustainable communities, and reducing the impacts of climate change.</p> <p>Local mineral resources will be integral to delivering renewal, regeneration and growth in the county. Specialist minerals will also have an important role in revitalising and restoring Gloucestershire's historic and quality built environments, taking account of the different roles and character of different areas.</p> <p>Greater emphasis will be placed upon maximising the reuse of materials and recycling of construction &amp; demolition wastes as well as reducing in-site waste and promoting the optimum and most appropriate use of minerals. However, primary minerals will remain an essential part of the county's mineral supply, particularly in terms of meeting local need. Provision for minerals will be made taking account of Gloucestershire's</p>	<p>healthy and safer place in which to live, work and visit. It will be a leading county in managing its mineral resources and a successful contributor towards the achievement of sustainable development.</p> <p>Local mineral resources will have played a key part in delivering renewal, regeneration and economic growth throughout the county. Specialist minerals will have been important in revitalising and restoring Gloucestershire's historic built environments; and supporting the delivery of key items of infrastructure, housing and increased employment opportunities.</p> <p>The working of primary minerals will have remained an essential part of the county's mineral supply, particularly in meeting local demands, but also in contributing to national need. Nevertheless, wherever possible, positive and tangible steps will have been made to reduce reliance on primary minerals</p>	<p>will be a leading county in managing its mineral resources and a successful contributor towards the achievement of sustainable development.</p> <p>Local mineral resources will have played a key part in delivering renewal, regeneration and economic growth throughout the county. Specialist minerals will have been important in revitalising and restoring Gloucestershire's historic built environments; and supporting the delivery of key items of infrastructure, housing and increased employment opportunities.</p> <p>The working of primary minerals will have remained an essential part of the county's mineral</p>

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<p>restored to the highest possible standard that is capable of providing for a range of sustainable after-uses, and that this is done as quickly as possible.</p> <p>5. To secure enforceable, sound working practices to minimise the adverse impacts of mineral developments on the local communities, the local economy and the environment.</p> <p>6. To encourage the efficient working of mineral resources.</p> <p>7. To promote the maximum use of recycled materials in preference to non-renewable primary minerals, where possible.</p> <p>8. To encourage more sustainable ways of transporting minerals, especially alternatives to haulage by road.</p> <p>9. To promote closer working with neighbouring authorities to develop a consistent policy approach for the future planning of strategic mineral resources.</p> <p>The <b>strategic objectives</b> were tested against the 15 SA objectives. These received a combination of major positive,</p>	<p>The provision and supply of primary minerals will be made following the consideration of the consequences of local environmental capacity and the availability of viable and less constrained, but no less sustainable, resources from outside of Gloucestershire. Furthermore, where mineral working takes place, amenity, health, quality of life and economic vitality will be paramount to the decision making process. Particular attention will also be drawn to efficient and prudent working practices that support a reduction in site waste and the optimum and most appropriate use of minerals.</p> <p>Although road haulage is likely to remain the dominant form of transport, smarter supply chains will be in place. These include stricter haulage routes and more efficient practices, such as back hauling of materials to and from sites. Through this approach vehicle movements for minerals will be reduced on local roads leading to a reduction in vehicle emissions. This will</p>	<p>environmental capacity.</p> <p>Although road haulage is likely to remain the dominant form of transport, smarter supply chains will be sought. These include stricter haulage routes and more efficient practices. Through this approach vehicle movements for minerals will be reduced on local roads leading to a reduction in vehicle emissions. This will also help curb local traffic growth, wear and tear on the road network, and reduce other adverse impacts such as noise, dust and road safety.</p> <p>Where mineral working takes place, amenity, health, quality of life and economic vitality will be paramount to the decision making process. Mineral working will act as a positive driver for protecting and enhancing the quality of environmental assets and designations such as the Cotswolds and Wye Valley AONBs and will also assist in expanding the knowledge of our archaeological past. Through the process of mineral restoration, worked</p>	<p>by: - facilitating their optimum, efficient and most appropriate use; promoting the re-use of building and other construction materials; assisting the increased and diversified use of recycled construction &amp; demolition wastes and alternative secondary aggregate, particularly from local sources.</p> <p>Although road haulage will have been the dominant form of moving minerals in, out and around Gloucestershire, smarter and more respectful supply routes will have been applied. Impacts upon local and strategic roads will have been minimised by providing opportunities to reduce the frequency and length of haulage journeys.</p> <p>Where mineral development has taken place, minimising the adverse impacts on: – amenity; risks to health, well-being and quality of life; the economic vitality of other local businesses; the integrity and quality of the natural and historic</p>	<p>supply, including meeting local demand and contributing to national need. Nevertheless, wherever possible, positive and tangible steps will have been made to reduce reliance on primary minerals by: - facilitating their optimum, efficient and most appropriate use; promoting the re-use of building and other construction materials; assisting the increased and diversified use of recycled construction &amp; demolition wastes and alternative secondary aggregate, particularly from local sources.</p> <p>Road haulage will have been the dominant form of moving minerals in, out and around Gloucestershire, although smarter and more respectful supply</p>

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<p>positive and neutral scores. As a consequence the revised strategic objectives for the Preferred Options stage of the MCS had to integrate all of the actions for which major positive and positive scores were awarded.</p>	<p>also help curb local traffic growth, wear and tear on the road network, and reduce other adverse impacts such as noise, dust and road safety.</p> <p>Mineral working in Gloucestershire will act as a positive driver for protecting and enhancing the quality of environmental assets and designations such as the Cotswolds and Wye Valley AONBs. Through the process of mineral restoration, worked out mineral sites will be seen as a key resource for increasing biodiversity and geodiversity interest. They will also assist in expanding the knowledge of our archaeological past.</p> <p>Finally, mineral restoration will be lauded as having positively steered the successful and co-ordinated regeneration of the Cotswold Water Park in Gloucestershire and the adjoining areas of Swindon and Wiltshire. It will also be recognised, as a key driver of change that will underpin future regeneration opportunities in the area."</p>	<p>out mineral sites will be seen as a key resource for increasing biodiversity and geodiversity whilst at the same time minimising risk of birdstrike. In particular the successful co-ordination of mineral management in the Upper Thames Valley (including the adjacent areas of Wiltshire and Swindon) will be crucial to successful regeneration and restoration of the landscape in this area.</p> <p><b>SA Findings</b></p> <p>The SA findings for the Vision were presented in Appendix 5 and Chapter 5 of the 2014 SA Report, and summarised below:</p> <p>In general, the vision encourages sustainable economic growth as required by the NPPF, and is likely to have a positive effect on all of the SA objectives.</p> <p><b>Proposed Strategic 'Priorities'</b></p> <p>In order to be compliant with the NPPF, the strategic objectives were referred to as strategic priorities. The</p>	<p>environment; aviation safety caused by the risk of bird strike; and the risk of flooding, will have been highly influential in the decision making process.</p> <p>Furthermore, beneficial after-use opportunities resulting from the timely and effective restoration of minerals sites will have been maximised, to: - achieve enhancements in beneficial biodiversity; access to geological conservation interests; access to the countryside; the level and diversity of participation in leisure &amp; recreational activities; the management of the water environment and reduced risks to water quality.</p> <p>The Plan Objectives have also been amended in the 2016 MLP Consultation Draft. As noted above, GCC has stated that all of the changes to the early part of the plan – vision and objectives represent a combination of taking into</p>	<p>routes will have been applied. Impacts upon local and strategic roads will have been minimised by providing opportunities to reduce the frequency and length of haulage journeys.</p> <p>Where minerals development has taken place, minimising adverse impacts and maximising the possibility of achieving enhancements will have been highly influential considerations with regards to: – amenity; risk to health, well-being and quality of life of communities; local economic vitality including the prosperity of other local businesses; the integrity and quality of the natural and historic environment; aviation safety related to bird strike hazard;</p>

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	<p><b>SA Findings for MPO1</b> (as presented in the 2008 Preferred Options SA Non-technical Summary)</p> <p>The proposed vision is very comprehensive, thus it scores very well against the 15 SA Objectives, particularly in the medium to long term. There are no clear negative effects likely at this level of assessment and taking the vision as a whole. The vision contains a good balance between providing for the mineral need of society as a whole and for Gloucestershire, and ensuring that the issue of environmental capacity is considered. An important aspect of it is the focus on maximising the reuse of materials and the recycling of C&amp;D wastes. This clearly accords with Government policy in MPS1 and represents a clear sustainable way ahead for the minerals industry</p> <p><b>The strategic objectives included in the Preferred Options (MPO2) were:</b></p> <p><b>Provision &amp; Supply</b> - To ensure that appropriate</p>	<p>objectives that were presented in the 2008 consultation were further revised to take account of national policy changes and also the comments received in response to that consultation.</p> <p>Changes reflective of comments include: a slight reordering of objectives; inclusion of a reference to sustainable transport in relation to reuse and recycling; rewording of the Environment strategic objective to be appropriate to all landscapes and to include a reference to the historic environment; the reclamation objective has been expanded to include references to specific criteria outlined in paragraph 143 of the NPPF, to make reference to enhanced environmental standards and to include a reference to minimising risk of birdstrike hazard; removal of reference to “worked-out” minerals sites; the transport objective has been expanded to take account of the transport impacts of restoration proposals, to make reference</p>	<p>account previous consultation comments, the evolution of thinking about the plan’s policies and what can realistically and feasibly be achieved, and a tighter adherence to the content of the NPPF and PPG. The original vision and objectives had not been heavily scrutinised with regards to the changes that have occurred following the shift from the suite of national PPSs and MPSs to the NPPF.</p> <p><b>The Proposed Objectives state:</b></p> <p><b>Objective SR: Maximising the use of secondary and recycled aggregates</b> To promote the maximum use of recycled materials and secondary aggregates in preference to primary-land won minerals having regard to the viability and sustainability of transporting, handling and processing of such materials, including the avoidance of adverse impacts on local communities, the environment, and the ability</p>	<p>and the risk of flooding.</p> <p>Furthermore, beneficial after-uses arising from the timely restoration of mineral workings, which would have been delivered to a high environmental standard to: - secure net gains in biodiversity; facilitate measures to increase resilience and / or to adapt to the impacts of climate change; improve access to geological assets and help deepen and widen our understanding of geological processes; contribute to the conservation and interpretation of historic assets; expand, and enrich green infrastructure; widen access to leisure and recreational facilities for communities; and contribute to an increase in the</p>

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	<p>provision is made for the supply of minerals to meet national, regional and local requirements including the Gloucestershire apportionments of crushed rock and land-won sand &amp; gravel. Full account must be given to – local environmental capacity; availability of workable and viable resources; and market conditions.</p> <p><b>Reuse &amp; Recycling</b> - To promote the maximum reuse and recycling of materials in preference to primary minerals, particularly where transportation is kept to a minimum and the handling and processing of recyclates will not have an adverse impact on the environment or prejudice site restoration.</p> <p><b>The Environment</b> - To seek the protection, and where appropriate, the enhancement of land that could be affected by mineral working, which has been internationally, nationally, regionally and locally designated on environmental and landscape grounds.</p>	<p>to avoiding the use of roads unsuitable for HGVs and highlight the potential need to mitigation to the strategic road network; Resource management – deletion of the word practicable; People – word minimise has been replaced with ‘mitigate against’.</p> <p><b>Strategic Priority 1: Reuse &amp; Recycling</b> To promote the maximum reuse and recycling of materials in preference to the use of primary minerals (where specification will allow), particularly where transportation is sustainable or kept to a minimum and the handling and processing of recyclates will not have an adverse impact on the environment or prejudice site restoration.</p> <p><b>Strategic Priority 2: Provision &amp; Supply</b> To ensure that appropriate provision is made for the supply of minerals to meet national, and local requirements including the aggregates provision identified within the local aggregates assessment. Full</p>	<p>to successfully achieve the restoration of mineral sites.</p> <p><b>Objective SR: Maximising the use of secondary and recycled aggregates</b> To promote the maximum use of recycled materials and secondary aggregates in preference to primary-land won minerals having regard to the viability and sustainability of transporting, handling and processing of such materials, including the avoidance of adverse impacts on local communities, the environment, and the ability to successfully achieve the restoration of mineral sites.</p> <p><b>Objective RM: Effectively managing mineral resources</b> To manage the county’s remaining mineral resources in a co-ordinated and efficient manner by ensuring other development does not unnecessarily sterilise mineral resources or adversely affect the operation of mineral infrastructure; and that where minerals are worked,</p>	<p>effectiveness of flood prevention and / or alleviation and improvements in water quality.</p> <p><b>The Proposed Objectives state:</b></p> <p><b>Objective SR   Maximising the use of secondary and recycled aggregates</b></p> <p>To promote the maximum use of recycled materials and secondary aggregates in preference to primary-land won minerals having regard to the viability and sustainability of transporting, handling and processing of such materials, including the avoidance of adverse impacts on local communities, the environment, and the ability to successfully achieve the restoration of mineral sites</p> <p><b>Objective RM   Effectively</b></p>



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	<p><b>People</b> - To secure sound and enforceable working practices, which will minimise adverse impacts on local communities and businesses and will be systematically monitored.</p> <p><b>Reclamation</b> - To secure the highest possible standards and quality of mineral restoration and aftercare for worked-out mineral sites, taking a spatial view of after use opportunities for – biodiversity, geodiversity, agriculture, public access, regeneration, contributing towards reducing climate change impacts, and ensuring aerodrome safeguarding.</p> <p><b>Resource Management</b> - To manage the county's remaining mineral resources in a coordinated and efficient manner so as to ensure that future development will not result in mineral sterilisation; that where minerals are worked, they are put to their most practicable and optimal use; and that the amount of waste produced is minimised.</p> <p><b>Transport</b> - To reduce the impacts of hauling minerals by road and encourage more</p>	<p>account must be given to – local environmental capacity; availability of workable and viable resources; and market conditions.</p> <p><b>Strategic Priority 3: The Environment</b> To protect, and where appropriate, enhance, the quality of landscapes, habitats, heritage and other environmental assets, having full regard to their international, national or local importance.</p> <p><b>Strategic Priority 4: People</b> To secure sound and enforceable working practices, which will mitigate against adverse impacts on local communities and businesses and will be systematically monitored.</p> <p><b>Strategic Priority 5: Reclamation</b> To secure both enhanced environmental standards and the highest possible standards and quality of mineral restoration and aftercare for mineral sites at the earliest opportunity, taking a spatial view of after use opportunities for – biodiversity, geodiversity,</p>	<p>they are put to their optimal use and that any waste generated is kept to a minimum.</p> <p><b>Objective PS: Making provision for the supply of minerals</b> To ensure that a sufficient supply of minerals is provided that contributes towards meeting local and national requirements having taken account of local environmental capacity, the availability of viable, workable or alternative resources, accessibility to necessary supporting infrastructure, and market conditions.</p> <p><b>Objective ENV: Protecting the built and natural environment</b> To protect, and where opportunity exists, enhance, the quality of landscapes, habitats, heritage and other environmental assets, having full regard to their international, national or local importance and value.</p> <p><b>Objective LC: Protecting the health and well-being</b></p>	<p><b>managing mineral resources</b></p> <p>To manage the county's remaining mineral resources in a co-ordinated and efficient manner by ensuring other development does not unnecessarily sterilise mineral resources or adversely affect the operation of mineral infrastructure; and that where minerals are worked, they are put to their optimal use and that any waste generated is kept to a minimum.</p> <p><b>Objective PS   Making provision for the supply of minerals</b></p> <p>To ensure that a steady and adequate supply of minerals is provided that contributes towards meeting local and national requirements having taken account of local environmental</p>

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	<p>sustainable forms of transport, including necessary improvements to infrastructure.</p> <p><b>SA Findings for MPO2</b> (as presented in the 2008 Preferred Options SA Non-technical Summary)</p> <p>The 7 strategic objectives are detailed, comprehensive and focused on the significant issues that need to be addressed. Thus the majority of scores are positive to major positive against the 15 SA Objectives, particularly in the medium to long term. There are no clear negative effects likely at this level of assessment; neutral scores are given in the short term for SA Objectives 9 and 10. The strategic objectives are broadly in line with Government policy in MPS1, are clearly linked to the vision – pointing to sustainable ways ahead for the minerals industry – such as a focus on reuse and recycling rather than just primary extraction. Section 14 of the MCS Preferred Options paper clearly indicates how the objectives</p>	<p>agriculture (including safeguarding of best and most versatile agricultural land and safeguarding soil resources), native woodland, public access, regeneration, the historic environment, recreation, contributing towards reducing climate change impacts (including the impact of traffic) and ensuring aerodrome safeguarding, with particular regard to preventing an increase in birdstrike hazard to air traffic.</p> <p><b>Strategic Priority 6: Resource Management</b> To manage the county's remaining mineral resources in a co-ordinated and efficient manner so as to ensure that future development will not result in mineral sterilisation; that where minerals are worked, they are put to their most optimal use; and that the amount of waste produced is minimised.</p> <p><b>Strategic Priority 7: Transport</b> To reduce the impacts of hauling minerals by road and encourage more sustainable forms of transport, including necessary</p>	<p><b>of local communities</b> To avoid adverse impacts on local communities and businesses wherever it is practicable to do so and in all other circumstances, ensure that effective, sound and enforceable measures are put in place to successfully mitigate unacceptable adverse impacts.</p> <p><b>Objective RA: Successfully restoring worked-out mineral sites</b> To secure the highest possible quality of mineral reclamation attainable at the earliest practicable opportunity, which will have enabled a successful balance of benefits to be achieved, including in respect of – protecting and enhancing landscape character, biodiversity, geo-diversity, agricultural resources, public access and recreation, and heritage assets; contributing to local economic growth; maintaining or improving resilience to flooding; and avoiding increased risk to aviation safety, particularly</p>	<p>capacity, the availability of viable, workable or alternative resources, accessibility to necessary supporting infrastructure, and market conditions.</p> <p><b>Objective ENV   Protecting the built and natural environment</b></p> <p>To protect, and where opportunity exists, enhance, the quality of landscapes, habitats, heritage and other environmental assets, having full regard to their international, national or local importance and value.</p> <p><b>Objective LC   Protecting the amenity of local communities</b></p> <p>To avoid adverse impacts on local communities including residents and businesses wherever possible and in all other circumstances,</p>

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	<p>will be implemented and the levels of support and partnership working that will be required.</p>	<p>improvements to infrastructure. Where transportation by road is the only practicable option, roads unsuitable for HGVs will be avoided. Improvements to the existing strategic road network may be required to facilitate the transportation of minerals by HGV.</p> <p><b>SA Findings</b></p> <p>The SA findings for the strategic objectives were presented in Appendix 5 and Chapter 5 of the 2014 SA Report, and summarised below:</p> <p>The Proposed Strategic Priorities are generally compatible with and supportive towards the SA objectives with a number of minor and significant positive effects identified (particularly for some of the economic and environmental objectives), and some mixed effects identified (particularly in relation to Strategic Priorities 1, 2 and 5). However, there is also no relationship between a number of the SA objectives and the Strategic</p>	<p>caused by bird hazard.</p> <p><b>Objective MM: Efficient, effective and safe movement of minerals</b> To support the efficiency, effective and safe operation of the county's road networks by – encouraging the least amount of road haulage of minerals possible; use of the most suitable routes wherever it is practicably to do so; avoiding adverse impacts on the county's road networks where achievable; and in all other circumstances, ensuring that effective, sound and enforceable measures are put in place to successfully mitigate unacceptable adverse impacts.</p> <p>The SA findings for the Vision and Objectives are presented in Appendix 5 and Chapter 5 of this SA Report.</p>	<p>ensure unacceptable adverse impacts are mitigated effectively throughout the lifetime of development.</p> <p><b>Objective RA   Successfully restoring worked-out mineral sites</b></p> <p>To secure the highest possible quality of mineral reclamation attainable at the earliest practicable opportunity, which will have enabled benefits to be maximised in respect of : – landscape character, biodiversity, geodiversity, agricultural resources, public access and recreation, and heritage assets; contributing to local economic growth; resilience to future flooding; and avoiding increased risk to aviation safety, particularly caused by</p>

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		Priorities.		<p>bird hazard.</p> <p><b>Objective MM   Efficient, effective and safe movement of minerals</b></p> <p>To support the efficiency, effective and safe operation of the county's road networks by – encouraging the least amount of road miles for hauling minerals; use of the most suitable routes wherever possible; avoiding adverse impacts on the county's road networks where achievable; and in all other circumstances, ensuring that effective, sound and enforceable measures are put in place to successfully mitigate any unacceptable adverse impacts.</p> <p>The SA findings for the Vision and Objectives are presented in Chapter 5 of this SA</p>

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				Report. The scores for the Vision against objective 10 'Historic environment, heritage assets and their setting', and objective 18 'Climate change' have changed from minor positive (+) to significant positive (++). The scores for the objectives have not changed.
<b>Presumption in favour of sustainable development</b>				
Not specifically referred to.	Not specifically referred to.	A specific proposed policy was included at this stage to cover the presumption in favour of sustainable development due it being a key policy concept introduced by the NPPF in 2012. The Planning Inspectorate drafted a model policy on presumption in favour of sustainable development which was recommended for inclusion in all local plans.	This policy has now been removed from the 2016 MLP Consultation Draft, as GCC have stated that the proposed 'model' policy on the presumption in favour of sustainable development has been removed from the draft plan following advice received from the Planning Inspectorate (PINS) in March 2015. This was in response to a direct query raised about the need to continue including such a policy in local plans going forward. The MPAs view is that no	Not specifically referred to.

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			specific policy is necessary and that the presumption in favour of sustainable development is found either explicitly or implicitly in the draft MLP's policies.	
<b>Conserving mineral resources (safeguarding)</b>				
<p><b>ISSUE M3. Meeting Objective 1: Identifying, conserving and safeguarding Gloucestershire's finite mineral resources from unnecessary sterilisation by other forms of development.</b></p> <p><b>(Option 1): Business as usual</b> Roll forward the existing general safeguarding policy in the Minerals Local Plan.</p> <p>As detailed in the Minerals Core Strategy Issues &amp; Options Paper SA Report (September 2006) this option was considered to be broadly positive in terms of the tests against the SA Objectives. However <b>it was dropped</b>, as it did not fully accord with national policy in MPS1. It did not include Mineral Safeguarding Areas (MSAs), although it did have a Minerals</p>	<p><b>The Preferred Option relating to safeguarding was:</b></p> <p><b>MPO13 (Resource Management)</b></p> <p>Preferred Option MPO13 supports the delineation of Mineral Safeguarding Areas (MSAs) for the county's mineral resources of limestone used as a crushed rock; sand &amp; gravel; building stone and coal, which are considered to be of current and future economic or building conservation importance. It proposes the assessment of mineral resources to form part of a strategic policy for the MCS. In terms of delineating MSAs, this will take place in the future as part of the MWDF Proposals Map to accompany</p>	<p>The responses to the Preferred Options consultation in 2008 indicated that option MPO13 was the preferred approach to take forward. However, this was a framework for a policy approach which needed to be developed into policy options.</p> <p>There were three proposed policies relating to minerals safeguarding in the 2014 MLP Consultation Document:</p> <p><b>Proposed Policy for Minerals Safeguarding Areas (MSAs)</b></p> <p><b>Proposed Standing Advice for implementation of the MSA Policy</b></p> <p><b>Proposed Safeguarding Policy for Minerals Infrastructure</b></p>	<p>The 2016 MLP Consultation Draft now includes three draft policies relating to minerals safeguarding:</p> <p><b>Policy MS01: Non-minerals development within Minerals Safeguarding Areas (MSAs)</b></p> <p><b>Policy MS02: Non-minerals development within Minerals Consultation Areas (MCAs)</b></p> <p><b>Policy MS03: Safeguarding mineral infrastructure</b></p> <p>The MSAs and MCAs have been identified on the policies map, and Implementation Schedules for MSAs and MCAs are</p>	<p>The 2018 Publication MLP has made significant revisions to the policy framework for mineral safeguarding.</p> <p>Revisions have been made to policy MS01 that introduce two new clauses: - an economic viability test; and an exemption list (previously articulated through the draft MLP appendix 2: MSA implementation schedule). The supporting text has also been re-worked to accommodate the new clauses and add further implementation</p>

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<p>Consultation Area (MCA) covering the Upper Thames Valley area.</p> <p><b>(Option 2): Devise new policies</b> that set out specific safeguarding criteria for particular mineral types such as natural building &amp; roofing stone and brick-clays.</p> <p>This option scored well in the Issues &amp; Options SA and was <b>effectively carried forward into the Preferred Options.</b></p> <p><b>(Option 3): Business as usual</b> Retain the existing Mineral Conservation Area policy for the sand and gravel resource in the Upper Thames Valley.</p> <p><b>This option was effectively carried forward into the Preferred Options.</b></p> <p><b>(Option 4): Retain the existing Mineral Conservation Area</b> and highlight the potential for a review of Mineral Conservation Area coverage across the County.</p> <p><b>This option was effectively carried forward into the</b></p>	<p>the Development Control Policies (DPD).</p> <p>Gloucestershire is a two-tier planning area, which already has a Mineral Consultation Area (MCA) in the Upper Thames Valley. Consequently, preferred option MPO13 proposes a review of the existing MCA along with the consideration of new MCAs for other parts of the county. The review will take place alongside the delineation of MSAs, and all future MCAs will form part of the MWDF Proposals Map.</p> <p>Preferred option MPO13 also supports the principle of prior-extraction of minerals, where new development is proposed. It will seek to deliver this in the future through suitable development control policies, which highlight specific prior-extraction criteria for certain locations, developments or mineral resources.</p> <p>The final part of option MPO13 is concerned with efficient mineral working – maximising value, usefulness and reducing waste. These matters will be</p>	<p>In addition, between four and five individual options for delineating the MSAs for the following mineral resources were also identified in the MLP Consultation Document:</p> <ul style="list-style-type: none"> <li>• Carboniferous and Jurassic limestones.</li> <li>• Devonian and Carboniferous sandstones.</li> <li>• Unconsolidated and consolidated sand and gravel.</li> <li>• Carboniferous and Jurassic clays.</li> <li>• Coal.</li> </ul> <p>The options for delineating the MSAs generally proposed safeguarding the entire known resource, safeguarding parts of the resource area based on historical workings/age of geological formation/location of resource (e.g. Forest of Dean or Cotswolds etc.), safeguarding buffer zones of either 250m, 500m or 1km around existing and former quarries and other 'strategic resource areas'. These options were not intended</p>	<p>included in Appendix 2 and 3 respectively of the 2016 Consultation Draft.</p> <p>Policy MS01 and its Implementation Schedule essentially take forward the information that was contained in the Proposed Policy and the Proposed Standing Advice for MSAs in the 2014 Consultation Document, although there were more requirements for the non-minerals development to meet listed in the 2014 Consultation Document. The MSAs identified on the Key Diagram in Appendix 1 of the 2016 Consultation Draft show that GCC has selected the options that suggested safeguarding the entire resource. GCC have stated that entire areas containing known mineral resources of potential economic importance have been included within the county's MSAs. No evidence exists to give the MPA sufficient confidence to begin excluding mineral resource areas at this time. The focus</p>	<p>guidance through articulating the extent to which safeguarding measures should be employed beyond known resource boundaries. Additional supporting text is also provided for preparing an appropriately detailed Mineral Resource Assessment (MRA).</p> <p>Policy MS02: Non-minerals development within Mineral Consultation Areas (MCAs) has been removed.</p> <p>The policy for Safeguarding mineral infrastructure has been renumbered to MS02. It has been re-worked for improved clarity regarding the setting out its requirements. The policy now contains three clauses. The supporting text has also been revised. The safeguarding zone equal to 150 metres</p>

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<p><b>Preferred Options.</b></p> <p><b>(Option 5):</b> Recommend the removal of the Upper Thames Valley Mineral Conservation Area.</p> <p>This option scored poorly in the Issues &amp; Options SA, with a number of potentially negative effects indicated. <b>It was dropped</b>, as it did not accord with the spirit of national policy in MPS1, which encouraged MPAs to utilise MCAs where two-tier local government exist and where there are proven mineral resources.</p>	<p>covered by an overarching policy that will seek the highest value and usefulness of minerals and working practices that will minimise the amount of mineral waste being generated.</p> <p><b>SA Findings for MPO13</b> (as presented in the 2008 Preferred Options SA Non-technical Summary)</p> <p>In the test against the SA Objectives this option is broadly positive / major positive with the policy seeking to gain the highest value and usefulness from mineral resources in Gloucestershire which are integral to building homes / sustainable communities. No significant negative impacts are envisaged at this level of broad assessment. Major positive effects are likely in terms of building sustainable homes and communities, safeguarding sites, conserving mineral resources and reducing waste to landfill – given that the policy promotes prudent and efficient working – minimising waste.</p>	<p>necessarily to be alternatives to each other; instead, it was possible that the preferred option could include a combination of more than one of the options.</p> <p>Mineral Consultation Areas were not referred to.</p> <p><b>SA Findings</b></p> <p>The SA findings for the MSA proposed policies and delineating MSA options were presented in Appendix 5 and Chapter 5 of the 2014 SA Report, and summarised below:</p> <p>The SA effects of the first two policies are the same, because the Standing Advice Proposed Policy simply seeks to ensure that the Policy for Mineral Safeguarding Areas is effectively implemented and adhered to, and its effects are based on the general principle of minerals safeguarding as are the effects of the Proposed Policy for MSAs.</p> <p>Mixed minor positive/minor negative effects are expected on half of the SA objectives from the Proposed Policies for</p>	<p>of attention has been more on the approach to different types of development rather than mineral resources.</p> <p>Policy MS02 and its Implementation Schedule reintroduce MCAs, taking forward that element of MPO13 from the Minerals Core Strategy Preferred Options document (2008). The MCAs take forward the options for delineating MSAs that were to safeguard buffer zones of either 250m, 500m or 1km around existing and former quarries and other 'strategic resource areas' and goes with the buffer zone of 250m around all active mineral sites, plus sites with unimplemented planning permissions for mineral working, dormant minerals sites, and areas identified in the plan as specific sites, preferred areas and areas of search for future mineral working. GCC has stated that a 250m inclusion area around all MCAs represent a pragmatic approach put forward by the MPA that seeks to strike a</p>	<p>from a infrastructure site (to define 'nearby') has been replaced by the circumstance of 'adjoining or potential co-location' acting as the trigger for assessing infrastructure safeguarding</p> <p>The MSAs and safeguarded minerals infrastructure are delineated on the adopted policies map.</p> <p>The SA findings for the two policies relating to safeguarding are presented in Appendix 5 and Chapter 5 of this SA Report. There are no changes to the SA scores.</p>



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		<p>MSAs and Standing Advice, including both of the social objectives (1 and 2), three of the economic objectives (3, 4 and 5) and four of the environmental objectives (8, 10, 12 and 17). Significant positive effects are expected for SA objectives 6 (conservation of mineral resources) and 11 (geodiversity) due to the principle of safeguarding ensuring that mineral resources will be protected from unnecessary sterilisation by other development, by ensuring that minerals resources will be adequately and effectively considered in all land-use planning decisions.</p> <p>The Proposed Policy on safeguarding minerals infrastructure has almost all the same effects as the MSA and Standing Advice policies, except that it is unlikely to have an effect on SA objectives 5 (aerodrome safety) or 11 (geodiversity). This is because the location and nature of the proposed minerals infrastructure to be</p>	<p>balance between the competing interests of ensuring mineral workings are not unduly affected by incompatible non-minerals development and that land available for non-minerals development is not unduly restricted. This is largely based on the expertise of GCC Development Management officers and their handling of amenity issues/mitigation options.</p> <p>Policy MS03 takes forward the Proposed Safeguarding Policy for Minerals Infrastructure from the 2014 Consultation Draft, but adds criteria relating to whether the safeguarded mineral infrastructure site is no longer suitable or viable; or a suitable replacement mineral infrastructure site has been identified and permitted, rather than requiring the non-minerals development proposal to demonstrate that there will be no incompatibility between the two uses or that adequate controls can be implemented to ensure</p>	

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		<p>safeguarded (Table 1 on pages 31 and 32 of the MLP Consultation Document) is unlikely to affect aerodromes in Gloucestershire, and similarly, the nature of the infrastructure (rail heads, wharves, concrete batching plants etc.) will not contribute to or affect geodiversity.</p> <p>It is difficult to predict the SA effects of all of the different options for delineating the MSAs, as the same uncertainties exist with respect to whether non-minerals development proposals will come forward in these areas or if minerals extraction will occur prior to that development taking place. Therefore, the sustainability effects under any of the options are likely to be the same as described above for the MSA proposed policy, although the effects are more likely to occur within the safeguarding areas. Thus, effects may be more widespread under the options which seek to safeguard the entire resource, and particularly for those</p>	<p>this to be the case. GCC has stated that this is because the re-worked policy is designed to offer greater clarity for decision makers (which will ultimately not be the MPA in Gloucestershire). Overall this element of the plan provides both policy and guidance on a range of circumstances that might arise in terms of the continued need to safeguarding and the ability to demonstrate that provision will be made elsewhere</p> <p>The SA findings for the three policies relating to safeguarding are presented in Appendix 5 and Chapter 5 of this SA Report.</p>	

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		resources that cover a wider area in the County (e.g. the Jurassic limestone which covers most of the eastern half of the County). As shown on the draft Key Diagram in the MLP Consultation Document (June 2014), if all five mineral resource types were safeguarded in their entirety, a large portion of the County would be covered by MSAs, apart mainly from the area around the M5 and River Severn corridor.		
<b>Provision for Aggregates</b>				
<p><b>ISSUE M4. Meeting Objective 2: Ensuring that the appropriate provision is made to meet the local, regional and national demand for minerals from environmentally acceptable sources in Gloucestershire.</b></p> <p><b>Aggregate Provision Options</b></p> <p><u>Options for what provision should be made:</u></p> <p><b>(Option 1): Business as usual</b> Provision to meet the new local apportionment for</p>	<p><b>The preferred options for Aggregates Provision included:</b></p> <p><b>Crushed Rock - Preferred Options</b></p> <p><b>MPO3a</b></p> <p>Preferred option MPO3a seeks to ensure sufficient provision is made to deliver the remaining local apportionment for crushed rock in Gloucestershire (presently 2006 to 2016). It also supports maintaining a 10-year landbank for crushed rock at</p>	<p>There were five Aggregate Minerals Supply Strategic Policy Aims and Policies in Section 4 of the 2014 MLP Consultation Document:</p> <ul style="list-style-type: none"> <li>• Strategic Policy Aim for Primary Aggregate Minerals-Meeting the Need.</li> <li>• Strategic Policy Aim for Primary Aggregate Minerals - Identifying Future Supply Areas.</li> <li>• Proposed Policy for Preferred Areas for</li> </ul>	<p>The 2016 MLP Consultation Draft now includes four draft policies relating to aggregate provision in Sections 6, 8 and 9:</p> <p><b>Policy SR01: Maximising the use of secondary and recycled aggregates</b></p> <p><b>Policy MW01: Aggregate provision</b></p> <p><b>Policy MA01: Aggregate working within site allocations</b></p> <p><b>Policy MA02: Aggregate</b></p>	<p>The 2018 Publication Draft still contains the same four policies relating to aggregate provision but some changes have been made to the policies.</p> <p>No key changes have been taken forward for policy SR01. However, the supporting text has been slightly expanded to include an example reference to other land-use policies that support</p>

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<p>Gloucestershire.</p> <p><b>(Option 2):</b> Provision to meet the present level of production.</p> <p><b>(Option 3):</b> Provision that takes account of potential constraints on reserves.</p> <p><b>(Option 4):</b> A combination of Options 1, 2 &amp; 3.</p> <p>In the SA test of these options at Issues &amp; Options, Options 1 and 2 were broadly positive in the short to medium term or neutral in terms of its effects. In the longer term there were uncertainties. Option 2 was broadly positive (at worst neutral) in the short to medium term, but effects would be uncertain in the long term. Option 4 (the combination option) was favoured. Its effects were uncertain in the longer term, but in the short to medium term effects were either neutral, positive or major positive (for Objectives 6, 7, 8 &amp; 9). However all of these options have (in part) been carried forward into the Preferred Options.</p> <p><u>Options for how provision</u></p>	<p>the end of the guideline period at 2016.</p> <p>Delivering this option would be based on a 70:30 split of the provision requirement between the Forest of Dean and Cotswold crushed rock resource areas. This approach was previously used with the adopted Minerals Local Plan.</p> <p>Based on the assessment carried out in Technical Paper MCS-B, option MPO3a may result in new working areas having to be identified within the Forest of Dean resource area. These working areas may include:</p> <ul style="list-style-type: none"> <li>• A new lateral or deepening extension(s) to one or more of the existing crushed rock quarries; and / or</li> <li>• An increase in size of one or more of the undeveloped preferred areas set out in the adopted Minerals Local Plan; and / or</li> <li>• A new greenfield site.</li> </ul> <p><b>SA Findings for MPO3a</b> (as presented in the 2008 Preferred Options SA Non-</p>	<p>Aggregates.</p> <ul style="list-style-type: none"> <li>• Proposed Policy for Proposals for the Working of Aggregates Outside of Preferred Areas.</li> <li>• Strategic Policy Aim for Alternative Aggregates.</li> </ul> <p>There were also 18 proposed sand and gravel and crushed rock site options presented under the Proposed Policy for Preferred Areas for Aggregates, split into four main areas as listed below. Some sites contain more than 1 parcel of land. These sites have been identified over the last couple of years when the Council has asked the minerals industry and landowners to submit sites which they consider are suitable for strategic aggregates extraction. In addition sites were allocated in the former 2003 MLP and any parcels of land from the plan which remain unpermitted have also been considered in this process.</p> <p><b>Crushed Rock sites in Forest of Dean</b></p>	<p><b>working outside of site allocations</b></p> <p>Policy SR01 is a new policy aiming to increase awareness of and to encourage greater uptake of recycled and secondary aggregates within new development. The previous Strategic Policy Aim for Alternative Aggregates focused on supporting the development of secondary and fixed recycled aggregates facilities in Gloucestershire. However, the 2016 MLP Consultation Draft now states that infrastructure matters related to the supply of secondary and recycled aggregates are dealt with through other local development plan policies covering the county, in particular Policy WCS 4 and WCS 11 in the adopted Gloucestershire Waste Core Strategy (WCS).</p> <p>Policies MW01 and MA01 take forward the Strategic Policy Aim for Primary Aggregate Minerals-Meeting the Need and Identifying</p>	<p>waste minimisation and material re-use in new development across Gloucestershire.</p> <p>Policy MW01 has been revised to introduce the preferred methodology for calculating 7 and 10 year landbanks. The number of clauses has also increased from 2 to 3, to better articulate the policy requirements.</p> <p>Policy MA01 has been revised to reflect the reduction in the number of allocations from 10 to 7 and the renumbering and renaming of some allocations.</p> <p>These are:</p> <p>Allocation 01: Land east of Stowe Hill Quarry;</p> <p>Allocation 02: Land west of Drybrook Quarry;</p> <p>Allocation 03: Depth</p>

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<p><u>should be made:</u></p> <p><b>(Option 5):</b> No subdivision – make provision from all aggregate resources present across the County.</p> <p><b>Parts of this option were dropped for crushed rock</b>, i.e. those references to retain the local, 70:30 split. (Note: There was no subdivision for sand &amp; gravel).</p> <p><b>(Option 6): <u>Business as usual</u></b> Subdivide the amount of provision between the key aggregate resource areas in Gloucestershire.</p> <p>Option 5 effects in the medium to long term were uncertain. No significant negative impacts were likely in the short term, most of the potential impacts were considered to be neutral or positive. Option 5 was unlikely to have either negative or positive impacts on the environment but may fail to reflect market and end-use needs for different aggregate resources available in the County. The Business as usual option was broadly favoured in the SA test at Issues &amp; Options as while there were</p>	<p>technical Summary)</p> <p>In the short to medium timeframe this option is broadly positive or neutral in terms of its effects. In the longer term there are a number of uncertainties and there are also uncertainties in the short / medium and long term against SA Objectives 5 – amenity protection, 8 – landscape / biodiversity issues, 9 – assets, 12 – reducing lorry impacts, 15 – reducing Climate Change impacts. It is most positive in terms of contributions to sustainable communities, employment and economic development opportunities in the county, promoting health and well-being and providing for the supply of aggregates and other minerals sufficient for the needs of society. It is not possible to fully appraise the impact of this policy in isolation - although in general terms making an appropriate contribution to supply of minerals is deemed positive – further detailed assessment of where and how the mineral will be extracted is essential.</p>	<p>CRFD1: Stowe Hill/Clearwell CRFD2: Drybrook CRFD3: Stowfield CRFD4: Hewelsfield</p> <p><b>Crushed Rock sites in Cotswolds</b></p> <p>CRCW1: Daglingworth CRCW2: Huntsmans CRCW3: Three Gates CRCW4: Oathill</p> <p><b>Sand and Gravel sites in Upper Thames Valley</b></p> <p>SGCW1: Dryleaze Farm/Shorncote SGCW2: Cerney Wick SGCW3: Horcott/Lady Lamb Farm SGCW4: Kempsford/Whelford SGCW5: Down Ampney SGCW6: Charlham Farm SGCW7: Wetstone Bridge SGCW8: Spratsgate Lane</p> <p><b>Sand and Gravel sites in Severn Vale</b></p> <p>SGTW1: Page’s Lane</p>	<p>Future Supply Areas, as well as the Proposed Policy for Preferred Areas for Aggregates. Policy MA01 lists the following allocations (all of which were considered at the previous stage):</p> <p><b>Crushed–Rock - Forest of Dean</b></p> <p>Allocation 01: Preferred Area at Stowe Hill/Clearwell Allocation 02 : Preferred Area at Drybrook Allocation 03 : Preferred Area at Stowfield</p> <p><b>Crushed Rock – Cotswolds</b></p> <p>Allocation 04 : Preferred Area at Daglingworth; Allocation 05 : Preferred Areas at Huntsman’s</p> <p><b>Sand and Gravel - Upper Thames Valley</b></p> <p>Allocation 06 : Specific Site at Manor Farm, Kempsford Allocation 08 : Area of Search at Lady Lamb Farm, Fairford Allocation 09 : Areas of</p>	<p>extension to Stowfield Quarry;</p> <p>Allocation 04: Land northwest of Daglingworth Quarry;</p> <p>Allocation 05: Land south and west of Naunton Quarry;</p> <p>Allocation 06: Land southeast of Down Ampney;</p> <p>Allocation 07: Land at Lady Lamb Farm, west of Fairford.</p> <p>No key changes have been made to policy MA02.</p> <p><b>SA findings</b></p> <p>The SA findings for the four policies on aggregate supply and the seven allocations are presented in Appendices 5 and 6 and Chapter 5 of this SA Report.</p> <p>The score for Policy SR01 against SA objective 17 ‘Impacts of lorry traffic on the environment and</p>

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<p>uncertainties over some effects in the long term, in the short to medium term effects were positive or neutral. Major positive effects were likely in terms of SA Objectives 7 &amp; 8. However, <b>parts of both options 5 and 6 were carried forward into the Preferred Options.</b></p> <p><u>Options for the consideration of undeveloped MLP areas:</u></p> <p><b>(Option 7):</b> Business as usual: Roll forward all undeveloped adopted Minerals Local Plan preferred areas before considering new sites within the Mineral Sites Allocation Development Plan Document.</p> <p>The SA test of this option at Issues &amp; Options, found that in the short to medium term there were likely to be positive or major positive effects in terms of the majority of the SA Objectives. <b>This option was carried forward into the Preferred Options.</b></p> <p><b>(Option 8):</b> Carry out a review of undeveloped Minerals Local Plan preferred areas along with</p>	<p><b>MPO3b</b></p> <p>Preferred option MPO3b looks to adopt a more strategic / sub-regional approach to meeting the county's provision requirements. Its aim is to resolve the projected local shortfall in crushed rock provision by considering the merits of re-apportionment for Gloucestershire. This would be based on a comparative assessment between remaining crushed rock resources in the county and those within less constrained resource areas found within South Gloucestershire, North Somerset and / or Somerset.</p> <p>In delivering option MPO3b, environmental constraints, technical acceptability and economic viability issues within each subregional resource area, will need to be fully and comparatively assessed. A full subregional level Sustainability Appraisal and Appropriate Assessment of each resource area will also be required. Furthermore, due to the strategic nature of this option, the South West Regional</p>	<p>SGTW2: Redpools Farm</p> <p><b>SA Findings</b></p> <p>The SA findings for the five Aggregate Minerals Supply Strategic Policy Aims and Policies were presented in Appendix 5 and Chapter 5 of the 2014 SA Report, and summarised below:</p> <p>There is a mix of potentially positive, negative and mixed effects arising from the policies, however, for a number of the SA objectives, negligible and no effects are expected to occur. No potentially significant positive or significant negative effects have been identified. Many of the identified effects are also uncertain, as the potential for effects will depend on the exact nature and design of sites, which would not be known until the planning application stage. Also, the proposed policies which have been identified to have potential negative effects on SA objectives will be supported by other policies within the MLP, when</p>	<p>Search at Land between Kempsford &amp; Whelford</p> <p>Allocation 10 : Areas of Search at Down Ampney and Charlham Farm</p> <p><b>Sand and Gravel - Severn Vale</b></p> <p>Allocation 07 : Preferred Area at Redpool's Farm, Twyning</p> <p>The reasons for selecting these ten allocations from the individual and combined parcels of land within the 18 Preferred Areas considered in the 2014 MLP Consultation Document are clearly set out in Appendix 1 of the 2016 MLP Consultation Draft. In order to comply with the SEA Regulations, that table of reasons for selecting or discounting particular parcels of land has been repeated in this Appendix, below this table.</p> <p>Policy MA01 also states that proposals within allocations must satisfy the detailed development requirements set out in the plan for each</p>	<p>communities', has changed from minor negative uncertain (-?) to mixed uncertain effects (+/-?) to recognise that secondary and recycled aggregates are likely to be sources close to urban areas, where they are likely to be used. There are no changes to the scores for policies MW01, MA01 and MA02.</p>

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<p>a consideration of new sites within the Mineral Sites Allocation Development Plan Document.</p> <p>Although this option performed reasonably well in the Issues &amp; Options SA test, <b>it was dropped</b>, as under transitional arrangements the existing undeveloped preferred areas remained part of the development plan until formally replaced. As set out in Minerals Technical Evidence Paper MCS-A and B and the Preferred Options 'Spatial Strategy' the undeveloped preferred areas also needed to secure the potential provision requirements of the MCS.</p> <p><b>(Option 9):</b> A phasing approach / strategy for determining the release of new aggregate reserves.</p> <p>The scores for this option in terms of the SA of the Issues &amp; Options were 'mixed' with a reasonably high degree of uncertainty. <b>The option was dropped</b>, as the approach was not advocated in national policy in MPS1. This approach was potentially inflexible and could</p>	<p>Assembly (SWRA) as the RPB will need to take a leading role in undertaking the comparative assessment alongside the full co-operation of the respective minerals planning authorities</p> <p><b>SA Findings for MPO3b</b> (as presented in the 2008 Preferred Options SA Non-technical Summary)</p> <p>This is a very difficult option to assess. In terms of considering the merits of re-apportionment for Gloucestershire, a detailed comparative assessment of the remaining crushed rock resources in the county and those within potentially less constrained resource areas within South Gloucestershire, North Somerset / Somerset is required. Within this assessment environmental constraints / capacity, technical feasibility and economic viability will have to be considered. The SA scores reflect a broad strategic consideration of the likely effects for Gloucestershire. Against the SA Objectives there are positive /major positive effects anticipated in terms of broad sustainable</p>	<p>determining proposals, which should help to mitigate some of the negative effects identified. Furthermore, many of the policies (e.g. Proposed Policy for Preferred Areas) include criteria that need to be met and may also provide mitigation, for example: only permitting operations where the need to maintain the aggregate landbanks is demonstrated and where the key development criteria of the MLP are satisfied.</p> <p>The SA findings for each of the 18 sites (including the individual land parcels within them) were presented in Appendix 6 and Chapter 5 of the 2014 SA Report, and summarised below:</p> <p>There is a mix of potentially positive and negative effects arising from the use of the site options for mineral extraction, however, for a number of the SA objectives, no effect is expected to occur. The potential for significant negative effects has only been identified for some of the sites on the SA objectives relating</p>	<p>allocation (in Appendix 6 of the MLP Consultation Draft). These requirements include a number of measures that will provide mitigation for potential environmental and amenity impacts.</p> <p>Policy MA02 takes forward the Proposed Policy for Proposals for the Working of Aggregates Outside of Preferred Areas, but adds one new criterion that enables aggregate working outside of site allocations where they will facilitate the working of minerals prior to non-minerals development taking place in accordance with the safeguarding policy MS1.</p> <p>The SA findings for the four policies on aggregate supply and the 10 allocations are presented in Appendices 5 and 6 and Chapter 5 of this SA Report.</p>	

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<p>be contrary to MPS1 where it failed to release new aggregate reserves in the context of landbank requirements.</p>	<p>development / sustainable communities and in terms of the supply of aggregates. Many of the other scores are either positive or neutral. Uncertainties exist over employment issues in the longer term – quarrying jobs may be lost in Gloucestershire, and in terms of the amenity of local communities.</p> <p><b>MPO3c</b></p> <p>Preferred option MPO3c proposes a local reassessment within the county resources of delivering Gloucestershire's local apportionment. This option would mean a more flexible approach to making provision by utilising all of the county's existing permitted reserves and potential reserves within undeveloped preferred areas. This is in preference to focusing upon the limitations of specific resource areas, as identified within the adopted Minerals Local Plan.</p> <p>A potential result of this option would be a revised split of local provision requirements between the Forest of Dean</p>	<p>to biodiversity (SA Objective 7), landscape (SA Objective 8), cultural and recreational assets (SA Objective 10), historic environment and heritage assets (SA objective 12) and soil/land quality (SA Objective 14). Mitigation of the potentially negative effects could be achieved through implementation of good operational practices, and requiring certain surveys or detailed assessments to be undertaken as part of the planning application process. These requirements are included within the policies in the MLP Consultation Document (June 2014), and will need to be included within any specific briefs for the sites that are ultimately selected for allocation in the MLP.</p>		



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	<p>and Cotswold resource areas. A realistic assessment of deliverability would need to be made regarding this option. However, it may also highlight a more fundamental review of the local apportionment, such as reappportionment for Gloucestershire as considered under option MPO3b.</p> <p><b>SA Findings for MPO3c</b> (as presented in the 2008 Preferred Options SA Non-technical Summary)</p> <p>In the test of this option against the SA Objectives, this option produces mixed, but not negative results. There are major positive effects anticipated in the short to medium term in terms of broad sustainable development / sustainable communities, and in terms of the supply of aggregates needed by society. Many of the other scores are either uncertain or neutral. The uncertainties in the longer term partially stem from questions over deliverability and whether the mineral resources are workable? Employment and economic development scores are</p>			

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	<p>broadly positive. In terms of amenity and environmental protection issues clearly further testing at the sites level will be necessary.</p> <p><b>Sand &amp; Gravel Provision - Preferred Options</b></p> <p><b>MPO4a</b></p> <p>Preferred option MPO4a seeks to ensure sufficient provision is made to meet the remaining local apportionment of sand &amp; gravel for Gloucestershire (presently 2006 to 2016). It also supports maintaining a 7-year landbank for sand &amp; gravel at the end of the guideline period at 2016.</p> <p>Based on the assessment carried out in the Technical Paper MCS-A, option MPO4a may result in additional areas for future mineral working having to be identified.</p> <p><b>SA Findings for MPO4a</b> (as presented in the 2008 Preferred Options SA Non-technical Summary)</p> <p>Sand and gravel resources are used for a wide range of end-uses and infrastructure essential for modern life, but</p>			

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	<p>Gloucestershire does have a wide range of environmental assets which may be affected by extraction and transportation and there may be negative impacts on local amenity. However the issues for sand and gravel extraction are very different from hard rock quarries, and potentially there are significant landscape and biodiversity gains achievable. In the short to medium timeframe a number of SA scores are major positive in terms of contributions to sustainable communities, employment and economic development opportunities, promoting health and well-being and providing for the supply of aggregates and other minerals sufficient for the needs of society. In the longer term there are a number of uncertainties and there are also uncertainties in the short / medium and long term against SA Objectives 5 – amenity protection, 8 – landscape / biodiversity issues, 9 – assets, 12 – reducing lorry impacts, 15 – reducing Climate Change impacts.</p>			

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	<p><b>MPO4b</b></p> <p>Preferred option MPO4b looks to adopt a similar methodology to that of option MPO4a, by seeking to ensure sufficient provision is made to meet the local apportionment for Gloucestershire. However, it supports a longer landbank provision through to 2026, which is 10 years beyond the end of the guideline period. The aim of option MPO4b is to synchronise the local policy for sand &amp; gravel provision with that of the spatial vision of the MCS and the emerging RSS.</p> <p><b>SA Findings for MPO4b</b> (as presented in the 2008 Preferred Options SA Non-technical Summary)</p> <p>In terms of the SA Objectives, this option is scored identically to MPO4A because it is fundamentally similar other than supporting a longer landbank provision. However the uncertainties in the longer term are potentially more marked. (See comments for MPO4a).</p> <p><b>MPO4c</b></p>			

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	<p>Preferred Option MPO4c proposes a more strategic / sub-regional approach to sand &amp; gravel provision. It offers more proactive support for resolving the projected shortfall in the sand &amp; gravel provision across the region.</p> <p>Beyond the local requirements observed in options MPO4a and MPO4b, this option proposes a potential additional commitment for Gloucestershire. It is based upon maintaining appropriate, steady and consistent supplies of sand &amp; gravel right across the strategic resource area of the Upper Thames Valley. This may result in Gloucestershire subsuming some of the local provision requirements for the neighbouring areas of Wiltshire and Swindon.</p> <p>The aim of option MPO4c is to expand existing joined-up working for minerals in the Upper Thames Valley. Through close coordination this may also support opportunities to develop a holistic spatial strategy for the area that goes</p>			

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	<p>beyond mineral developments.</p> <p>Delivering option MPO4c will require changes to the local apportionment for Gloucestershire. It may also require fundamental changes to working arrangements in the Upper Thames including a formal joint working policy and / or a change in how decisions are taken in the area.</p> <p><b>SA Findings for MPO4c</b> (as presented in the 2008 Preferred Options SA Non-technical Summary)</p> <p>This option represents a more proactive approach for resolving the projected shortfall in sand and gravel provision in the Region. Scores against the SA Objectives are positive (not uncertain) in the long term –as the source of resource is known i.e. the Upper Thames Valley. The option is broadly positive / major positive (against 10 of the 15 SA Objectives). Uncertainties are recorded in terms of amenity issues (depends on sites?), flooding / hydrology and initiatives to reduce waste to landfill. On the</p>			

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	<p>flooding issue, the County Council is commissioning consultants to undertake a Strategic Flood Risk Assessment (SFRA) and it is expected that this will tie in with Wiltshire's SFRA. This is particularly important in the context of this wider strategic / sub regional option.</p> <p><b>Sand &amp; Gravel Locations - Preferred Options</b></p> <p>Preferred options MPO5a and MPO5b do not offer additional policy alternatives for the provision or supply of sand &amp; gravel. Instead they consider locational options for delivering preferred options MPO4a, MPO4b or MPO4c.</p> <p><b>MPO5a</b></p> <p>Preferred option MPO5a proposes a more dispersed strategy for future sand &amp; gravel working. Whilst recognising the strategic significance of the Upper Thames Valley resource area, it seeks to acknowledge the provision potential of the Severn Vale Corridor resource area. Where the spatial strategy indicates that new</p>			

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	<p>site allocations should be identified, the relative merits of potential sites within each resource area will be considered.</p> <p><b>SA Findings for MPO5a</b> (as presented in the 2008 Preferred Options SA Non-technical Summary)</p> <p>In terms of the test against the SA Objectives, broadly positive impacts are anticipated from this more dispersed strategy for sand and gravel locations. The approach is flexible but still provides minerals resource needed for house building / infrastructure etc. There are uncertain impacts in terms of Objective 10 due to the fact that potential sites in the Severn Vale may be / are very prone to serious flooding. This could be negative in terms of additional costs / impacts associated with pumping and positive in terms of presenting opportunities for flood storage. These issues are likely to be addressed through Gloucestershire's SFRA. There are other uncertainties in terms of amenity issues, lorry traffic issues (will a dispersed</p>			



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	<p>strategy also disperse negative HGV issues?), reducing waste to landfill and reducing contributions to climate change. In terms of this option's potential for flood storage capacity, this clearly is one potentially effective form of mitigation against climate change induced flood events. The one major positive score in the SA test relates to providing supply.</p> <p><b>MPO5b</b></p> <p>Preferred Option MPO5b proposes a preference towards future sand &amp; gravel working within the Upper Thames Valley resource area. Where new mineral site allocations are required in the future, these will be focused within the Gloucestershire section of this resource area.</p> <p><b>SA Findings for MPO5b</b> (as presented in the 2008 Preferred Options SA Non-technical Summary)</p> <p>In terms of SA Objective 1, which is the objective which tests broad sustainability, the option is likely to have major positive effects in the medium</p>			

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	<p>to long term given the potential opportunities for joint working e.g. with Wiltshire / Swindon, building on economies of scale and a master planning process that takes account of a variety of issues over and beyond minerals planning. However there are a number of uncertainties in terms of flooding / hydrological issues, traffic impacts, reducing waste to landfill and reducing contributions to climate change. Flooding issues should be addressed through the SFRAs undertaken by Gloucestershire and Wiltshire. The reductions to landfill issue is a complex one due to questions over the classification of inert material as 'landfill' or 'reuse'.</p>			
<b>Provision for Clay</b>				
<p><b>ISSUE M4b. Ensuring that the appropriate provision is made to meet the local, regional and national demand for Clay Minerals</b></p> <p><b>(Option 10): <u>Business as usual</u></b> Roll forward the existing criteria</p>	<p><b>The Preferred Option for Clay was:</b></p> <p><b>MPO6 Clay</b></p> <p>Preferred Option MPO6 proposes two criteria-based policies – one for brick clays;</p>	<p>There were seven Non-Aggregate Minerals Policies included in Section 5 of the 2014 MLP Consultation Document, including two in relation to clay:</p> <ul style="list-style-type: none"> <li>Proposed Policy for Brick</li> </ul>	<p>The 2016 MLP Consultation Draft still includes two draft policies relating to clay in Section 8:</p> <p><b>Policy MW03: Clay for civil engineering</b></p>	<p>The 2018 Publication MLP has retained the same two policies relating to clay but they have been amended.</p> <p><b>Policy MW03: Clay</b></p>

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<p>based policy in the Minerals Local Plan.</p> <p>The scores for this option in terms of the SA of the Issues &amp; Options were broadly positive / neutral in the short term, with some uncertainties in the medium to longer term. <b>This option was effectively carried forward into the Preferred Options.</b> However some changes were introduced to reflect detailed guidance set out in MPS1 Annex 2.</p> <p><b>(Option 11):</b> Identify preferred areas for future clay working based on an assessment of resources, site capacities and the forecast future demand for clay.</p> <p>The SA of the Issues &amp; Options questioned whether such a strategy was necessary or sustainable. <b>The option was dropped</b>, as the evidence base did not suggest there was a sufficient provision issue over the MCS time period to pursue the allocation of preferred areas for future working.</p>	<p>and one for other engineering purposes. The brick clay policy will consider the acceptability of future clay extraction in relation to local brickworks and the exportation of clay minerals to strategic brickwork sites that may lie outside of the county. It will also consider the acceptability of mineral importation and on-site stockpiling.</p> <p>The other engineering policy will consider the acceptability of future clay extraction in the context of need, local environmental capacity; public amenity; transportation, restoration potential; and opportunities to reuse materials back on-site.</p> <p><b>SA Findings for MPO6</b> (as presented in the 2008 Preferred Options SA Non-technical Summary)</p> <p>The effects are likely to be broadly positive; major positive scores are indicated against 6 of the SA Objectives across the short, medium to long term. As this is a criteria based approach benefits could be quickly realised. Clay is</p>	<p>Clay.</p> <ul style="list-style-type: none"> <li>Proposed Policy for Engineering Clay.</li> </ul> <p>Although no sites for clay extraction are proposed for the MLP, there was a policy in the 2003 adopted MLP (NE2) that needs to be replaced in order to ensure there is an adequate policy framework in place for any applications for clay extraction to be determined. Therefore, the two clay policies proposed criteria against which applications for clay extraction will be assessed.</p> <p><b>SA Findings</b></p> <p>The SA findings for the two Proposed Policies for Clay were presented in Appendix 5 and Chapter 5 of the 2014 SA Report, and summarised below:</p> <p>There is a mix of potentially positive effects (on the economic objectives), some negative effects (on amenity/health and soil) and mixed effects (on the environmental objectives) arising from the Clay policies,</p>	<p><b>purposes</b></p> <p><b>Policy MW04: Brick clay</b></p> <p>Policy MW03 takes forward the Proposed Policy for Engineering Clay, however, some of the requirements in the Proposed Policy have not been included (i.e. requirements of the general minerals policies of the plan are satisfied, provision for the phased restoration of the site, and requirements for clay extraction at an existing mineral site). This is partly because cross-reference to other policies in the MLP is not considered necessary, but also because GCC has stated that it is unnecessary to seek a policy requirement to meet other named policies and / or their requirements in the plan. Removing these kinds of criteria is fundamental to the draft plan's application as outlined under draft MLP paragraph 12..</p> <p>Policy MW04 takes forward the Proposed Policy for Brick Clay, however, it now only requires proposals to</p>	<p><b>for civil engineering purposes</b></p> <p><b>Policy MW04: Brick clay</b></p> <p>Policy MW03 has been re-worked and now requires that regard be given to the demand for clays used in civil engineering purposes rather than simply the need to demonstrate the contribution being made to steady and adequate supplies. An environmental acceptability test has also been added along with evidence of local economic benefits.</p> <p>Policy MW04 has been re-worked and now requires evidence as to how supplies with support specific brickworks and local economic benefits will be achieved. The supporting text has also been significantly re-worked to provide greater clarity and</p>

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	<p>needed by brickworks in Gloucestershire, and bricks remain an essential component of modern house building / construction. Clay is also needed in considerable volumes for flood defence engineering and for landfill capping. Waste management is moving away from landfill as a disposal route but some landfill disposal (and associated restoration) disposal may remain necessary for some time into the future. This is a significant issue for Gloucestershire which has a large amount of void at the Wingmoor farm sites. In terms of SA Objective 12, negative impacts may result given the fact that sustainable transport opportunities may be limited and the policy accepts importation and stockpiling.</p>	<p>however, for a number of the SA objectives, negligible and no effects are expected to occur. Many of the identified effects are also uncertain, as the potential for effects will depend on the exact nature and design of sites, which would not be known until the planning application stage. Also, the proposed policies which have been identified to have potential negative effects on SA objectives will be supported by other policies within the MLP, when determining proposals, which should help to mitigate some of the negative effects identified. Furthermore, many of the policies include criteria that need to be met and may also provide mitigation.</p>	<p>demonstrate that they will make a contribution towards a landbank of brick clay, whereas the previous Proposed Policy included a requirement for no adverse environmental, amenity, transport or other impacts arising from the proposals. The previous policy also required proposals for manufacture of bricks outside the county to demonstrate that the proposal is the most sustainable option for the export supply of clay. This is because GCC has stated that it is unnecessary to seek a policy requirement to meet other named policies and / or their requirements in the plan. Removing these kinds of criteria is fundamental to the draft plan's application as outlined under draft MLP paragraph 12. Furthermore, the requirement to demonstrate how 'exporting' brick clay represents the most sustainable option, which is not in line with the more 'promotional' / 'supportive' approach being advocated</p>	<p>detail as to what is expected in order to meet the policy.</p> <p><b>SA Findings</b></p> <p>The SA findings for the two policies for Clay are presented in Appendix 5 and Chapter 5 of this SA Report.</p> <p>The score for Policy MW03 against SA objective 10 'Material, cultural and recreational assets' has changed from negligible uncertain effects (0?) to mixed uncertain effects (+/-?). The score for this policy against objective 12 'Historic environment, heritage assets and their setting has changed from negligible uncertain effects (0?) to uncertain positive effects (+?) and the score for this policy against objective 17 'Impacts of lorry traffic on the environment</p>

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			<p>within the NPPF under paragraph 146 bullet points 3 and 4</p> <p>The SA findings for the two policies for Clay are presented in Appendix 5 and Chapter 5 of this SA Report.</p>	<p>and communities has changed from uncertain positive effects (+?) to negligible uncertain effects (0?).</p> <p>The score for Policy MW04 against SA objective 15 'Air quality' has changed from mixed uncertain effects (+/-?) to uncertain negative effects (-?). The score for this policy against SA objective 17 'Impacts of lorry traffic on the environment and community' has changed from uncertain positive effects (+?) to negligible uncertain effects (0?).</p>
<b>Provision for Building Stone</b>				
<p><b>ISSUE M4c. Ensuring that the appropriate provision is made to meet the local, regional and national demand for Building Stones (Option 12): <u>Business as usual</u></b></p>	<p><b>The Preferred Options for Building Stone were:</b></p> <p><b>MPO7a</b></p> <p>Preferred Option MPO7a looks to apply the existing building stone policy used in the</p>	<p>There were seven Non-Aggregate Minerals Policies included in Section 5 of the 2014 MLP Consultation Document, including one in relation to building stone:</p>	<p>The 2016 MLP Consultation Draft includes one draft policy relating to building stone in Section 8:</p> <p><b>Policy MW02: Natural building stone</b></p>	<p>The 2018 Publication MLP has retained the policy relating to building stone:</p> <p><b>Policy MW02: Natural building</b></p>

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<p>Roll forward the existing criteria based policy in the Minerals Local Plan.</p> <p><b>(Option 13):</b> Identify preferred areas for building stone based on an assessment of resources, site capacities and the forecast future demand for different building stone types.</p> <p>In the test of these options through the Issues &amp; Options SA, one was not particularly favoured over another. Option 12 scored slightly better in terms of conserving resources, employment provision and contributing to the protection and enhancement of historic buildings etc. They were both broadly positive against a number of SA objectives. <b>Both options were carried forward into the Preferred Options.</b></p>	<p>adopted Minerals Local Plan – Policy NE1. This policy provides a clear decision making framework including four criteria for new building stone proposals –</p> <ul style="list-style-type: none"> <li>• A demonstration of ‘need’ for the stone;</li> <li>• The consideration of restoration benefits, heritage and the local economy;</li> <li>• An evaluation of crushing and screening of stone linked to aggregate production; and;</li> <li>• A review of other generic issues including local amenity, the environment and transportation.</li> </ul> <p><b>SA Findings for MPO7a</b> (as presented in the 2008 Preferred Options SA Non-technical Summary)</p> <p>Against the SA Objectives broadly positive or neutral effects are likely. Major positive scores are indicated against SA Objective 9 -to protect conserve and enhance</p>	<ul style="list-style-type: none"> <li>• Proposed Policy for Building Stone.</li> </ul> <p>Although no sites for building stone extraction were proposed for the MLP, there was a policy in the 2003 adopted MLP (NE1) that needed to be replaced in order to ensure there is an adequate policy framework in place for any applications for building stone to be determined. Therefore, the building stone policy proposed criteria against which applications for building stone extraction will be assessed.</p> <p><b>SA Findings</b></p> <p>The SA findings for the Proposed Policy for Building Stone were presented in Appendix 5 and Chapter 5 of the 2014 SA Report, and summarised below:</p> <p>There is a mix of potentially positive effects (on the economic objectives), some negative effects (on amenity/health and soil) and mixed effects (on the environmental objectives) arising from the Building Stone policies, with one</p>	<p>Policy MW02 takes forward the Proposed Policy for Building Stone. The criteria are slightly reworded and reordered but essentially cover the same requirements as in the 2014 Consultation Document.</p> <p>The SA findings for MW02 are presented in Appendix 5 and Chapter 5 of this SA Report.</p>	<p><b>stone</b></p> <p>Policy MW02 has been expanded to include all operations that involve the working of natural building stone not just ‘small-scale’ workings. The first clause for assessing alternative supplies has also been revised. It now requires that regard be given to the demand for different types of natural building stone being proposed. In addition, the final clause has been simplified to ensure that in all circumstances the requirements of policy MR01 (mineral site restoration) will be met.</p> <p><b>SA Findings</b></p> <p>The SA findings for MW02 are presented in Appendix 5 and Chapter 5 of this SA Report.</p> <p>The score for Policy MW02 against</p>

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	<p>Gloucestershire's material, cultural and recreational assets including its architectural and archaeological heritage. Section 3.2 of this report states that despite the UK wide downturn in the production of building stone over the last 100 years or so, the local market has remained relatively constant, and there is a steady need from the building conservation / historic environment sector. Planning policies and controls are influencing this market through district local plans and technical planning guides where support is given for the use of natural local stone. Minor negative impacts are indicated against SA Objective 8 – the protection of the natural environment / biodiversity / landscape, due to the fact that some building stone quarries (particularly in upland AONB) can be both visible (breaking the scarp / ridgeline) and difficult to restore successfully.</p> <p><b>MPO7b</b></p> <p>Preferred Option MPO7b proposes to expand upon the</p>	<p>significantly positive effect for the historic environment due to the provision of building stone to help conserve local buildings and the historic environment. Many of the identified effects are also uncertain, as the potential for effects will depend on the exact nature and design of sites, which would not be known until the planning application stage. Also, the proposed policies which have been identified to have potential negative effects on SA objectives will be supported by other policies within the MLP, when determining proposals, which should help to mitigate some of the negative effects identified. Furthermore, many of the policies include criteria that need to be met and may also provide mitigation.</p>		<p>objective 15 'Air quality' has changed from uncertain mixed effects (+/-?) to uncertain negative effects (-?). The score for this policy against objective 17 'Impacts of lorry traffic on the environment and communities has also changed from uncertain mixed effects (+/-?) to uncertain negative effects (-?).</p>

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	<p>existing building stone policy used in the adopted Minerals Local Plan. It seeks to introduce the concept of 'local distinctiveness' and to develop a more 'spatial' approach to the future management of the county's building stone resources. It sets out four additional elements –</p> <ul style="list-style-type: none"> <li>• A direct reference to the county's key natural building &amp; roofing stone resource areas;</li> <li>• A link between the MCS's mineral safeguarding policy and delineated minerals safeguarding areas (MSAs) for natural building &amp; roofing stone; Specific criteria for hybrid-building stone quarries; and</li> <li>• A link between rural economy strategies and relevant District Local Development Framework (LDFs) in the context of local employment opportunities.</li> </ul> <p><b>SA Findings for MPO7b</b> (as</p>			



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	<p>presented in the 2008 Preferred Options SA Non-technical Summary)</p> <p>This option scores better than Option MPO7A. Positive or major positive scores are given against 9 of the 15 SA Objectives. In terms of employment and economic development the option scores well due to the links with Local Development Frameworks and rural economic strategies. Building stone quarries can be significant employers of local people in rural areas. As for MPO7a negative scores are given in terms of the potential landscape impacts. It depends on the sites and further testing may need to be done where appropriate through the SA of the Mineral Site Allocations DPD.</p> <p><b>MPO7c</b></p> <p>Preferred Option MPO7c proposes the same resource safeguarding approach as highlighted in option MPO7b. However, also looks to allocate specific sites for the future working of natural building &amp; roofing stone. This option</p>			

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	<p>would provide a greater degree of certainty in terms of securing future provision. However, due to the complexity of resources in the county, preferred areas will only be considered where a sufficient evidence base has been made available. This would include the geological reliability of resources and a clear demonstration of the 'need' for the stone; or particular stone products at a local, regional, and / or national level. Information to this effect should be forthcoming from interested stakeholders, such as prospective quarry operators alongside English Heritage and local building conservation officers in respect of the 'need' issue.</p> <p><b>SA Findings for MPO7c</b> (as presented in the 2008 Preferred Options SA Non-technical Summary)</p> <p>This option scores well due to the degree of certainty provided by the site allocation process. Against a number of the SA Objectives major positive effects are anticipated</p>			

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	<p>particularly in the medium to long term. Like the other building stone / roofing stone options it scores better against the objectives which have a social / economic focus, and less well in terms of the environmental ones e.g. Objective 8. In terms of the potential for successful restoration this option is favoured over MPO7A &amp; B as the sites approach will fully address end-use / restoration issues.</p>			
<b>Provision for Coal</b>				
<p><b>ISSUE M4d. Future Provision for Coal Minerals</b></p> <p><b>(Option 14): <u>Business as usual</u></b> Continuation of the current sequential test / criteria approach.</p> <p>This option scored well against a number of the SA Objectives at the Issues and Options Stage. <b>It was carried forward into the Preferred Options.</b></p> <p>Note that the Issues &amp; Options SA Report (2006) stated that other options have not been tested because the specific</p>	<p><b>The Preferred Option for Coal was:</b></p> <p><b>MPO8</b></p> <p>Preferred Option MPO8 proposes to apply the existing policy framework for coal resources used in the adopted Structure Plan and Minerals Local Plan. It will include a clear presumption against opencast coal working and associated development within the Forest of Dean unless it is can be proved acceptable on local environmental, amenity</p>	<p>There were seven Non-Aggregate Minerals Policies included in Section 5 of the 2014 MLP Consultation Document, including three in relation to coal:</p> <ul style="list-style-type: none"> <li>• Proposed Policy for Small Scale Coal Underground Mines.</li> <li>• Proposed Policy for Opencast Coal.</li> <li>• Proposed Policy for Re-working of Colliery Spoil Tips.</li> </ul>	<p>The 2016 MLP Consultation Draft includes one draft policy relating to Coal, and one draft policy for Oil and Gas in Section 8:</p> <p><b>Policy MW05: Coal</b></p> <p><b>Policy MW06: Oil and Gas</b></p> <p>Policy MW05 takes forward the three Proposed Policies for Coal into one brief policy, which covers any type of coal working. GCC has stated that this is because policy MW05 covers all coal working, including small-</p>	<p>The 2018 Publication Draft has retained the policy relating to coal (MW05) and removed the policy relating to oil and gas (MW06).</p> <p>The remaining energy policy is <b>Policy MW05: Coal</b></p> <p>Policy MW05 has been revised to clarify what the requirements are for new coal working and to specifically introduce the local</p>

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<p>criteria are not specified. It may be possible to test other options if they come forward as a result of public consultation.</p>	<p>and economic regeneration grounds, or where sufficient long-term local benefits can outweigh adverse impacts. However, for localised small-scale working under 'freeminers' rights, support will be given to this type development where it meets strict environmental standards and contributes to the cultural and industrial heritage of the area.</p> <p><b>SA Findings for MPO8</b> (as presented in the 2008 Preferred Options SA Non-technical Summary)</p> <p>In general the test of this option against the SA Objectives indicates that effects are likely to be broadly positive or neutral. The option scores particularly well in terms of Objective5 – protecting amenity. There is a potential negative impact in terms of Objective 15 – given the clear issues with coal burning and emissions to the atmosphere. But dependent on the scale of working and the scale of use. The adopted MLP policy reflects the national policy, which seeks to restrict</p>	<p>The 2003 MLP included a policy framework for coal and hydrocarbons. Taking account of representations made to the earlier consultations and more recent up-to-date issues considered within the Minerals Technical Evidence Paper, the three policies above for coal were proposed, and an additional policy for conventional and unconventional hydrocarbons was also proposed:</p> <ul style="list-style-type: none"> <li>Proposed Policy for Conventional and Unconventional Hydrocarbons.</li> </ul> <p><b>SA Findings</b></p> <p>The SA findings for the four Proposed Policies for energy minerals were presented in Appendix 5 and Chapter 5 of the 2014 SA Report, and summarised below:</p> <p>There is a mix of potentially positive effects (on restoration and cultural/recreational assets and impacts of lorry traffic), with some negative effects (on soil and climate change) and mixed effects (on</p>	<p>scale operations and / or the re-opening of previous working sites (see Draft MLP paragraph 185). The requirement relating to proposals being environmentally acceptable is retained, but some of the other requirements such as meeting other policies in the plan and contributing to the cultural and industrial heritage of the Forest of Dean are now in the supporting text. GCC has stated that this is because the relocation of these matters to the supporting text is reflective of the overall streamlining and simplification of policy being advocated throughout the plan. Furthermore, it is unnecessary to seek a policy requirement to meet other named policies and / or their requirements in the plan. Removing these kinds of criteria is fundamental to the draft plan's application as outlined under draft MLP paragraph 12.</p> <p>Policy MW06 takes forward the Proposed Policy for</p>	<p>communities of the Forest of Dean as a potential beneficiary in any attempts to outweigh adverse impacts that might arise.</p> <p>Policy MW06 and the supporting text contained within the draft MLP have been removed as a result of the licenses not being taken up within Gloucestershire. There is no longer any prospect of oil and gas working in Gloucestershire in the short to medium term. Additions have been made to text elsewhere in the plan to set out procedures for the possibility that circumstances may change in the future.</p> <p>The SA findings for MW05 are presented in Appendix 5 and Chapter 5 of this SA Report. The SA scores for this policy have not</p>

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	<p>the environmental consequences of open cast coal extraction on the local community. The coal resource of the Forest of Dean is a valuable natural resource and the area is defined by its industrial heritage related to coal extraction. The Free mining rights allow for small-scale coal extraction with minimal environmental consequences whilst maintaining a unique part of the Forest's cultural heritage which needs to be reflected in the MCS policies. However, the sustainable implications of large scale open cast coal extraction need to be fully assessed in a way outlined in the current MLP policies.</p>	<p>biodiversity, geodiversity and landscape) arising from the three coal policies. However, for almost half of the SA objectives, negligible and no effects are expected to occur.</p> <p>The Proposed Policy for Hydrocarbons had more potential negative effects (on health/amenity, geodiversity, historic environment, air and soil quality, climate change and impacts of lorry traffic), but additional positive effects for the employment opportunities and economic development.</p> <p>Many of the identified effects are also uncertain, as the potential for effects will depend on the exact nature and design of sites, which would not be known until the planning application stage. Also, the proposed policies which have been identified to have potential negative effects on SA objectives will be supported by other policies within the MLP, when determining proposals, which should help to mitigate some of the negative effects</p>	<p>Conventional and Unconventional Hydrocarbons and provides more detailed requirements than in the 2014 Consultation Document. This is because, as stated in the 2016 MLP Consultation Draft oil and gas developments must be given careful attention through the planning stages. The nature and significance of issues that might arise can be complex.</p> <p>The SA findings for MW05 and MW06 are presented in Appendix 5 and Chapter 5 of this SA Report.</p>	<p>changed.</p>

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		identified.		
<b>Strategy for Sites</b>				
<p><b>ISSUE M4d. A spatial strategy for ensuring that appropriate provision is made to meet the local, regional and national demand for minerals</b></p> <p><b>(Option 15):</b> <u>Business as usual</u> 'Preferred Area' approach.</p> <p>This option was generally very positive in the SA test at Issues and Options. <b>It was effectively carried forward into the Preferred Options.</b></p> <p><b>(Option 16):</b> A combined preferred area and areas of search approach.</p> <p>In the SA of the Issues &amp; Options this option produced broadly positive results in the short to medium term, but some uncertainty in the longer term. <b>It was unlikely that areas of search will form part of the MCS.</b> The level of additional provision likely to be needed once all undeveloped preferred areas have been considered will be sufficiently</p>	<p>The MCS Preferred Options paper proposes in Section 6 (the Spatial Strategy) to roll forward the 'extensions' approach of the Structure Plan and Minerals Local Plan over the short-term. This is due to the issue of deliverability and a reflection of the level of infrastructure, which has already been invested into existing mineral sites. It is also an acknowledgement that many of preferred areas for future working, have yet to be developed, but are still available.</p> <p>However, at the time, it was not intended to include any specific site allocations in the Minerals Core Strategy, rather the MCS preferred options were intended to evolve into providing the parameters for how future working opportunities would be allocated in a later mineral site allocations development plan document.</p>	<p>See above under 'Provision for Aggregates'– the 2014 MLP Consultation Document proposed 18 site options for crushed rock and sand and gravel extraction, and these were appraised in Appendix 6 and Chapter 5 of this SA Report, and summarised above.</p>	<p>See above under 'Provision for Aggregates'– the 2016 MLP Consultation Draft now proposes 10 allocations for specific sites, preferred areas and areas of search for crushed rock and sand and gravel extraction, and these have been appraised in Appendix 6 and Chapter 5 of this SA Report.</p> <p>The Strategy is set out in Section 5 and outlines the broad direction of the policy purposes. The Strategy specifies that the Minerals Local Plan for Gloucestershire 2018 – 2032 should:</p> <ul style="list-style-type: none"> <li>Promote the use of recycled and secondary aggregates as an alternative to primary land-won aggregates, and support local decision makers in this.</li> </ul>	<p>See above under 'Provision for Aggregates' – the 2018 Publication Plan proposes 7 allocations concerned with the future working of crushed rock and sand and gravel. 6 allocations have preferred area status and 1 allocation is an area of search.</p> <p>The individual allocations have been appraised in Appendix 6 and Chapter 5 of this SA Report.</p> <p>Previously, for allocations made up of more than one land parcel (as appraised in 2014/15 at the Site Options and Development Framework Stage), a set of scores was presented for each land parcel. As many</p>

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<p>low to be adequately covered through the identification of new preferred areas. Furthermore, the evidence base on remaining mineral resources is sufficiently robust and detailed to lead to the identification of deliverable preferred areas for future working.</p> <p><b>(Option 17):</b> Giving preference to extensions to existing mineral workings before looking at new green field sites.</p> <p>This option was not particularly favoured in the Issues &amp; Options SA due to uncertainties in the long term, and the fact that while there is an assumption that extensions to mineral sites have lower level of environmental impact than development on greenfield sites, such sites may not have been subject to a strategic sustainable appraisal prior to commencement, and in a modern planning context may not have provided the most sustainable location. <b>It was dropped as an overriding principle</b>, in favour of a more rigorous assessment including through SA and Habitat</p>	<p>Consequently, the 2008 Preferred Options SA Report did not appraise this aspect of the Preferred Options as there was no specific Preferred Option on preferred areas to appraise.</p>		<ul style="list-style-type: none"> <li>• Avoid the unnecessary sterilisation of minerals resources.</li> <li>• Make provision for the steady and adequate supply of key local minerals (clay, brick clay and aggregates) to meet needs which are to be monitored in relevant landbanks of permitted reserves</li> <li>• Support the future working of aggregates from within allocated areas located in the Forest of Dean, Cotswold and Severn Vale resource areas. If aggregate working opportunities arise that are not located in allocated areas, they must meet a number of criterion.</li> <li>• Ensure that natural and cultural assets, local communities and local economies</li> </ul>	<p>of the allocations do not directly overlay these parcels, the assessment of allocations in this SA Report has considered the allocations as a whole (i.e. not separating assessments of different land parcels). This reflects the fact that Allocations are made as a whole in the MLP. The explanation of changes to the SA refers to land parcels included in previous iterations of the SA, where necessary.</p> <p>The score for allocation 01 against objective 1 'Health and wellbeing' have changed from uncertain negative effects (-?) to uncertain mixed effects (-/+?).</p> <p>The score for allocation 02 against objective 1 'Health and wellbeing'; has</p>

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Regulation Assessment / AA work.			<p>to not encounter unacceptable adverse impacts caused by minerals working.</p> <ul style="list-style-type: none"> <li>• Aim to avoid future aggregate minerals workings in the Cotswolds and Wye Valley AONBs.</li> <li>• Realising the full potential of temporary minerals workings through requiring reclamation site plans and promoting restoration.</li> </ul> <p>The Strategy does not contain any policies itself, as it signposts relevant sections of the plan that together make up the strategy. For this reason, it was not subject to SA.</p>	<p>changed from uncertain negative effects (-?) to uncertain mixed effects (-/+?) and the score against objective 7 'Biodiversity' has changed from negligible (0) to uncertain positive effects (+?).</p> <p>The score for allocation 03 against objective 1 'Health and wellbeing' has changed from negligible effects (0) to uncertain positive effects (+?).</p> <p>The score for allocation 04 against objective 1 'Health and wellbeing' has changed from negligible (0) to uncertain positive effects (+?).</p> <p>The score for allocation 05 (previously formed of two land parcels - A and C) against objective 1 'Health</p>



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				<p>and wellbeing' has changed from negligible (0) for parcel A and minor negative uncertain (-?) for parcel B to mixed uncertain (-/+?) effects. The score against objective 2 'Amenity of local communities' is assessed as minor negative (-), which is the same as the score given to parcel A, although parcel C previously had some uncertainty associated with this. The score against objective 5 'Safety of commercial or military aerodromes' has been assessed as negligible (0), which is the same as the score given to parcel C, although parcel A was previously assessed as minor negative uncertain (-?). The score against objective 7 'Biodiversity' has been assessed as minor positive</p>

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				<p>uncertain (+?) which is the same as the score given to parcel C, although there was previously some uncertainty associated with this for parcel A. The score against objective 8 'Landscape' has been assessed as negligible (0) which is the same as the score given to parcel C, although parcel A was previously assessed as minor negative uncertain (-?). The score against objective 10 'Material, cultural and recreational assets' has been assessed as minor negative uncertain (-?) which is the same as the score given to parcel C, although parcel A was previously assessed as negligible (0).</p> <p>The score for allocation 06 (Down Ampney Estate, previously allocation</p>

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				<p>10, parcel SGCW6) against objective 1 'Health and wellbeing' has changed from negligible (0) to mixed uncertain (-/+ ) effects. The score against objective 12 'Historic environment' has changed from minor negative uncertain (-?) to significant negative uncertain (--?) effects.</p> <p>The score for allocation 07 against objective 1 'Health and wellbeing' has changed from minor negative uncertain (-?) to mixed uncertain (-/+?) effects and the score against objective 7 'Biodiversity' has changed from uncertain negligible (0?) to minor positive uncertain (+?) effects.</p>
<b>Protecting environmental assets</b>				
<b>ISSUE M5. Meeting Objective 3: Protecting</b>	<b>The Preferred Option for</b>	Seven out of the eight Proposed Policies in Section 6	The 2016 MLP Consultation Draft includes eleven	The 2018 Publication MLP has retained the

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<p><b>where possible the natural, historic and cultural assets of Gloucestershire</b></p> <p><b>(Option 1): <u>Business as usual</u></b> Retain environmental constraints hierarchy as a basis for protecting the environment from mineral development.</p> <p>In the SA of the Issues &amp; Options, Options 1 &amp; 2 were broadly positive in sustainability terms and were similarly scored against the objectives. <b>Parts of this option were dropped</b> due to the fact that the existing constraints hierarchy and associated policies did not accord with updated national policy set out in PPS7 and PPS9.</p> <p><b>(Option 2):</b> Review the environmental constraints hierarchy in the context of the Regional Spatial Strategy and new government guidance.</p> <p><b>This option was effectively carried forward into the Preferred Options.</b></p>	<p><b>the Environment was:</b></p> <p><b>MPO10</b></p> <p>Preferred Option MPO10 seeks to continue the constraints hierarchy as applied within the adopted Minerals Local Plan. This hierarchy will be used within the MCS as the framework for future detailed policies within the Development Control Policies Development Plan Document. It will also assist in the identification and consideration of future mineral site allocations. However, to reflect updated national policy on environmental designations and minerals development the structure and content of the hierarchy will be amended. Furthermore, where new and appropriate designated assets exist these will be incorporated into the hierarchy.</p> <p><b>SA Findings for MPO10</b> (as presented in the 2008 Preferred Options SA Non-technical Summary)</p> <p>The environmental constraints hierarchy in the current Minerals Local Plan seeks to strike a balance between "...the</p>	<p>of the 2014 MLP Consultation Document related to protection of natural, historical and cultural assets, as follows (excluding Sustainable Transport):</p> <ul style="list-style-type: none"> <li>• Proposed Policy for Flood Risk</li> <li>• Proposed Policy for Water Quality</li> <li>• Proposed Landscape Policy</li> <li>• Proposed policy for Mineral Working in the Green Belt</li> <li>• Proposed Policy for Biodiversity &amp; Geodiversity</li> <li>• Proposed Policy for the Historic Environment</li> <li>• Proposed Development Management Criteria for the Historic Environment.</li> <li>• <i>Proposed Policy for Sustainable Transport</i></li> </ul> <p>There were also the following proposed development management policies in Section 8 of the MLP Consultation Document that</p>	<p>Development Management Policies in Section 10, nine of which relate to protection of natural, historical and cultural assets as follows:</p> <p><b>Policy DM02: Cumulative Impact</b></p> <p><b>Policy DM04: Flood Risk</b></p> <p><b>Policy DM05: Water Environment</b></p> <p><b>Policy DM06: Biodiversity and Geo-diversity</b></p> <p><b>Policy DM07: Soils</b></p> <p><b>Policy DM08: Historic Environment</b></p> <p><b>Policy DM09: Landscape</b></p> <p><b>Policy DM10: Gloucester-Cheltenham Green Belt</b></p> <p><b>Policy DM11: Aerodrome safeguarding and aviation safety</b></p> <p>These nine DM Policies generally take forward the requirements of the relevant Proposed Policies in Sections 6 and 8 of the 2014 MLP Consultation Document, slightly updating some of the requirements to reflect national policy and guidance</p>	<p>eleven Development Management Policies, 9 of which related to protection of natural, historical and cultural assets as follows:</p> <p><b>Policy DM02: Cumulative impact</b></p> <p><b>Policy DM04: Flood risk</b></p> <p><b>Policy DM05: Water resources</b></p> <p><b>Policy DM06: Biodiversity and geodiversity</b></p> <p><b>Policy DM07: Soil resource</b></p> <p><b>Policy DM08: Historic environment</b></p> <p><b>Policy DM09: Landscape</b></p> <p><b>Policy DM10: Gloucester-Cheltenham Green Belt</b></p> <p><b>Policy DM11: Aerodrome safeguarding and aviation safety</b></p>

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	<p>need for the mineral and the environmental impact of mineral development." In this hierarchy the following are 'Principal Constraints':</p> <ol style="list-style-type: none"> <li>1. Ramsar Sites,</li> <li>2. Special Areas of Conservation, &amp;</li> <li>3. Special Protection Areas.</li> </ol> <p>'Primary Constraints' are listed as</p> <ol style="list-style-type: none"> <li>1. Areas of Outstanding Natural Beauty,</li> <li>2. Sites of Special Scientific Interest,</li> <li>3. National Nature Reserves,</li> <li>4. Scheduled Ancient Monuments,</li> <li>5. Nationally Important Archaeological Sites and Settings,</li> <li>6. Listed Buildings/Conservation Areas,</li> <li>7. Registered Historic Parks and Gardens,</li> <li>8. Registered Battlefields,</li> <li>9. Best and Most Versatile Agricultural Land</li> <li>10. Water Environment.</li> </ol> <p>Secondary Constraints include:</p> <ol style="list-style-type: none"> <li>1. Special Landscape Areas,</li> <li>2. Local Nature Reserves,</li> </ol>	<p>were relevant to protection of natural, historical and cultural assets (those in <i>italics</i> are not relevant):</p> <ul style="list-style-type: none"> <li>• Proposed Policy for Mitigation of Environmental Effects</li> <li>• Proposed Policy for Ancillary Development</li> <li>• <i>Proposed Policy for Safeguarding Aerodromes</i></li> <li>• Proposed Policy for Planning Obligations</li> <li>• <i>Proposed Policy for Borrow Pits</i></li> <li>• Proposed Policy for Cumulative Impact</li> <li>• Proposed Policy for Soils</li> <li>• Proposed Policy for Public Rights of Way</li> <li>• Proposed Policy for Buffer Zones</li> </ul> <p><b>SA Findings</b></p> <p>The SA findings for all of the above Proposed Policies relating to protection of natural, cultural and historic assets were presented in Appendix 5 and Chapter 5 of</p>	<p>(e.g. on flood risk, green belt). However, there are some requirements that have moved from the policy into the supporting text, such as:</p> <ul style="list-style-type: none"> <li>- In considering the issue of cumulative impact, particular regard will be given to the following: 1. Environmental quality; 2. Social cohesion and inclusion; and 3. Economic potential (from DM02). GCC has stated the relocation of these matters to the supporting text is reflective of the overall streamlining and simplification of policy being advocated throughout the plan. It also ensures that the broad range of different issues that may constitute a cumulative impact are afforded appropriate and proportionate attention on a case-by-case basis</li> <li>- The use of sustainable drainage systems (from DM04). GCC has explained that the relocation of the SuDs requirement to the supporting text is representative of the overall</li> </ul>	<p>These nine DM policies have been amended as follows:</p> <p>No key changes have been made to policy DM02</p> <p>Policy DM04 has been significantly re-worked to include detailed requirements for meeting national policy on flood risk (i.e. the sequential test). An additional requirement to ensure any future risk of flooding (from climate change impacts) will be taken into account has also been included.</p> <p>Policy DM05 has been significantly expanded to incorporate measures to support the delivery of the key objectives for River Basin Management Plans (RBMPs); to ensure the physical integrity of water course will be preserved; and to</p>

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	<p>3. Wildlife Corridors, 4. Locally Important Archaeological Remains, 5. Locally important Historic Parks and Gardens, 6. Regionally Important Geological and Geomorphological Sites, 7. Green Belt.</p> <p>In the test against the SA Objectives there are major positive scores in terms of the objectives that seek to protect and enhance the environment, including the historic environment - (as clearly the above list is very comprehensive). There are neutral scores in terms of safeguarding sites, reducing the adverse impacts of lorry traffic, mineral restoration, and the objective to reduce waste to landfill.</p>	<p>the 2014 SA Report, as summarised below.</p> <p>In general, the proposed development management policies are only likely to affect a limited number of the SA objectives as they are 'topic-specific' policies (e.g. flood risk, landscape, biodiversity etc.). Therefore, a number of negligible effects are identified for many of the SA objectives. Where the development management policies are likely to affect SA objectives, the effects are generally positive, with some significant positive effects identified. Only three minor negative effects are identified, all for SA objective 5 (aerodrome safeguarding), in relation to the policies covering Flood Risk, Biodiversity and the Cotswold Water Park.</p>	<p>streamlining and simplification of policy being advocated throughout the plan.</p> <p>- Where a permanent loss of grades 1, 2, and 3a agricultural land can be demonstrated the operator will need to show that they can maximise the conservation of soils and that these will be used in the restoration of the proposal (from DM07).</p> <p>GCC has stated that this matter is adequately covered through the 1st bullet point of policy DM07 as part of the wider expectation that adverse impacts on soil quality need to be avoided or satisfactorily mitigated. The conservation of soils is a means of achieving the wider policy goal but is not necessarily the only option available. Furthermore, the relocation of 'solutions' into the supporting text is representative of the overall streamlining and simplification of policy being advocated throughout the</p>	<p>promote the efficient use of water.</p> <p>Some partial rewording of policy DM06 related to biodiversity offsetting and impacts upon designated sites.</p> <p>Policy DM07 has expanded and now includes an additional clause.</p> <p>Policy DM08 has been significantly reworded. Changes include references to the Gloucestershire Historic Environment Record, requirements for recording of excavation and details relating to the preservation of assets in situ.</p> <p>Policy DM09 has been reordered and reworded. Changes included references to public interest.</p> <p>No changes have been made to policies DM10 or DM11.</p>

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			<p>plan.</p> <p>Some requirements have been removed altogether, such as:</p> <ul style="list-style-type: none"> <li>- A buffer zone must be retained between the mineral working and adjacent significant watercourses (from DM05). GCC has stated that there is no requirement for buffer zones to be unilaterally imposed – firstly it is not an approach advocated within national policy and secondly, there is no local evidence that advises it should be specifically carried forward into the plan. Whilst ‘buffer zones’ may prove to be a viable and advantageous solution under certain circumstances, the plan seeks to offering sufficient flexibility for all possible solutions to come forward. The draft plan offers enough policy protection to achieve the same overarching aim resulting from imposing buffer zones - that water resources and water-related environments are not adversely affected. See the</li> </ul>	<p><b>SA Findings</b></p> <p>The SA findings for the Development Management Policies relating to the protection of environmental assets are presented in Appendix 5 and Chapter 5 of this SA Report.</p> <p>The scores for policies DM02, DM04, DM05, DM06, DM07, DM08, DM09, DM10 and DM11 have not changed.</p> <p>The score for policy DM07 against objective 18 ‘Climate change’ has changed from negligible (0) to minor positive (+).</p>

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			<p>requirements of policies DM05, DM06 and DM09 – particularly if landscaping matters might arise.</p> <p>- In relation to loss of high quality agricultural soil: the proposal will need to demonstrate the impact of the mineral working to the local economy (from DM07). GCC has stated that this matter is dealt with elsewhere in the plan for example see policy MW02 (bullet point three) and MW07 (bullet point 5). There is also no requirement in national policy or supported local evidence to undertake this sort of assessment specifically in respect to soil quality / loss of agricultural grade land. The NPPF is more focused on ‘headlining’ the economic benefits of high quality agricultural land (see paragraph 112), which is likely to be achievable in a plan making context, through giving weight to its economic benefits as a constraint in allocating land. Furthermore, the second</p>	



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			<p>bullet of the policy offers the opportunity for applicants to highlight potential economic benefits of minerals development that outweigh the retention of high quality agricultural land.</p> <p>- There will be a presumption in favour of the conservation of the significance of designated heritage assets and their settings, and of those non-designated heritage assets with archaeological interest that are demonstrably of equivalent significance (from DM08). GCC has stated that the relocation of these matters to the supporting text is reflective of the overall streamlining and simplification of policy being advocated throughout the plan. It is also in response to the comments received from Historic England – which put forward significant policy wording revisions.</p> <p>- The County Council will continue to work in partnership with the respective AONB Conservation Boards and/or</p>	

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			<p>Joint Advisory Committees to help deliver the vision and objectives of the AONB Management Plans and Minerals Local Plan (from DM09).</p> <p>GCC has stated that whilst not an unreasonable position to take for the MPA it is not strictly a matter relevant for the Draft MLP following tight adherence to national policy contained within NPPF paragraph 154. Furthermore, support for the delivery of AONB Management Plans is contained within policy MR01 under Draft MLP paragraph 387)..</p> <p>The SA findings for the Development Management Policies are presented in Appendix 5 and Chapter 5 of this SA Report.</p>	
<b>Restoration of mineral sites</b>				
<b>ISSUE M6. Meeting Objective 4: Ensuring that mineral sites are restored to the highest possible standard that is capable of</b>	<b>The two Preferred Options for Restoration were:</b> <b>MPO12a</b> Preferred Option MPO12a	There were three proposed policies that related to the restoration of mineral workings in Gloucestershire in Section 7 of the 2014 MLP	The 2016 MLP Consultation Draft includes one draft policy that relates to the restoration of mineral workings in Section 11:	The 2018 Publication MLP has retained the one policy that relates to the restoration of mineral workings.

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<p><b>providing for a range of sustainable after-uses, and that this is done as quickly as possible</b></p> <p><b>(Option 1): <u>Business as usual</u></b> Retain the existing policy approach for progressive restoration of mineral workings.</p> <p>In terms of the SA test of these three options at the Issues &amp; Options stage, they were broadly positive and broadly similar. <b>This option was effectively carried forward into the Preferred Options.</b></p> <p><b>(Option 2): <u>Business as usual</u></b> Retain existing policies in the Minerals Local Plan which encourage beneficial after-uses on a site-by-site basis.</p> <p><b>Elements of this option were discarded</b> due to the fact that pre-determined restoration options would be either signposted or specifically set out in the Core Strategy.</p> <p><b>(Option 3):</b> Alternative policies which look to achieve pre-determined restoration, aftercare and afteruse criteria for certain areas of the County.</p> <p><b>This option was effectively</b></p>	<p>proposes to include spatial opportunities resulting from minerals restoration into the MCS policy. It will accomplish this by referencing key spatial priorities, which may be supported by future mineral working within the county's mineral resources areas.</p> <p><b>SA Findings for MPO12a</b> (as presented in the 2008 Preferred Options SA Non-technical Summary)</p> <p>In the test against the SA Objective this option is broadly positive but there are a number of uncertainties. The uncertainties in the longer term stem from the fact that the defined or stated spatial priorities could change over time, and there is hence a lack of flexibility. Major positive scores are indicated in terms of the promotion of sustainable development / communities / providing homes and the restoration of minerals sites (in the short to medium term). There are no significant negative effects indicated at this level of assessment. There are clearly major opportunities in Gloucestershire (particularly</p>	<p>Consultation Document, as follows:</p> <ul style="list-style-type: none"> <li>Proposed Strategic Aim for the Cotswold Water Park</li> <li>Proposed Restoration Policy</li> <li>Proposed Development Management Restoration Policy</li> </ul> <p><b>SA Findings</b></p> <p>The SA findings for the three Proposed Policies relating to restoration were presented in Appendix 5 and Chapter 5 of the 2014 SA Report, as summarised below.</p> <p>The majority of effects from policies relating to restoration would be uncertain as effects would be dependent on the type of restoration proposed and eventually developed on a site, which will not be known until a later stage in the Minerals Local Plan preparation. As they directly relate to the restoration of mineral sites, all three of these proposed policies are expected to have significant positive effects on</p>	<p><b>Policy MR01: Restoration, aftercare and facilitating beneficial after-uses</b></p> <p>Policy MR01 generally takes forward the requirements of the three Proposed Policies on restoration in Section 7 of the 2014 MLP Consultation Document. However, there are some requirements that have moved from the policy into the supporting text, such as:</p> <ul style="list-style-type: none"> <li>- Mineral workings should be reclaimed as soon as practicable after extraction has ceased in each phase in order to secure progressive reclamation across the site and to minimise the amount of land that is used for mineral extraction at any one time.</li> <li>- All of the requirements that were listed in the Proposed Development Management Restoration Policy.</li> </ul> <p>GCC has stated that this is because the relocation of these matters to the supporting text is reflective of the overall streamlining and simplification of policy</p>	<p><b>Policy MR01: Restoration, aftercare and facilitating beneficial after-uses</b></p> <p>The policy has been significantly reworded. Changes include the addition of an extra clause.</p> <p><b>SA Findings</b></p> <p>The SA findings for MR01 are presented in Appendix 5 and Chapter 5 of this SA Report.</p> <p>The scores for objectives 10 'Material, cultural and recreational assets', 12 'Historic environment, heritage assets and their setting' and 15 'Air quality' have changed from uncertain negligible (0?) to minor positive uncertain (+?) effects.</p>

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<p><b>carried forward into the Preferred Options.</b></p>	<p>in the Cotswold Water Park / Upper Thames Valley) for habitat / biodiversity focused restoration. The sort of opportunities available are detailed in publications such as the RSPB's leaflet: Minerals Restoration Potential and in their Habitat creation handbook for the minerals industry. But there are also a wide range of other spatial opportunities for mineral site reclamation / restoration.</p> <p><b>MPO12b</b></p> <p>Preferred Option MPO12b seeks to introduce a policy link between mineral restoration and support for delivering key spatial priorities for the county. It will look to establish a core policy principle within the MCS with a commitment to produce more detailed guidance in the future. This may take the form of a Supplementary Planning Document (SPD); a dedicated section within a Mineral Site Allocations document; or form part of a wider spatial document such as an Area Action Plan (AAP).</p>	<p>restoration (SA objective 9), by restoring mineral sites to a high standard. In general, the policies are also likely to have positive effects on the other environmental objectives, as well as the social and economic objectives. However, as The Cotswolds Water Park is located within the safeguarding zone for RAF Fairford and if restoration to water use occurs a minor negative effect on the safety of the aerodrome due to potential bird strike was identified for the Proposed Strategic Aim for the Cotswold Water Park.</p>	<p>being advocated throughout the plan. They are still largely covered through policy under the 2nd bullet point.</p> <p>The SA findings for MR01 are presented in Appendix 5 and Chapter 5 of this SA Report.</p>	

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	<p><b>SA Findings for MPO12b</b> (as presented in the 2008 Preferred Options SA Non-technical Summary)</p> <p>In the test against the SA Objectives this option is broadly positive and less uncertain in the longer term than MPO12a. Major positive scores are indicated in terms of the promotion of sustainable development / communities / providing homes and the restoration of minerals sites (in the short to medium term). There are no significant negative effects indicated at this level of assessment. In terms of SA Objective 13 – the restoration of minerals sites, major positive effects are indicated in the medium to long term (a higher score than MPO12A) due to the fact that there is a greater degree of flexibility – the spatial priorities are not set in the Core Strategy but are introduced through Supplementary Planning Documents, Area Action Plans or the Mineral Site Allocations DPD.</p>			

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<b>Protecting local communities</b>				
<p><b>ISSUE M7. Meeting Objective 5: Securing enforceable, sound working practices that minimise the adverse impacts of mineral developments on the local communities, the local economy and environment of Gloucestershire</b></p> <p><b>(Option 1): <u>Business as usual</u></b> Retain existing policies for protecting local communities as set out in the Minerals Local Plan.</p> <p>In terms of the SA test of this option at the Issues &amp; Options stage, the results were broadly positive but with some genuine areas of uncertainty identified. <b>Parts of the option were dropped</b> in that an overarching strategic amenity policy was proposed for the MCS.</p> <p><b>(Option 2):</b> Revise policies for protecting local communities to include new factors such as cumulative impact and greater community involvement.</p> <p>In the Issues &amp; Options SA test the results were broadly very</p>	<p><b>The Preferred Option for People was:</b></p> <p><b>MPO11</b></p> <p>Preferred Option MPO11 proposes a strategic amenity policy, which looks to highlight the importance and local amenity impacts within the policy framework set by the MCS. It will ensure that amenity is carefully considered by future mineral proposals and as part of the assessment process for future site allocations. It will also seek to provide a locational context to local amenity by signposting key areas in the county where local amenity safeguarding will likely be an issue in the future.</p> <p><b>SA Findings for MPO11</b> (as presented in the 2008 Preferred Options SA Non-technical Summary)</p> <p>In the test against the SA Objectives this option is broadly positive or neutral. There are no significant negative impacts anticipated and major positive effects are</p>	<p>A number of the Proposed Policies in Section 6 of the 2014 MLP Consultation Document related indirectly to protection of local communities:</p> <ul style="list-style-type: none"> <li>Proposed Policy for Flood Risk</li> <li>Proposed Policy for Water Quality</li> <li>Proposed Landscape Policy</li> <li>Proposed policy for Mineral Working in the Green Belt</li> <li>Proposed Policy for Biodiversity &amp; Geodiversity</li> <li>Proposed Policy for the Historic Environment</li> <li>Proposed Development Management Criteria for the Historic Environment.</li> <li>Proposed Policy for Sustainable Transport</li> </ul> <p>There were also the following proposed development</p>	<p>The 2016 MLP Consultation Draft includes eleven Development Management Policies in Section 10, two of which relate specifically to protection of local communities as follows:</p> <p><b>Policy DM01: Amenity</b></p> <p><b>Policy DM02: Cumulative Impact</b></p> <p>Policy DM01 is a new policy that was not included in the 2014 MLP Consultation Document, however, it reflects the Preferred Option for People that was included in the Minerals Core Strategy Preferred Options in 2008. It seeks to reduce noise, air pollution, vibration and visual intrusion impacts on local communities within Gloucestershire.</p> <p>Policy DM02 generally takes forward the requirements of the Proposed Policy for Cumulative Impacts in Section 8 of the 2014 MLP Consultation Document. However, as noted above,</p>	<p>The 2018 Publication MLP retained the eleven Development Management Policies in Section 10, two of which relate specifically to protection of local communities as follows:</p> <p><b>Policy DM01: Amenity</b></p> <p><b>Policy DM02: Cumulative Impact</b></p> <p>Policy DM01 has been expanded to include an additional requirement regarding the use of strict controls upon potential adverse amenity impacts.</p> <p>No key changes have been made to policy DM02.</p> <p>The SA findings for DM01 and DM02 are presented in Appendix 5 and Chapter 5 of</p>

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<p>positive.</p> <p><b>(Option 3): <u>Business as usual</u></b> Retain Settlement Protection Boundaries in the Upper Thames Valley.</p> <p>In the Issues &amp; Options SA test the results for this option were broadly neutral.</p> <p><b>(Option 4):</b> Remove Settlement Protection Boundaries in the Upper Thames Valley.</p> <p>In the Issues &amp; Options SA test the results for this option were that there were a number of potentially negative impacts likely in terms of tourist assets, health and amenity protection.</p> <p><b>Appropriate parts of Options 2, 3 and 4 were carried forward into the Preferred Options.</b></p>	<p>envisaged in terms of Promoting sustainable communities, protecting health and well-being, protecting amenity and reducing adverse impacts of lorry traffic.</p>	<p>management policies in Section 8 of the MLP Consultation Document that sought to protect local amenity (those in <i>italics</i> are not relevant):</p> <ul style="list-style-type: none"> <li>• Proposed Policy for Mitigation of Environmental Effects</li> <li>• <i>Proposed Policy for Ancillary Development</i></li> <li>• <i>Proposed Policy for Safeguarding Aerodromes</i></li> <li>• Proposed Policy for Planning Obligations</li> <li>• Proposed Policy for Borrow Pits</li> <li>• Proposed Policy for Cumulative Impact</li> <li>• <i>Proposed Policy for Soils</i></li> <li>• Proposed Policy for Public Rights of Way</li> <li>• Proposed Policy for Buffer Zones</li> </ul> <p><b>SA Findings</b></p> <p>The SA findings for the all of the above Proposed Policies relating to protection of local amenity were presented in</p>	<p>there are some requirements that have moved from the policy into the supporting text, such as:</p> <p>- In considering the issue of cumulative impact, particular regard will be given to the following: 1. Environmental quality; 2. Social cohesion and inclusion; and 3. Economic potential (from DM02).</p> <p>GCC has stated that this is because the relocation of these matters to the supporting text is reflective of the overall streamlining and simplification of policy being advocated throughout the plan.</p> <p>The SA findings for DM01 and DM02 are presented in Appendix 5 and Chapter 5 of this SA Report.</p>	<p>this SA Report. The scores for the policies have not changed.</p>

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		<p>Appendix 5 and Chapter 5 of the 2014 SA Report, as summarised below:</p> <p>In general, the proposed policies in Section 6 and 8 are only likely to affect a limited number of the SA objectives as they are 'topic-specific' policies (e.g. flood risk, landscape, biodiversity etc.). Therefore, a number of negligible effects are identified for many of the SA objectives. Where the development management policies are likely to affect SA objectives, the effects are generally positive, with some significant positive effects identified.</p>		
<b>Efficient working of minerals</b>				
<p><b>ISSUE M8. Meeting Objective 6: Encouraging the Efficient Working of Mineral Resources</b></p> <p><b>(Option 1): <u>Business as usual</u></b> Retain the existing policy in the Minerals Local Plan that encourages the efficient use of minerals.</p> <p>In the Issues &amp; Options SA test</p>	<p><b>The Preferred Option for efficient working of minerals was:</b></p> <p><b>MPO9 Reuse and Recycling</b></p> <p>Preferred Option MPO9 looks to support a consistent and joined-up policy approach for the re-use and recycling of construction &amp; demolition (C&amp;D) wastes within</p>	<p>There was one Strategic Policy Aim regarding secondary and recycled aggregates in Section 4 the 2014 MLP Consultation Document:</p> <ul style="list-style-type: none"> <li>Strategic Policy Aim for Alternative Aggregates.</li> </ul> <p><b>SA Findings</b></p>	<p>The 2016 MLP Consultation Draft now includes one draft policy relating to recycled and secondary aggregates in Section 6:</p> <p><b>Policy SR01: Maximising the use of secondary and recycled aggregates</b></p> <p>Policy SR01 is a new policy aiming to increase</p>	<p>The 2018 Publication MLP has retained the policy relating to recycled and secondary aggregates and the policy relating to Ancillary Minerals Development:</p> <p><b>Policy SR01: Maximising the use</b></p>



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<p>positive effects were envisaged against all SA Objectives.</p> <p><b>(Option 2):</b> Adopt regional targets to assist with monitoring of the efficient use of minerals.</p> <p>The Issues &amp; Options SA indicated that in the short to medium term the results were similar to Option 1 but that there were uncertainties in the longer term.</p> <p><b>(Option 3):</b> Consider alternative strategies to ensure the efficient use of minerals, including the greater integration of minerals and waste core strategy policies.</p> <p>The Issues &amp; Options SA indicated that positive / major positive effects could be anticipated and no negative impacts were indicated.</p> <p><b>These options were effectively integrated where possible and carried forward into the Preferred Options.</b></p>	<p>Gloucestershire. It seeks to achieve this by following the locational strategy of the County's evolving Waste Core Strategy (WCS). However, in recognition of the potential opportunity to 'add value' at existing mineral sites, the preferred option also seeks to support ancillary recycling of materials, where there is sufficient environmental capacity to do so and where the wider spatial objectives of the substantive minerals operation, are not be compromised.</p> <p><b>SA Findings for MPO9</b> (as presented in the 2008 Preferred Options SA Non-technical Summary)</p> <p>This option scores very well against the SA Objectives. The volume of C&amp;D waste produced each year in Gloucestershire is significant (relative to other waste streams – See the Waste Core Strategy Preferred Options paper and related Waste Technical Evidence Papers for more details) and this policy seeks to put this 'waste' to better use. There are no significant negative</p>	<p>The SA findings for the Strategic Policy Aim regarding secondary and recycled aggregates were presented in Appendix 5 and Chapter 5 of the 2014 SA Report, as summarised below.</p> <p>There is a mix of potentially positive, negative and mixed effects arising from the Strategic Policy Aim for Alternative Aggregates, however, for seven of the SA objectives, negligible and no effects are expected to occur. No potentially significant positive or significant negative effects have been identified. The positive effects relate mainly to the economic objectives and climate change, while the potential negative effects relate to environmental objectives. Many of the identified effects are also uncertain, as the potential for effects will depend on the exact nature and design of sites, which would not be known until the planning application stage. Also, the proposed policies which have been identified to have potential negative</p>	<p>awareness of and to encourage greater uptake of recycled and secondary aggregates within new development. The previous Strategic Policy Aim for Alternative Aggregates focused on supporting the development of secondary and fixed recycled aggregates facilities in Gloucestershire. However, the 2016 MLP Consultation Draft now states that infrastructure matters related to the supply of secondary and recycled aggregates are dealt with through other local development plan policies covering the county, in particular Policy WCS 4 and WCS 11 in the adopted Gloucestershire Waste Core Strategy (WCS).</p> <p>The SA findings for SR01 are presented in Appendix 5 and Chapter 5 of Draft Minerals Local Plan for Gloucestershire (2018-2032) Pre-publication Consultation Draft SA Report (September 2016).</p> <p><b>Policy MW07: Ancillary</b></p>	<p><b>of secondary and recycled aggregates</b></p> <p><b>Policy MW06: Ancillary minerals development</b> (previously MW07 ) No key changes have been made to these policies.</p> <p><b>SA Findings</b></p> <p>The SA findings for SR01 and MW07 are presented in Appendix 5 and Chapter 5 of this SA Report.</p> <p>The score for Policy SR01 against SA objective 17 'Impacts of lorry traffic on the environment and communities', has changed from minor negative uncertain (- ?) to mixed uncertain effects (+/-?) to recognise that secondary and recycled aggregates are likely to be sources close to urban areas, where they are likely to be used.</p>

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	<p>impacts anticipated and positive / major positive effects are given against 11 or the 15 objectives. There are uncertain impacts in terms of reducing adverse lorry impacts on communities and the environment. This is due to the fact that, as already happens in Gloucestershire, C&amp;D waste may be transported to peripheral quarries in the county for processing. But back-hauling could reduce these impacts.</p>	<p>effects on SA objectives will be supported by other policies within the MLP, when determining proposals, which should help to mitigate some of the negative effects identified.</p> <p>There is one proposed policy within Section 8: Other Policies of the 2014 MLP Consultation Document that identifies six criteria that need to be met for <b>ancillary development</b> to be granted on proposed or permitted mineral sites. This proposed policy was set to replace Policy DC2 of the 2003 MLP.</p> <p><b>SA findings</b></p> <p>The SA findings for the Ancillary Development Proposed Policy was presented in Appendix 5 and Chapter 5 of the 2014 SA Report, as summarised below.</p> <p>The proposed policy for Ancillary Development restricts ancillary developments within existing mineral sites that would lead to significantly adverse impact on the amenity of adjacent land-uses, and therefore the</p>	<p><b>minerals development</b></p> <p>Policy MW07 sets five criteria that must be met for ancillary development to be granted.</p> <p><b>SA findings</b></p> <p>The SA findings for MW07 are presented in Appendix 5 and Chapter 5 of Draft Minerals Local Plan for Gloucestershire (2018-2032) Pre-publication Consultation Draft SA Report (September 2016). The scores for SA objectives 1 (health and wellbeing) and 2 (amenity of local communities) changed from minor positive (+) to minor negative uncertain (-?). The scores for SA objectives 3 (sustainable economic development) and 4 (employment opportunities), 17 (impacts of lorry traffic) and 18 (climate change) changed from negligible to minor positive. The scores for SA objectives 7 (biodiversity) and 8 (landscape) changed to mixed minor positive and negative uncertain (+/-?) from negligible (0) and</p>	<p>The scores for Policy MW07 have not changed.</p>

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		<p>policy is likely to have positive effects on the health (SA objective 1) and amenity (SA objective 2) of local communities that may otherwise be negatively affected by mineral developments.</p> <p>This proposed policy restricts ancillary developments within existing mineral sites where the design, size and location is not in keeping with the character of the surrounding area, and therefore the policy is likely to have a positive effect on Gloucestershire's landscape (SA objective 8). In addition, the policy requires the life of ancillary developments within existing mineral sites to be limited to that of the mineral working and where appropriate, dismantled in accordance with the restoration proposal, and as such, the policy is likely to have a positive effect on the restoration of mineral sites (SA objective 9). No effects are expected on other SA objectives.</p>	<p>minor positive (+) respectively.</p>	

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<b>Maximising recycled materials</b>				
<p><b>ISSUE M9. Meeting Objective 7: Promoting the Maximum Use of Recycled Materials in Preference to non-Renewable Primary Minerals, where possible</b></p> <p><b>(Option 1): <u>Business as usual</u></b> Retain the Minerals Local Plan policy encouraging the use of recycled minerals to substitute for primary minerals.</p> <p>In the Issues &amp; Options SA test this option was broadly positive. However <b>the option was dropped</b> as RSS and MPS1 provided more detailed policy on delivering secondary and recycled aggregates.</p> <p><b>(Option 2):</b> Revise the policy approach by improving policy linkages with the Waste Core Strategy.</p> <p>In the Issues &amp; Options SA test this option was considered to be positive to major positive in terms of its effects. <b>This option was effectively carried forward into the</b></p>	<p><b>As above, the Preferred Option for efficient working of minerals was:</b></p> <p><b>MPO9 Reuse and Recycling</b></p> <p>Preferred Option MPO9 looks to support a consistent and joined-up policy approach for the re-use and recycling of construction and demolition (C&amp;D) wastes within Gloucestershire. It seeks to achieve this by following the locational strategy of the County's evolving Waste Core Strategy (WCS). However, in recognition of the potential opportunity to 'add value' at existing mineral sites, the preferred option also seeks to support ancillary recycling of materials, where there is sufficient environmental capacity to do so and where the wider spatial objectives of the substantive minerals operation, are not be compromised.</p> <p><b>SA Findings for MPO9</b> (as presented in the 2008 Preferred Options SA Non-</p>	<p>There was one Strategic Policy Aim regarding secondary and recycled aggregates in Section 4 the 2014 MLP Consultation Document:</p> <p>Strategic Policy Aim for Alternative Aggregates. <b>SA Findings</b></p> <p>The SA findings for the Strategic Policy Aim regarding secondary and recycled aggregates were presented in Appendix 5 and Chapter 5 of the 2014 SA Report, and are summarised in the row above.</p>	<p>As noted in the row above, the 2016 MLP Consultation Draft now includes one draft policy relating to recycled and secondary aggregates in Section 6:</p> <p><b>Policy SR01: Maximising the use of secondary and recycled aggregates</b></p> <p>The SA findings for SR01 are presented in Appendix 5 and Chapter 5 of this SA Report.</p>	<p>As detailed above, the 2018 Publication MLP has retained the policy relating to recycled and secondary aggregates.</p> <p><b>Policy SR01: Maximising the use of secondary and recycled aggregates</b></p> <p>The SA findings for SR01 are presented in Appendix 5 and Chapter 5 of this SA Report.</p> <p>The score for Policy SR01 against SA objective 17 'Impacts of lorry traffic on the environment and communities', has changed from minor negative uncertain (-?) to mixed uncertain effects (+/-?) to recognise that secondary and recycled aggregates are likely to be</p>

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<p><b>Preferred Options.</b></p> <p><b>(Option 3):</b> Revise the policy approach to incorporate new regional targets.</p> <p>In the Issues &amp; Options SA test this option was considered broadly positive in the short to medium term but with some longer term uncertainties. <b>This option was effectively carried forward into the Preferred Options.</b></p>	<p>technical Summary)</p> <p>As described in the row above.</p>			<p>sources close to urban areas, where they are likely to be used.</p>
<p><b>Sustainable transport</b></p>				
<p><b>ISSUE M10. Meeting Objective 8: Encouraging More Sustainable Ways of Transporting Minerals Other Than by Road</b></p> <p><b>(Option 1): <u>Business as usual</u></b> Retain the policy to encourage the most sustainable mode of transport for the movement of minerals.</p> <p>In the Issues &amp; Options SA test this option was considered to be broadly positive or neutral. <b>The option was dropped</b> as the RSS and MPS1 provided more detailed policy on delivering sustainable transport for</p>	<p><b>The Preferred Option for Sustainable Transport was: MPO14 Transport</b></p> <p>Preferred option MPO14 proposes an overarching policy principle, which will look to support sustainable forms of transporting minerals – such as rail, sea and water, ahead of road haulage. However, where road transport represents the only viable option, priority will be given to mineral movements that utilise regional ‘fit for purpose’ haulage routes, where it is most practicable and of least</p>	<p>There was one Proposed Policy in Section 6 of the 2014 MLP Consultation Document relating to sustainable transport:</p> <ul style="list-style-type: none"> <li>Proposed Policy for Sustainable Transport</li> </ul> <p><b>SA Findings</b></p> <p>The SA findings for the Sustainable Transport Proposed Policy was presented in Appendix 5 and Chapter 5 of the 2014 SA Report, as summarised below.</p> <p>The Proposed Policy for Sustainable Transport is</p>	<p>The 2016 MLP Consultation Draft now includes one draft policy relating to transport in Section 10:</p> <p><b>Policy DM03: Transport</b></p> <p>Policy DM03 takes forward and generally strengthens the requirements that were in the Proposed Policy for Sustainable Transport as well as the Proposed Policy for Public Rights of Way from the 2014 MLP Consultation Document.</p> <p>However, the requirement for Transport Statements or a Transport Assessment (TA)</p>	<p>The 2018 Publication MLP has retained the policy relating to transport in Section 10:</p> <p><b>Policy DM03: Transport</b></p> <p>Policy DM03 has been revised so that proposals incorporating alternatives to road transport must now demonstrate they are a sustainable option. In addition, the threshold for public</p>

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<p>freight.</p> <p><b>(Option 2):</b> Revise the current policy approach to reflect emerging regional policy concerning freight routing hierarchy for road haulage.</p> <p>In the Issues &amp; Options SA test the likely effects were broadly positive and major positive for the majority of the SA Objectives (better scoring than Option 1). <b>This option was effectively carried forward into the Preferred Options.</b></p> <p><b>(Option 3): <u>Business as usual</u></b> Retain the policy principles as set out in the MLP for safeguarding non-road transport infrastructure.</p> <p>In the Issues &amp; Options SA test the likely effects were broadly positive and major positive for the majority of the SA Objectives but <b>the option was dropped</b> due to the RSS and MPS1 providing more detailed policy on delivering sustainable transport infrastructure. Particular note was given to the potential allocation of sites for rail heads, wharfage and associated storage facilities.</p>	<p>environmental impact to do so. The regional routes designated within Gloucestershire will be clearly identified in the MCS.</p> <p>In terms of increased sustainable transport infrastructure, preferred option MPO14 will look to expand its local capacity for handling minerals. It will aim to achieve this through safeguarding existing railheads; rail depots; wharfage and inland waterways; and associated land, which could facilitate future expansion through regeneration initiatives, from other development. Spatial opportunities for more sustainable minerals transport in future will also be looked upon in the context of the spatial strategy and in particular as a factor in determining future provision requirements for minerals.</p> <p><b>SA Findings for MPO14</b> (as presented in the 2008 Preferred Options SA Non-technical Summary)</p> <p>In any minerals development, transport issues are generally significant. In terms of the SA</p>	<p>expected to have positive effects on a number of SA objectives. Minor positive effects are expected on health (SA objective 1) and the amenity of local communities (SA objective 2), as the policy restricts mineral developments that would generate adverse traffic impacts on residential amenity.</p> <p>The proposed policy may also have positive effects on a number of the environmental objectives as it encourages alternative modes of transport, requires developments to be supported by a Transport Statement or Transport Assessment, and will not permit development that cannot mitigate adverse impacts on the highway network (such as highway safety and operation, or the local environment). Minor positive effects are therefore expected on biodiversity (SA objective 7), landscape (SA objective 8), the historic environment (SA objective 12), and climate change (SA objective 18). In addition, as</p>	<p>to support all mineral related proposals is no longer required and has moved from the policy into the supporting text.</p> <p>GCC has stated that as part of a general approach taken within the Draft MLP, all policy text have been rationalised and focused on the core aim of identifying what constitutes a minerals development proposal that should or should not be permitted. It represents a strict adherence to the position advocated within in the NPPF under paragraph 154. The need for TSs or TAs or any such relevant, comparable replacement in the future will no doubt be of significance to making decisions on transport-related matters. As such a specific reference is made to them in the supporting text. However, their provision in themselves is not a determinant of acceptability of all minerals development proposals. Furthermore, not all minerals development proposals require a TS or TA</p>	<p>safety on the highway network has been heightened so that no adverse (rather than unacceptable adverse) impacts must be achieved. Furthermore, open access land has been added to the consideration of public rights of way matters.</p> <p>The SA findings for DM03 are presented in Appendix 5 and Chapter 5 of this SA Report. The scores for this policy have not changed.</p>

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<p><b>(Option 4):</b> The identification of sites which could facilitate the non-road transport of minerals now or in the future.</p> <p>Again, in the Issues &amp; Options SA test the likely effects were broadly positive and major positive for the majority of the SA Objectives, with no negative impacts envisaged. <b>This option was effectively carried forward into the Preferred Options.</b></p>	<p>Objectives the option scores well – as would be expected given that it is promoting more sustainable forms of minerals transportation. No significant negative impacts are anticipated and major positive scores are given in terms of broad sustainable development / communities, safeguarding sites (this includes railheads and wharfage), protecting health, safeguarding of local amenity, pollution prevention, reducing transportation impacts and reducing contributions to climate change.</p>	<p>the policy directly addresses air quality (SA objective 15) and supports sustainable transport modes (SA objective 17), the positive effects on these objectives are expected to be significant.</p>	<p>as advised by NPPF paragraph 32 and the PPG section on Travel plans, transport assessments and statements in decision-taking.</p> <p>The SA findings for DM03 are presented in Appendix 5 and Chapter 5 of this SA Report.</p>	
<b>Joint working and minerals</b>				
<p><b>ISSUE M11. Meeting Objective 9: Promoting Closer Working with Neighbouring Authorities to Develop a Consistent Policy Approach for the Future Working of Strategic Mineral Resources</b></p> <p><b>(Option 1):</b> <u>Business as usual</u> Continuation of the current officer-led joint working approach.</p>	<p>The joint working options were not carried forward into a specific Preferred Option, but were indirectly addressed through <b>Section 7 'Provision and Supply'</b> (Preferred options 3a-3c, 4a-4c, and 5a and 5b) and <b>Section 11 'Reclamation'</b> (Preferred options MPO12a and MPO12b).</p> <p>These options and the SA findings are summarised above under the <b>Provision for</b></p>	<p>Again, the joint working options were not carried forward into a specific proposed policy in the 2014 MLP Consultation Document.</p>	<p>Again, the joint working options were not carried forward into a specific proposed policy in the 2016 MLP Consultation Draft.</p>	<p>Again, the joint working options were not carried forward into a specific proposed policy in the 2018 Publication MLP</p>

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<p>In the Issues &amp; Options SA test the likely effects were broadly positive with major positive effects against a number of the SA Objectives.</p> <p><b>(Option 2):</b> A more formal approach to joint working in the Upper Thames Valley supporting a greater degree of consistency in future mineral policies.</p> <p>In the Issues &amp; Options SA test the likely effects were broadly positive with some uncertainties in the longer term.</p> <p><b>Both these options were effectively carried forward indirectly into a number of the Preferred Options as discussed in the next column.</b></p>	<p><b>Aggregates and Restoration of mineral sites</b> rows.</p>			
<p><b>SEA and SA for the MCS</b></p>				
<p><b>ISSUE M12. Strategic Environmental Assessment (SEA) and Sustainability Appraisal (SA)</b></p> <p><b>Q12. In line with government guidance this Issues and Options paper has been subjected to a sustainability appraisal that</b></p>	<p><b>SA/SEA</b> – no need for options to test at this stage. SA/SEA is being undertaken at each stage in the MCS/MLP development.</p>	<p><b>SA/SEA</b> – no need for options to test at this stage. SA/SEA is being undertaken at each stage in the MCS/MLP development.</p>	<p><b>SA/SEA</b> – no need for options to test at this stage. SA/SEA has been undertaken at each stage in the MCS/MLP development.</p>	<p><b>SA/SEA</b> – no need for options to test at this stage. SA/SEA has been undertaken at each stage in the MCS/MLP development.</p>



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examines its likely social, environmental and economic impacts.				
Other issues				
<b>ISSUE M13. Other issues?</b> <b>Q13. Are there any other issues/options that this paper has not raised that you consider should be addressed?</b>	<b>Other issues</b> – no other issues were identified to assess at this stage.	<b>Other issues</b> – no other issues were identified to assess at this stage.	<b>Other issues</b> – no other issues were identified to assess at this stage.	<b>Other issues</b> – no other issues were identified to assess at this stage.

**Summary of GCC's reasons for selecting or discounting the land parcels considered within the 2014 MLP Site Options and Development Policies Framework Consultation Document, for inclusion as Specific Sites, Preferred Areas or Areas of Search within the 2016 MLP Consultation Draft**

Site Name	SODPF Site Number	SODPF Parcel Number	Recommendation for the Draft MLP	Reasoning / Justification
<b>Stowe Hill / Clearwell</b>	CRFD1	A	To include all of Parcel B and the vast majority of Parcel A within the Draft MLP as a single 'Preferred Area' related to the existing Clearwell / Stowe Hill Quarry complex. Specific operational requirements should be included concerning the access arrangements and continued control over the overall output capacity.	Most of Parcel A and all of Parcel B are subject to a planning application submitted by the operator of the existing Clearwell / Stowe Hill Quarry. This confirms the mineral operator interest, which in conjunction with previous landowner interest, gives a degree of confidence as to site's desirability to be brought forward over the emerging plan period. Albeit potential constraints upon mineral working and other associated development do exist, there appears a reasonable prospect that sufficient mitigation and / or constraint avoidance can be put in place. The decision to remove a small area of Parcel A is as a result of the existing mineral operating indicating no desire to work this land as part of the current planning application.
		B		
		C	Not to include within the Draft MLP	The existing mineral operator has indicated no desire to pursue mineral work across Parcel C over the time horizon of the emerging plan.
<b>Drybrook</b>	CRFD2	A	To include within the Draft MLP as a 'Preferred Area' with a modified boundary. Specific operational requirements should be included such as utilising the infrastructure and access arrangements for the existing Drybrook Quarry.	Parcel A has both landowner and mineral operator interest that affords a degree of confidence as to the site's desirability to be brought forward over the emerging plan period. Albeit potential constraints upon mineral working exist, there appears a reasonable prospect that sufficient mitigation and / or constraint avoidance can be put in place. The decision to remove a small area of Parcel A is as a result of an existing landowner indicating no desire for this land to be worked over the emerging plan period.
<b>Stowfield</b>	CRFD3	A	Not to include within the Draft MLP	There are considerable archaeological constraints contained within Parcel A, which render this undeliverable from a mineral working perspective.
		C	To include within the Draft MLP as a 'Preferred Area'. Specific operational requirements should be included such as utilising the	Parcel C has landowner/mineral operator interest and is deemed likely to come forward during the plan period. Albeit potential constraints upon mineral working exist, there appears a reasonable prospect that sufficient mitigation and / or constraint avoidance can be put in place.

Site Name	SODPF Site Number	SODPF Parcel Number	Recommendation for the Draft MLP	Reasoning / Justification
			infrastructure and access arrangements for the existing Stowfield Quarry.	
<b>Hewelsfield</b>	CRFD4	A	Not to include within the Draft MLP	There is no policy justification to include the Site CRFD4 within the emerging plan. It represents a standalone mineral development that lies within a designated AONB. National policy is clear in seeking to discourage the maintenance of aggregate landbanks within AONBs therefore progressing this site would run contrary to this. Presently, there are sufficient alternative options available that are potentially deliverable and have a realistic prospect of fully satisfying other key national policy requirements – such as making sufficient provision to meet demand over the time horizon of the emerging plan.
<b>Daglingworth</b>	CRCW1	A	To include within the Draft MLP as a 'Preferred Area'. Specific operational requirements should be included such as utilising the infrastructure and access arrangements for the existing Daglingworth Quarry.	Site CRCW1 has both landowner and mineral operator interest that affords a degree of confidence as to the site's desirability to be brought forward over the emerging plan period. Albeit potential constraints upon mineral working exist, there appears a reasonable prospect that sufficient mitigation and / or constraint avoidance can be put in place. Furthermore, many of the circumstances that afforded the site inclusion in the previous adopted minerals local plan remain unchanged.
<b>Huntsman's</b>	CRCW2	A	To Include within the Draft MLP as a 'Preferred Area' with a modified boundary. Specific operational requirements should also be included such as utilising the infrastructure and access arrangements for the existing Huntsman's Quarry.	A proportion of Parcel A has both landowner and mineral operator interest that affords a degree of confidence as to the site's desirability to be brought forward over the emerging plan period. Albeit potential constraints upon mineral working exist, there appears a reasonable prospect that sufficient mitigation and / or constraint avoidance can be put in place. The decision to remove part of Parcel A is as a result of potential deliverability and policy conflict concerns. The removed area includes an existing quarry known as Tinkers Barn that is not linked operational anyway to the adjacent Huntsman's Quarry complex. It contains an extant permission, which is principally for the working of natural building stone and is only

Site Name	SODPF Site Number	SODPF Parcel Number	Recommendation for the Draft MLP	Reasoning / Justification
				justified on these grounds. Some aggregate working is allowable but is controlled, and is very much a secondary function <sup>32</sup> . As a consequence, if the removed area was to be allocated, this could risk diluting the well established planning controls on working that are in place. It could lead to the proliferation of aggregate working within this part of the Cotswold AONB and also contribute to the maintenance of the landbank within the designation as a whole – a contrary position to national policy. In addition, there is an area in the northern part of Parcel A that surrounds a Schedule Monument, which is considered to be undeliverable from a minerals planning perspective.
		B	Not to include within the Draft MLP	The existing mineral operator and landowner have expressed no desire to pursue mineral work across Parcel B over the time horizon of the emerging plan.
		C	To Include within the Draft MLP as a 'Preferred Area'. Specific operational requirements should also be included such as utilising the infrastructure and access arrangements for the existing Huntsmans Quarry.	Parcel C has both landowner and mineral operator interest that affords a degree of confidence as to the site's desirability to be brought forward over the emerging plan period. It has also been subject to a scoping opinion in the recent past <sup>33</sup> . Albeit potential constraints upon mineral working exist, there appears a reasonable prospect that sufficient mitigation and / or constraint avoidance can be put in place.
<b>Three Gates</b>	CRCW3	A	Not to include within the Draft MLP	Site CRWC3 is wholly located within the Cotswold AONB and contains an existing quarry known as Three Gates. Operations run to an historic permission for the working of natural building stone and is justified only on these grounds. Some aggregate working is allowable but is controlled, and is very much a secondary function to aid safe and efficient operations. To allocate CRWC3 would risk diluting the well established planning controls on working that are in place. It could lead to the proliferation of aggregate working within this part of the Cotswold AONB and also contribute to the maintenance of the landbank within the designation as a whole – a

<sup>32</sup> GCC Planning reference: 16/0012/CWMAJM | Extension of quarry incorporating variation of conditions 5 and 6 relating to planning consent 11/0019/CWMAJM at Tinkers Barn, Guiting Power.

<sup>33</sup> GCC Planning reference: 14/0102/SCOPE | Scoping request for a proposed revised working scheme and the extension of mineral workings at Huntsman's Quarry, Naunton

Site Name	SODPF Site Number	SODPF Parcel Number	Recommendation for the Draft MLP	Reasoning / Justification
				contrary position to national policy.
<b>Oathill</b>	CRCW4	A	Not to include within the Draft MLP	Site CRWC4 is wholly located within the Cotswold AONB and contains an existing natural building stone quarry known as Oathill that recently received permission for an extension <sup>34</sup> . Whilst mineral operations are only justified to support natural building stone supplies, some aggregate working is allowable but is controlled, and is very much a secondary function to aid safe and efficient operations. To allocate CRWC4 would risk diluting the well established planning controls on working that are in place. It could lead to the proliferation of aggregate working within this part of the Cotswold AONB and also contribute to the maintenance of the landbank within the designation – a contrary position to national policy.
<b>Dryleaze Farm / Shorcote</b>	SGCW1	A	Not to include within the Draft MLP	There is currently no mineral operator interest in pursuing SGCW1 over the time horizon of the emerging plan. Furthermore, the estimated yield, which is presently unknown, is unlikely to be significance enough to justify allocation by virtue of the negligible contribution it would make, to maintaining the county's sand & gravel landbank. SGCW1 also lies within an area that has already been extensively worked in the past and, which is close to transition from a mineral operation to a site under restoration. Nevertheless, in the event it is deemed practicable and other potential site-related constraints can be overcome, the working of SGCW1 could seek alternative policy justification in the future through Draft MLP MA02 – which recognises those circumstances where mineral working might be acceptable outside of the plan's allocations.
<b>Cerney Wick</b>	SGCW2	A	Not to include within the Draft MLP	Site SGCW2 presents notable deliverability challenges. It is currently under multiple landowner ownership and there is no proposed co-ordination land management strategy for mineral working purposes. There is also no mineral operator interest to pursue it over the time horizon of the emerging plan. Furthermore, the estimated yield has not been supported by evidence and it is highly questionable as to whether it is sufficient to justify allocation by virtue of the negligible contribution it may make, to

<sup>34</sup> GCC Planning Reference: 14/0101/CWMAJM | Extension to the existing quarry at Oathill Quarry, Temple Guiting

Site Name	SODPF Site Number	SODPF Parcel Number	Recommendation for the Draft MLP	Reasoning / Justification
				maintaining the county's sand & gravel landbank. Nevertheless, in the event it is deemed practicable and other potential site-related constraints can be overcome, the working of SGCW2 could seek alternative policy justification in the future through Draft MLP MAO2 – which recognises those circumstances where mineral working might be acceptable outside of the plan's allocations.
<b>Horcott / Lady Lamb Farm</b>	SGCW3	A	To Include within the Draft MLP as an 'Area of Search'.	Parcel A has landowner interest that affords a limited degree of confidence as to the site's deliverability over the emerging plan period. However, this is somewhat diluted by the fact it is not matched by mineral operator interest at this time. Furthermore, there is only limited evidence as to the potential achievable yield, which is not unsubstantial, but still needs to be addressed. Nevertheless, where possible constraints on mineral working exist, there appears a reasonable prospect that sufficient mitigation and / or constraint avoidance can be put in place. On balance the recommendation is for the parcel to become an Area of Search.
		B	Not to include within the Draft MLP	There is currently no mineral operator interest in pursuing Parcel B over the time horizon of the emerging plan. The parcel is also under multiple land ownership, with a number of landowners not wishing to see it worked at this time. Nevertheless, in the event this matter can be overcome and practicalities and other potential site-related constraints can be resolved, the working of Parcel B could seek alternative policy justification in the future through Draft MLP MAO2 – which recognises those circumstances where mineral working might be acceptable outside of the plan's allocations.
<b>Kempsford / Whelford</b>	SGCW4	A	Not to include within the Draft MLP	Parcel A has mineral operator interest. However, it is highly questionable as to whether it is sufficient to justify allocation by virtue of the negligible contribution it may make, to maintaining the county's sand & gravel landbank. Nevertheless, in the event it is deemed practicable and other potential site-related constraints can be overcome, the working of SGCW2 could seek alternative policy justification in the future through Draft MLP MAO2 – which recognises those circumstances where mineral working might be acceptable outside of the plan's allocations

Site Name	SODPF Site Number	SODPF Parcel Number	Recommendation for the Draft MLP	Reasoning / Justification
		B	To Include within the Draft MLP as part of an 'Area of Search' to be known as Land between Kempford and Whelford	Parcel B has landowner interest that affords a limited degree of confidence as to the site's deliverability over the emerging plan period. However, this is somewhat diluted by the fact it is not matched by mineral operator interest at this time. Furthermore, there is no evidence as to achievable yields, albeit the underlying geology is favourable. This should be addressed. Nevertheless, where possible constraints on mineral working exist, there appears a reasonable prospect that sufficient mitigation and / or constraint avoidance can be put in place. On balance the recommendation is for the parcel to become an Area of Search.
		C	To include within the Draft MLP as a 'Specific Site'. Specific operational requirements should be included such as utilising the infrastructure and access arrangements for the existing Manor Farm Quarry.	Parcel C has recently been subject to a planning application for sand and gravel working <sup>35</sup> . The proposal has sought to address possible minerals planning constraints associated with this parcel. In May 2016, the County Council Planning Committee considered that sufficient information had been presented to approve the application subject to the completion of a Section 106 legal agreement to secure off-site monitoring of ground and surface water levels and bird hazard management. As a consequence, the parcel has the highest possible prospect of being delivered and is recommended as a Specific Site.  <i>In the event the legal agreement can be completed the Specific Site will be removed from the emerging plan as all relevant matters will have been satisfied.</i>
		D, E, F	To include within the Draft MLP as part of an 'Area of Search' to be known as Land between Kempford and Whelford	Parcels D, E and F have landowner interest that affords a limited degree of confidence as to their deliverability over the emerging plan period. However, this is somewhat diluted by the fact it is not matched by mineral operator interest at this time. Furthermore, there is no evidence as to achievable yields, albeit the underlying geology is favourable. This should be addressed. Nevertheless, where possible constraints on mineral working exist, there appears a reasonable prospect that sufficient mitigation and / or constraint avoidance can be put in place. On balance the recommendation is for the parcel to become an Area of Search.

<sup>35</sup> GCC Planning Reference: 13/0097/CWMAJM | Extension of sand and gravel extraction and associated activities at Manor Farm Quarry, Washpool Lane, Kempford

Site Name	SODPF Site Number	SODPF Parcel Number	Recommendation for the Draft MLP	Reasoning / Justification
<b>Down Ampney</b>	SGCW5	A, B, C	To include in Draft MLP as part of an 'Area of Search' to be known as Down Ampney and Charlham Farm.	All of the parcels of land at Down Ampney and Charlham Farm are under different land ownership since their initial consideration for inclusion within the emerging Minerals Local Plan. Whilst the change has not altered any broad interest in facilitating mineral working in the future, the overall land strategy encompassing the estate has changed considerably. Previously land at Down Ampney (Parcel A) was subject to a planning application for mineral working <sup>36</sup> . However, this proposal has not been progressed. The application was eventually disposed of in summer 2015. Furthermore, mineral operator interest is also no longer clear. There is no longer a publicly confirmed preferred operator in place. In terms of the Charlham Farm (Site SGCW6) no additional supporting evidence has been submitted and no indication has been forthcoming as to when this area may be looked at for working in the future. On balance, whilst the underlying geology is deemed favourable to potentially make a noteworthy contribution to maintaining the county's sand & gravel landbank, and there is some indication there is a reasonable prospect that sufficient mitigation and / or constraint avoidance can be put in place, the lack of evidence on deliverability grounds, means that allocating Areas of Search may be the most appropriate approach thus far.
<b>Charlham Farm</b>	SGCW6	A		
<b>Whetstone Bridge</b>	SGCW7	A	Not to include within the Draft MLP	Planning permission for sand & gravel working has been granted at Site SGCW7 since the last Site Options consultations in 2014 and 2015 <sup>37</sup>
<b>Spratsgate Lane</b>	SGCW8	A	Not to include within the Draft MLP	Planning permission for sand & gravel working has been granted at Site SGCW8 since the last Site Options consultations in 2014 and 2015 <sup>38</sup>
<b>Page's Lane</b>	SGTW1	A, B, C	Not to include within the Draft	Parcels A and B have landowner and mineral operator interest. However,

<sup>36</sup> GCC Planning Reference: 09/0050/CWMAJM | The winning and working of sand and gravel, the construction of a new road access onto the C124 (proposed Eastern Spine Road), a bridge crossing of the Ampney Brook, temporary conveyor gantry crossing of the C124, construction and operation of a concrete batching plant, aggregate bagging plant and associated ancillary buildings, structures and operations, demolition and recycling of a concrete runway, with restoration to agriculture, woodland, amenity and nature conservation in land to south & south east of Down Ampney

<sup>37</sup> GCC Planning Reference: 2/0015/CWMAJM | Progressive extraction and processing of Sand and Gravel with restoration to Agriculture, Ponds, Nature Conservation including reconstruction of the Thames and Severn Canal using imported inert fill at Whetstone Bridge Farm, Down Ampney.

<sup>38</sup> GCC Planning Reference: 09/0014/CWMAJM | Progressive extraction and processing of sand and gravel with restoration using imported inert fill to a mix of wetland, grassland and recreational use, together with replacement visitor parking and access for the Keynes Country Park at Land East Of Spratsgate Lane, Shorncliffe.



Site Name	SODPF Site Number	SODPF Parcel Number	Recommendation for the Draft MLP	Reasoning / Justification
			MLP	both parcels present notable deliverability challenges. Whilst the area has been worked for minerals in the past, latterly it has been subject to a number of refused planning proposals <sup>39</sup> . Amenity and incompatibility with other existing neighbouring and / or nearby land uses have featured highly as key grounds for concern. At present no counter evidence has been presented to suggest that potential site constraints can be satisfactorily mitigated or avoided. Consequently, the recommendation is not to include the parcels as an allocation. Nevertheless, in the event it is deemed practicable and other potential site-related constraints can be overcome, the working of Parcels A and B could seek alternative policy justification in the future through the provision set out in Draft MLP MA02 – which recognises those circumstances where mineral working might be acceptable outside of the plan's allocations. In addition, there is no landowner interest in pursuing Parcel C for mineral working at this time.
<b>Redpool's Farm</b>	SGTW2	A, B, C, D	To Include within the Draft MLP as a 'Preferred Area' with a modified boundary.	All parcels have landowner and mineral operator interest that affords them a degree of confidence as to the site's desirability to be brought forward over the emerging plan period. Albeit potential constraints upon mineral working exist, there appears a reasonable prospect that sufficient mitigation and / or constraint avoidance can be put in place. A small area on the north eastern boundary of Parcel D has been removed. It is not under the control of the landowner that has shown an interest in allowing mineral working to take place.

<sup>39</sup> Notable refusals around Page's Lane include: - T/00/5533/0934/FUL (refused in 2003); T/99/5533/0259/FUL (refused in 1999); and T.5533/K (refused in 1986 and appeal dismissed in 1987)

## Summary of changes to site allocations between the 2016 MLP Consultation Draft and the 2018 Publication Draft MLP

Candidate allocations presented in the draft plan	GCC's summary of key changes taken forward into the publication plan
<p><b>Allocation 01   Preferred Area at Stowe Hill / Clearwell</b></p>	<p>No key changes to the candidate designated allocation area or its delineated boundaries. However, the Detailed Development Requirements for the allocation have been subject to notable revisions and additions. In summary these include a more rigorous analysis of: - possible impacts on public health; economic impacts; vehicular routing including impacts on the Lydney AQMA and other operational restrictions; water resources and the inter-relationship to catchment-scale matters of interest; flood risk – particularly accounting for the enhanced risk associated with climate change impacts; soil resources; historic assets in the locality and their setting including the presence of archaeology; the protection of and potential for securing enhancement to the natural environment – with a very strong emphasis on the management of and monitoring of the sensitivity of the nearby Slade Brook SSSI; and the opportunities and possible constraints that may arise during the implementation of site restoration and aftercare.</p> <p>The allocation name has been changed to <i>Allocation 01: Land east of Stowe Hill Quarry</i>. This is for clarification of location and envisaged operational circumstances associated with potential future working.</p>
<p><b>Allocation 02   Preferred Area at Drybrook</b></p>	<p>No key changes to the candidate designated allocation area or its delineated boundaries. However, the Detailed Development Requirements for the allocation have been subject to notable revisions and additions. In summary these include a more rigorous analysis of: - possible impacts on public health; economic impacts; water resources and the inter-relationship to catchment-scale matters of interest; flood risk – particularly accounting for the enhanced risk associated with climate change impacts; soil resources; historic assets in the locality and their setting including the presence of archaeology; the protection of and potential for securing enhancement to the natural environment; and the opportunities and possible constraints that may arise during the implementation of site restoration and aftercare.</p> <p>The candidate allocation name has been changed to <i>Allocation 02: Land west of Drybrook Quarry</i>. This is for clarification of location and envisaged operational circumstances associated with potential future working.</p>

Candidate allocations presented in the draft plan	GCC's summary of key changes taken forward into the publication plan
<p><b>Allocation 03   Preferred Area at Stowfield</b></p>	<p>No key changes to the candidate designated allocation area or its delineated boundaries. However, the Detailed Development Requirements for the allocation have been subject to notable revisions and additions. In summary these include a more rigorous analysis of: - possible impacts on public health; economic impacts; water resources and the inter-relationship to catchment-scale matters of interest; flood risk – particularly accounting for the enhanced risk associated with climate change impacts; soil resources – with a focus on the impact to already safeguarded resources; the protection of and potential for securing enhancement to the natural environment; and the opportunities and possible constraints that may arise during the implementation of site restoration and aftercare.</p> <p>The allocation name has been changed to <i>Allocation 03: Depth extension to Stowfield Quarry</i>. This is for clarification of location and operational circumstances associated with potential future working.</p>
<p><b>Allocation 04   Preferred Area at Daglingworth</b></p>	<p>No key changes to the candidate designated allocation area or its delineated boundaries. However, the Detailed Development Requirements for the allocation have been subject to notable revisions and additions. In summary these include a more rigorous analysis of: - possible impacts on public health; economic impacts; water resources and the inter-relationship to catchment-scale matters of interest; flood risk – particularly accounting for the enhanced risk associated with climate change impacts; soil resources; historic assets in the locality and their setting including the presence of archaeology; the protection of and potential for securing enhancement to the natural environment; and the opportunities and possible constraints that may arise during the implementation of site restoration and aftercare.</p> <p>The allocation name has been changed to <i>Allocation 04: Land north west of Daglingworth Quarry</i>. This is for clarification of location and envisaged operational circumstances associated with potential future working.</p>
<p><b>Allocation 05   Preferred Areas at Huntsman's</b></p>	<p>No key changes to the candidate designated allocation area or its delineated boundaries. However, the Detailed Development Requirements for the allocation have been subject to notable revisions and additions. In summary these include a more rigorous analysis of: - possible impacts on public health; economic impacts; water resources and the inter-relationship to catchment-scale matters of interest; flood risk – particularly accounting for the enhanced risk associated with climate change impacts; soil resources; historic assets in the locality and their setting including the presence of archaeology; the protection of and potential for securing enhancement to the natural environment; and the opportunities and possible constraints that may arise during the implementation of site restoration and aftercare.</p> <p>The allocation name has been changed to <i>Allocation 05: Land south and west of Naunton Quarry</i>. This is for clarification of location following existing quarry name change and the envisaged operational circumstances associated with potential future working.</p>

Candidate allocations presented in the draft plan	GCC's summary of key changes taken forward into the publication plan
<p><b>Allocation 06   Specific Site at Manor Farm, Kempford</b></p>	<p>The candidate allocation has been removed. Planning permission for sand &amp; gravel working was granted on Allocation 06 between the Draft Minerals Local Plan consultation and the Publication Plan. The candidate allocation therefore now forms part of the sand &amp; gravel landbank for the county. Although this will not be formally identified until the 7th LAA (data up to 2017) is published. It is however, acknowledged within the 6th LAA (data up to 2016).</p>
<p><b>Allocation 07   Preferred Area at Redpool's Farm, Twynning</b></p>	<p>The candidate allocation has been removed. There is now sufficient doubt that Allocation 07 is deliverable and able to make a meaningful contribution to future sand and gravel supplies to such an extent that it no longer appears justified to specifically identified and relied upon it as an allocation within the Publication Plan. The reasons for this is the envisaged loss of potentially workable reserves to cover safeguarding stand-off areas that would need to be introduced for underground gas pipeline infrastructure and likely effective mitigation (such as stand-offs and bunds) to prevent unacceptable adverse impacts upon neighbouring land-uses. Previously the level of envisaged reserves was considered to be marginally acceptable from a strategic perspective, and where not supported by particularly robust evidence. Furthermore, whilst in the recent past there has been some interest in the potential of more significant sand and gravel working nearby (cross-border land adjacent to Allocation 07 known as Bow Farm), this has yet to materialise with any reasonable degree of certainty and as yet no new allocation has been brought forward within the emerging Worcestershire Minerals Local Plan. Collectively these circumstances bring into question the prospect of achieving a sufficient yield to afford the candidate allocation 'strategic' status for the purposes of meaningfully contributing to the county's sand &amp; gravel landbank. Nevertheless, the removal of the candidate allocation does not in any way diminish its aggregate resource potential. It should be noted that these resources will be safeguarded to maintain their availability to be looked at again the future and to prevent their unnecessary sterilisation by other development types through the emerging plan's safeguarding policy framework. Furthermore, whilst possible significant and challenging constraints are likely to exist with any future proposed working of the allocation there is no irrefutable evidence to indicate it would not be possible to prepare a sufficiently robust scheme of mitigation or that any future proposal(s) could not satisfactorily avoid features or assets that are protection. If a proposal was to arise within the time horizon of the plan it would also need to be robustly justified including a clear and indisputable demonstration of need at that time.</p>

Candidate allocations presented in the draft plan	GCC's summary of key changes taken forward into the publication plan
<p><b>Allocation 08   Area of Search at Lady Lamb Farm, Fairford</b></p>	<p>No key changes to the candidate designated allocation area or its delineated boundaries. However, the Detailed Development Requirements for the allocation have been subject to notable revisions and additions. In summary these includes a more rigorous analysis of: - possible impacts on public health; economic impacts; highway routing – with a focus on avoiding impacts to Fairford and Lechlade; water resources and the inter-relationship to catchment-scale matters of interest; flood risk – particularly accounting for the enhanced risk associated with climate change impacts; soil resources; historic assets in the locality and their setting including the presence of archaeology; the protection of and potential for securing enhancement to the natural environment; and the opportunities and possible constraints that may arise during the implementation of site restoration and aftercare.</p> <p>The allocation name has been changed to <i>Allocation 07: Land at Lady Lamb Farm, west of Fairford</i>. This is for clarification of location and the re-ordering of plan's allocations.</p>
<p><b>Allocation 09   Areas of Search at Land between Kempsford &amp; Whelford</b></p>	<p>The candidate allocation has been removed. Due to the recent permission for sand &amp; gravel working over candidate Allocation 06, it is extremely unlikely that any working of the parcels of land that make up Allocation 09 will be delivered during the time horizon of the plan. This is principally due to the detailed requirements concerning the management of water resource, flood risk, bird strike hazard and site restoration associated with the working of Allocation 06. The planning permission sets out a strict sequential programme of phased working that is envisaged to last beyond the plan's end date of 2032. Any working carried out within Allocation 09 would need to be done in a holistic manner and directly linked, and without prejudice, to the agreed working of Allocation 06. The likely complexity of working Allocation 09 also brings into question the prospect of achieving the estimated yield (less 3mt) and therefore the 'strategic' status of the allocation when considered in the context of its meaningful contribution to the county's sand &amp; gravel landbank. Nevertheless, the removal of the candidate allocation does not in any way diminish its aggregate resource potential. It should be noted that these resources will be safeguarded to maintain their availability to be looked at again the future and to prevent their unnecessary sterilisation by other development types through the emerging plan's safeguarding policy framework. Furthermore, whilst possible significant and challenging constraints are likely to exist with any future proposed working of the allocation there is no irrefutable evidence to indicate it would not be possible to prepare a sufficiently robust scheme of mitigation or that any future proposal(s) could not satisfactorily avoid features or assets that are protection. If a proposal was to arise within the time horizon of the plan it would also need to be robustly justified including a clear and indisputable demonstration of need at that time.</p>
<p><b>Allocation 10   Areas of Search at Down Ampney and Charlham Farm</b></p>	<p>The candidate designated allocation area has been reduced principally as a consequence of Land at Charlham Farm being removed. Although the delineated boundary of the remaining allocation has also been re-drawn. The southern and south-western boundaries have retreated northwards away from the administrative boundary with Wiltshire. The north-eastern boundary has also retreated away from Marston Meysey. Furthermore, the status of</p>

Candidate allocations presented in the draft plan	GCC's summary of key changes taken forward into the publication plan
	<p>the candidate allocation has been revised from an 'Area of Search' to a 'Preferred Area'. In respect of the Detailed Development Requirements, these have been subject to notable revisions and additions. In summary these include a more rigorous analysis of: - possible impacts on public health; economic impacts; water resources and the inter-relationship to catchment-scale matters of interest; flood risk – particularly accounting for the enhanced risk associated with climate change impacts; soil resources; historic assets in the locality and their setting including the presence of archaeology; the protection of and potential for securing enhancement to the natural environment; and the opportunities and possible constraints that may arise during the implementation of site restoration and aftercare.</p> <p>The allocation name has been changed to <i>Allocation 06: Land south east of Down Ampney</i>. This is for clarification of location following notable changes in the allocation's area and boundaries; and the change in its status as a preferred area.</p> <p>The reasons for removing Land at Charlham Farm are as follows. Due to the decision of the landowner to pursue interest in the working of other part of Allocation 10, there is considerable doubt about the prospect of any working at Charlham Farm coming forward within the time horizon of the plan and its removal has been acknowledged as part of a rationalisation exercise. Nevertheless, the removal of the candidate allocation does not in any way diminish its aggregate resource potential. It should be noted that these resources will be safeguarded to maintain their availability to be looked at again the future and to prevent their unnecessary sterilisation by other development types through the emerging plan's safeguarding policy framework. Furthermore, whilst possible significant and challenging constraints are likely to exist with any future proposed working of the allocation there is no irrefutable evidence to indicate it would not be possible to prepare a sufficiently robust scheme of mitigation or that any future proposal(s) could not satisfactorily avoid features or assets that are protection. If a proposal was to arise within the time horizon of the plan it would also need to be robustly justified including a clear and indisputable demonstration of need at that time.</p>

# Appendix 3

## Review of relevant plans, policies and programmes

INTERNATIONAL			
EU SEA DIRECTIVE (2001/42/EC)			
KEY OBJECTIVES RELEVANT TO PLAN AND SA	KEY TARGETS AND INDICATORS RELEVANT TO PLAN AND SA	IMPLICATIONS FOR PLAN	IMPLICATIONS FOR SA
Provides for a high level of protection of the environment and contributes to the integration of environmental considerations into the preparation and adoption of plans and programmes with a view to promoting sustainable development.	The Directive must be applied to plans or programmes whose formal preparation begins after 21 July 2004 and to those already in preparation by that date.	Develop policies that take account of the Directive as well as more detailed policies derived from the Directive at the national level.	Requirements of the SEA Directive must be met in Sustainability Appraisals.
THE WORLD SUMMIT ON SUSTAINABLE DEVELOPMENT – JOHANNESBURG 2002 – COMMITMENTS ARISING FROM THE SUMMIT			
KEY OBJECTIVES RELEVANT TO PLAN AND SA	KEY TARGETS AND INDICATORS RELEVANT TO PLAN AND SA	IMPLICATIONS FOR PLAN	IMPLICATIONS FOR SA
<p>Sustainable consumption and production patterns.</p> <p>Accelerate shift towards sustainable consumption and production – 10 year framework of programmes of action.</p> <p>Reverse trend in loss of natural Resources.</p> <p>Renewable Energy and Energy Efficiency.</p> <p>Urgently and substantially increase Global share of renewable energy.</p> <p>Significantly reduce the rate of biodiversity loss by 2010.</p>	<p>No targets or indicators, however actions include:</p> <p>Greater resource efficiency.</p> <p>Support business innovation and take up of best practice in technology and management.</p> <p>Sustainable consumer consumption and procurement.</p> <p>Creating a level playing field for renewable energy and energy efficiency.</p> <p>New technology development.</p> <p>Push on energy efficiency.</p>	<p>The MLP should encourage greater efficiency of resources.</p> <p>Plans should acknowledge the importance of protecting biodiversity. They should consider the maintenance of good air quality, the measures that can be taken to improve it and encouragement to reduce vehicle movements.</p>	<p>The SA should include objectives that broadly cover the action areas. Greater resource efficiency is key.</p>
THE AIR QUALITY FRAMEWORK DIRECTIVE (2008/50/EC)			
KEY OBJECTIVES RELEVANT TO PLAN AND SA	KEY TARGETS AND INDICATORS RELEVANT TO PLAN AND SA	IMPLICATIONS FOR PLAN	IMPLICATIONS FOR SA
Avoid, prevent and reduce harmful effects of ambient noise pollution on human health and the environment.	No targets or indicators.	Develop policies that take account of the Directive as well as more detailed policies derived from the Directive contained in the NPPF.	Include sustainability objectives to maintain and enhance air quality.



<b>EU SEVENTH ENVIRONMENTAL ACTION PLAN TO 2020</b>			
<b>KEY OBJECTIVES RELEVANT TO PLAN AND SA</b>	<b>KEY TARGETS AND INDICATORS RELEVANT TO PLAN AND SA</b>	<b>IMPLICATIONS FOR PLAN</b>	<b>IMPLICATIONS FOR SA</b>
<p>The EU's objectives in implementing the programme are:</p> <ul style="list-style-type: none"> <li>to protect, conserve and enhance the Union's natural capital;</li> <li>to turn the Union into a resource-efficient, green and competitive low-carbon economy;</li> <li>to safeguard the Union's citizens from environment-related pressures and risks to health and wellbeing;</li> <li>to maximise the benefits of the Union's environment legislation;</li> <li>to improve the evidence base for environment policy;</li> <li>to secure investment for environment and climate policy and get the prices right;</li> <li>to improve environmental integration and policy coherence;</li> <li>to enhance the sustainability of the Union's cities;</li> <li>to increase the Union's effectiveness in confronting regional and global environmental challenges.</li> </ul>	No targets or indicators.	Develop policies that take account of the Directive as well as more detailed policies derived from the Directive contained in the NPPF.	Include sustainability objectives to protect and enhance the natural environment and promote energy efficiency.
<b>EU DRINKING WATER DIRECTIVE (98/83/EC)</b>			
<b>KEY OBJECTIVES RELEVANT TO PLAN AND SA</b>	<b>KEY TARGETS AND INDICATORS RELEVANT TO PLAN AND SA</b>	<b>IMPLICATIONS FOR PLAN</b>	<b>IMPLICATIONS FOR SA</b>
Protect human health from the adverse effects of any contamination of water intended for human consumption by ensuring that it is wholesome and clean.	Member States must set values for water intended for human consumption.	Plans should clearly recognise that minerals development can impact upon drinking water quality and should include policy measures to protect these resources.	The SA Framework should consider water quality.

<b>EU WATER FRAMEWORK DIRECTIVE (2000/60/EC)</b>			
<b>KEY OBJECTIVES RELEVANT TO PLAN AND SA</b>	<b>KEY TARGETS AND INDICATORS RELEVANT TO PLAN AND SA</b>	<b>IMPLICATIONS FOR PLAN</b>	<b>IMPLICATIONS FOR SA</b>
The WFD sets a framework for the long-term sustainable management of water resources. It establishes a river catchment structure for the management of all inland and coastal waters including groundwater.	<p>All rivers must be of 'good' quality by 2015, although this has yet to be defined.</p> <p>EA publishes substantial information on river quality.</p> <p>Develop trend or target indicators based on these.</p>	<p>Include policies which promote water quality in line with the Directive.</p> <p>Many of the objectives will be achieved through River Basin Management Plans.</p> <p>Give consideration to the water needs of wetland areas.</p> <p>Through the plan - promote the protection of Natura 2000 sites.</p> <p>Consider that wetland creation (after-use) may impose obligations under the WFD.</p>	<p>Check to ensure that the objectives of the Framework Directive are reflected in the SA Framework – The conservation and protection of groundwater, rivers and lakes in the county and bordering catchments needs to be included in the assessment of objectives.</p> <p>Consider specific objectives for the Cotswolds Water Park.</p>
<b>EU BATHING WATER QUALITY DIRECTIVE (2006/7/EC)</b>			
<b>KEY OBJECTIVES RELEVANT TO PLAN AND SA</b>	<b>KEY TARGETS AND INDICATORS RELEVANT TO PLAN AND SA</b>	<b>IMPLICATIONS FOR PLAN</b>	<b>IMPLICATIONS FOR SA</b>
The revised Bathing Water Directive entered into force in March 2006. The overall objective of the revised Directive remains the protection of public health whilst bathing.	There is a requirement for all bathing waters to be classed as 'sufficient' by 2015.	Plan must adhere to the requirements of the Directive, as appropriate.	Sustainability objectives should reflect the Directive requirements and protect the quality of bathing waters.
<b>EU BIODIVERSITY STRATEGY TO 2020</b>			
<b>KEY OBJECTIVES RELEVANT TO PLAN AND SA</b>	<b>KEY TARGETS AND INDICATORS RELEVANT TO PLAN AND SA</b>	<b>IMPLICATIONS FOR PLAN</b>	<b>IMPLICATIONS FOR SA</b>
<p>The European Commission has adopted an ambitious new strategy to halt the loss of biodiversity and ecosystem services in the EU by 2020.</p> <p>The six targets cover:</p> <p>Full implementation of EU nature legislation to protect biodiversity</p> <p>Better protection for ecosystems, and more use of green infrastructure</p> <p>More sustainable agriculture and forestry</p>	Biodiversity loss is an enormous challenge in the EU, with around one in four species currently threatened with extinction and 88% of fish stocks over-exploited or significantly depleted.	Include policies that protect biodiversity.	Check to ensure that the requirements of the strategy is covered in the SA Framework objectives and appraisal criteria.

<p>Better management of fish stocks</p> <p>Tighter controls on invasive alien species</p> <p>A bigger EU contribution to averting global biodiversity loss.</p>			
<p><b>EU BIRDS AND HABITATS DIRECTIVE I.E. EU DIRECTIVE ON THE CONSERVATION OF WILD BIRDS (2009/147/EC) AND EU DIRECTIVE ON THE CONSERVATION OF NATURAL HABITATS AND OF WILD FAUNA AND FLORA (92/43/EEC)</b></p>			
<p><b>KEY OBJECTIVES RELEVANT TO PLAN AND SA</b></p>	<p><b>KEY TARGETS AND INDICATORS RELEVANT TO PLAN AND SA</b></p>	<p><b>IMPLICATIONS FOR PLAN</b></p>	<p><b>IMPLICATIONS FOR SA</b></p>
<p>EC Directive 92/43/EEC, known as The Habitats Directive aims to conserve fauna, flora and natural habitats of EU importance. The fundamental purpose of this directive is to establish a network of protected areas throughout the Community designed to maintain both the distribution and the abundance of threatened species and habitats, both terrestrial and marine. The Directive complements the EU Directive on the Birds Directive. The network of Special Areas of Conservation (SAC) and Special Protection Areas (SPAs) is called Natura 2000.</p> <p>The Conservation (Natural Habitats &amp; c.) Regulations 1994 (known as the Habitats Regulations) implement the Habitats Directive and the Birds Directive. These make it an offence deliberately to kill, capture, or disturb a European Protected Species, or to damage or destroy the breeding site or resting place of such an animal. The Habitats Regulations require the review of outstanding decisions, permissions, consents and other authorisations which would be likely to have a significant effect on a European Site. If as a result of an application there is 'likely to be a significant effect' on the designated features of the SAC (this could include impacts from activities not within the boundaries of</p>	<p>No relevant key targets.</p>	<p>The MPA should be aware of the locations of SPAs and SACs and take this into account during any site selection and area of search activity.</p> <p>The plan should also ensure that provision is made for undertaking 'appropriate assessments' where required.</p> <p>The MPA should be aware of the presence of European Protected Species within Gloucestershire.</p>	<p>Check to ensure that the requirements of the Directive(s) are covered in the SA Framework objectives and appraisal criteria.</p>

<p>the SAC and the cumulative effect of several separate applications) then the planning authority must obtain an Appropriate Assessment of the application and its likely effect.</p> <p>Local authorities should be aware of the presence of European Protected Species and their obligations to afford them protection.</p>			
<b>RAMSAR CONVENTION- CONVENTION ON WETLANDS OF INTERNATIONAL IMPORTANCE (1971)</b>			
<b>KEY OBJECTIVES RELEVANT TO PLAN AND SA</b>	<b>KEY TARGETS AND INDICATORS RELEVANT TO PLAN AND SA</b>	<b>IMPLICATIONS FOR PLAN</b>	<b>IMPLICATIONS FOR SA</b>
<p>To promote the conservation and wise use of all wetlands through local, regional and national actions and international co-operation, as a contribution towards achieving sustainable development throughout the world.</p>	<p>The number of Ramsar sites being designated in the UK.</p>	<p>Plan should promote the conservation and make wise use of all wetland areas.</p>	<p>Consider inclusion of objectives which aim to promote conservation and wise use of wetland areas.</p>
<b>EU DIRECTIVE ON THE MANAGEMENT OF WASTE FROM THE EXTRACTIVE INDUSTRIES (2006/21/EC)</b>			
<b>KEY OBJECTIVES RELEVANT TO PLAN AND SA</b>	<b>KEY TARGETS AND INDICATORS RELEVANT TO PLAN AND SA</b>	<b>IMPLICATIONS FOR PLAN</b>	<b>IMPLICATIONS FOR SA</b>
<p>The purpose of the Directive is to prevent water and soil pollution from the deposition of waste into heaps or ponds and puts emphasis on the long-term stability of waste facilities to help avoid major accidents, such as the pollution of the Danube river caused by a cyanide spill, following a dam burst of a tailings pond in Baia Mare/Romania in 2000.</p> <p>The main elements of the Draft Directive are:</p> <p>Conditions for operating permits.</p> <p>General obligations concerning waste management.</p> <p>The obligation to characterise waste before disposing of it or treating it.</p> <p>Measures to ensure the safety of waste</p>	<p>No relevant key targets.</p>	<p>Plans should clearly recognise that some minerals development can cause pollution and harm human health where they produce dangerous substances.</p>	<p>The Directive encourages recycling and the prudent use of natural resources and the protection of the environment. It aims for a reduction in water and soil pollution. The SA Framework should include objectives that reflect the tenor of the proposed Directive.</p>

management facilities. A requirement to draw up closure plans. An obligation to provide for an appropriate level of financial security ("polluter pays" principle.)			
<b>EU WASTE FRAMEWORK DIRECTIVE (2008/98/EC)</b>			
<b>KEY OBJECTIVES RELEVANT TO PLAN AND SA</b>	<b>KEY TARGETS AND INDICATORS RELEVANT TO PLAN AND SA</b>	<b>IMPLICATIONS FOR PLAN</b>	<b>IMPLICATIONS FOR SA</b>
This Directive establishes a legal framework for the treatment of waste within the Community. It aims at protecting the environment and human health through the prevention of the harmful effects of waste generation and waste management.	Sets targets for recycling rates; 50% recycling rates for household waste and 70% for C&D waste by 2020.	The waste hierarchy is encouraging the reduction in the use of landfills, which has an impact upon minerals. Plan should make provision for sufficient recycling facilities to ensure targets can be met and encourage the use of secondary aggregates.	The SA should consider the impacts of the policy on mineral planning to provide an adequate supply of suitable waste facilities, to reduce waste, and to reduce waste sent to landfill.
<b>CLOSING THE LOOP - AN EU ACTION PLAN FOR THE CIRCULAR ECONOMY 2015 (EUROPEAN COMMISSION)</b>			
<b>KEY OBJECTIVES RELEVANT TO PLAN AND SA</b>	<b>KEY TARGETS AND INDICATORS RELEVANT TO PLAN AND SA</b>	<b>IMPLICATIONS FOR PLAN</b>	<b>IMPLICATIONS FOR SA</b>
This Circular Economy Package aims to maximise product lifecycles through greater recycling and re-use.	No targets or indicators.	Develop policies that support the use of recycling and re-use of materials over the use of virgin extraction.	Include sustainability objectives to conserve minerals resources.
<b>EUROPEAN LANDSCAPE CONVENTION 2000</b>			
<b>KEY OBJECTIVES RELEVANT TO PLAN AND SA</b>	<b>KEY TARGETS AND INDICATORS RELEVANT TO PLAN AND SA</b>	<b>IMPLICATIONS FOR PLAN</b>	<b>IMPLICATIONS FOR SA</b>
To promote landscape protection, management and planning, and to organise European co-operation on landscape issues.	No targets or indicators.	Plan should support the protection, management and planning of landscape, recognising landscape as an essential component of people's surroundings.	Include sustainability objectives to protect, manage and plan for landscape provision.
<b>IPCC'S FIFTH ASSESSMENT REPORT ON CLIMATE CHANGE (2014)</b>			
<b>KEY OBJECTIVES RELEVANT TO PLAN AND SA</b>	<b>KEY TARGETS AND INDICATORS RELEVANT TO PLAN AND SA</b>	<b>IMPLICATIONS FOR PLAN</b>	<b>IMPLICATIONS FOR SA</b>
To limit and/or reduce all greenhouse gas emissions which contribute to climate change.	None.	Plan should support reduction in emissions of greenhouse gases.	Consider inclusion of objectives to support reduction in emissions of greenhouse gases.

<b>AARHUS CONVENTION (1998)</b>			
<b>KEY OBJECTIVES RELEVANT TO PLAN AND SA</b>	<b>KEY TARGETS AND INDICATORS RELEVANT TO PLAN AND SA</b>	<b>IMPLICATIONS FOR PLAN</b>	<b>IMPLICATIONS FOR SA</b>
<p>Established a number of rights of the public with regard to the environment. Local authorities should provide for:</p> <p>The right of everyone to receive environmental information.</p> <p>The right to participate from an early stage in environmental decision making.</p> <p>The right to challenge in a court of law public decisions that have been made without respecting the two rights above or environmental law in general.</p>	No targets or indicators.	Develop policies that take account of the Convention.	Ensure that the public are involved and consulted at all relevant stages of SA production.
<b>NATIONAL</b>			
<b>NATIONAL PLANNING POLICY FRAMEWORK (NPPF) 2012</b>			
<b>KEY OBJECTIVES RELEVANT TO PLAN AND SA</b>	<b>KEY TARGETS AND INDICATORS RELEVANT TO PLAN AND SA</b>	<b>IMPLICATIONS FOR PLAN</b>	<b>IMPLICATIONS FOR SA</b>
<p>The National Planning Policy Framework sets out the Government's planning policies for England and how these are expected to be applied, including for minerals.</p> <p>The purpose of the planning system is to contribute to the achievement of sustainable development – economic, social and</p>	Presumption in favour of sustainable development.	No targets or indicators.	Development plan has a statutory status as the starting point for decision making.
	Building a strong, competitive economy.	No targets or indicators.	Set out clear economic visions for that particular area.
	Meeting the challenge of climate change, flooding, and coastal change.	No targets or indicators.	Use opportunities offered by new development to reduce causes/impacts of flooding.
	Conserving and enhancing the natural environment.	No targets or indicators.	Recognise the wider benefits of biodiversity.
			Sustainability appraisal should be an integral part of the plan preparation process, and should consider all the likely significant effects on the environment, economic and social factors.
			Include a sustainability objective relating to strengthening the economy.
			Include a sustainability objective relating to climate change mitigation and adaption.
			Include a sustainability objective relating to the conservation and enhancement of the natural environment.

environmental. This includes:	Conserving and enhancing the historic environment	No targets or indicators.	Sustain and enhance heritage assets and put them to viable uses consistent with their conservation.	Include a sustainability objective relating to the conservation of historic features.
	Facilitating the use of sustainable materials.	No targets or indicators.	<p>Ensure that there a sufficient supply of material for the country's needs.</p> <p>Encourage prior extraction of minerals where practicable and environmentally feasible.</p> <p>Plan must not identify new site of extensions of sites for peat extraction.</p> <p>Take account of the contribution that substitute, secondary or recycled materials and minerals waste can make to the supply before considering primary extraction.</p> <p>Set out environmental criteria in line with other NPPF policies.</p>	Include a sustainability objective relating to sustainable mineral extraction.

**PLANNING FOR FREIGHT ON INLAND WATERWAYS (DFT / DEFRA APRIL 2004)**

<b>KEY OBJECTIVES RELEVANT TO PLAN AND SA</b>	<b>KEY TARGETS AND INDICATORS RELEVANT TO PLAN AND SA</b>	<b>IMPLICATIONS FOR PLAN</b>	<b>IMPLICATIONS FOR SA</b>
<p>The Government wants to encourage more freight to travel by water instead of by road.</p> <p>The 4 Waterway Categories are:</p> <p>Estuaries &amp; tidal rivers</p> <p>Large non-tidal waterways</p> <p>Broad waterways</p> <p>Narrow canals</p> <p><u>Aggregates</u></p> <p>Currently sand, gravel and stone form the greatest volume of freight currently transported on inland waterways in the UK.</p> <p>Related to the above, there are also objectives to safeguard and utilise existing wharf capacity and also to add to it.</p>	<p>No specific targets, but clear encouragement to move certain types of freight off the roads and make the best use of use of water transport and to preserve and increase wharf capacity.</p>	<p>Consider how the plan can best utilise the water transport options available in Gloucestershire, e.g. the River Severn, and the Gloucester – Sharpness Canal.</p> <p>Consider how the plan can safeguard existing wharfs and promote additional capacity in line with Government guidance.</p>	<p>Ensure that the SA Framework fully considers the issue of sustainable transport modes other than by road. The SA Objectives or sub-objectives should reference canal use and the safeguarding / expansion of wharfs.</p>

<b>DEFRA NATURAL ENVIRONMENT AND RURAL COMMUNITIES ACT (2006) – SECTION 41: LIST OF HABITATS AND SPECIES OF PRINCIPAL IMPORTANCE IN ENGLAND 2008</b>			
<b>KEY OBJECTIVES RELEVANT TO PLAN AND SA</b>	<b>KEY TARGETS AND INDICATORS RELEVANT TO PLAN AND SA</b>	<b>IMPLICATIONS FOR PLAN</b>	<b>IMPLICATIONS FOR SA</b>
<p>The lists have been prepared by the Secretary of State for Environment, Food and Rural Affairs as required under section 41(1) of the Natural Environment and Rural Communities (NERC) Act 2006. They identify the living organisms (species) and types of habitat which the Secretary of State considers are of principal importance for the purpose of conserving biodiversity in England. In accordance with section 41(2) of the NERC Act, the Secretary of State has consulted Natural England on the species and habitats to be included on the list.</p> <p>Under section 41(3) of the NERC Act the Secretary of State must take steps (where they are reasonably practicable), and promote the taking of steps by others, to further the conservation of the habitats and species on the list. In light of this duty, seven sectors have been identified where actions taken by public bodies and other stakeholders could deliver significant conservation benefits for habitats and species on the list.</p>	<p>The extensive lists of habitats and species are available on the DEFRA website at:  <a href="http://www.defra.gov.uk/wildlife-countryside/biodiversity/sect41-nerc.htm">http://www.defra.gov.uk/wildlife-countryside/biodiversity/sect41-nerc.htm</a></p>	<p>The plan should further the conservation of the habitats and species on the list.</p>	<p>The SA Framework and particularly the SA Objectives and sub-objectives focusing on biodiversity should reflect the requirements of the NERC Act.</p>
<b>THE CONSERVATION OF HABITATS AND SPECIES REGULATIONS 2017</b>			
<b>KEY OBJECTIVES RELEVANT TO PLAN AND SA</b>	<b>KEY TARGETS AND INDICATORS RELEVANT TO PLAN AND SA</b>	<b>IMPLICATIONS FOR PLAN</b>	<b>IMPLICATIONS FOR SA</b>
<p>The Regulations provide for the designation and protection of 'European sites', the protection of 'European protected species', and the adaptation of planning and other controls for the protection of European Sites.</p>	<p>No targets or indicators specifically, or directly relevant to minerals plans.</p>	<p>Consider how the plan can contribute to meeting the regulations.</p>	<p>Include sustainability objectives relating to protection of European sites.</p>



<b>BIODIVERSITY 2020 – A STRATEGY FOR ENGLAND'S WILDLIFE AND ECOSYSTEM SERVICES (2011)</b>			
<b>KEY OBJECTIVES RELEVANT TO PLAN AND SA</b>	<b>KEY TARGETS AND INDICATORS RELEVANT TO PLAN AND SA</b>	<b>IMPLICATIONS FOR PLAN</b>	<b>IMPLICATIONS FOR SA</b>
<p>Sets out how the quality of our environment on land and at sea will be improved over the next ten years.</p> <p>The strategy has focused on four main themes:</p> <p>A more integrated large-scale approach to conservation on land and at sea.</p> <p>Putting people at the heart of biodiversity policy.</p> <p>Reducing environmental pressures.</p> <p>Improving our knowledge.</p> <p>The Strategy includes the following priorities:</p> <p>Creating 200,000 hectares of new wildlife habitats by 2020 – this is equivalent to an area the size of Warwickshire</p> <p>Securing 50% of SSSIs in favourable condition, while maintaining at least 95% in favourable or recovering condition</p> <p>Trialling new approaches to setting fishing quotas to reduce discards</p> <p>Encouraging more people to get involved in conservation by supporting wildlife gardening and outdoor learning programmes</p> <p>Introducing a new designation for local green spaces to enable communities to protect places that are important to them.</p>	<p>No targets or indicators specifically, or directly relevant to minerals plans.</p>	<p>Consider how the plan can contribute to meeting the strategy.</p>	<p>Include sustainability objectives relating to the quality of the environment.</p>

<b>NATURAL ENVIRONMENT WHITE PAPER (2011) THE NATURAL CHOICE: SECURING THE VALUE OF NATURE (NOTE THAT THERE ARE A NUMBER OF IMPLEMENTATION UPDATES FROM 2011-2014 WHICH EXPLAIN GOVERNMENT PROGRESS ON THE 92 COMMITMENTS)</b>			
<b>KEY OBJECTIVES RELEVANT TO PLAN AND SA</b>	<b>KEY TARGETS AND INDICATORS RELEVANT TO PLAN AND SA</b>	<b>IMPLICATIONS FOR PLAN</b>	<b>IMPLICATIONS FOR SA</b>
<p>The White paper contains 92 commitments related to the natural environment under several themes including the following:</p> <p>Protecting and improving our natural environment;</p> <p>Growing a green economy; and</p> <p>Reconnecting people and nature.</p>	No targets or indicators.	Protect the intrinsic value of nature and recognise the multiple benefits it could have for communities.	Include a sustainability objective relating to the enhancement of the natural environment.
<b>SECURING THE FUTURE: DELIVERING UK SUSTAINABLE DEVELOPMENT STRATEGY (2011)</b>			
<b>KEY OBJECTIVES RELEVANT TO PLAN AND SA</b>	<b>KEY TARGETS AND INDICATORS RELEVANT TO PLAN AND SA</b>	<b>IMPLICATIONS FOR PLAN</b>	<b>IMPLICATIONS FOR SA</b>
<p>Enable all people throughout the world to satisfy their basic needs and enjoy a better quality of life without compromising the quality of life for future generations. There are 4 shared priorities:</p> <p>sustainable consumption and production;</p> <p>climate change and energy;</p> <p>natural resource protection and environmental enhancement; and</p> <p>sustainable communities.</p>	Sets out indicators to give an overview of sustainable development and priority areas in the UK. They include 20 of the UK Framework indicators and a further 48 indicators related to the priority areas.	Develop policies that meet the aims of the Sustainable Development Strategy.	Include sustainability objectives to cover the shared priorities of sustainable development.
<b>THE AIR QUALITY STRATEGY FOR ENGLAND, SCOTLAND, WALES AND NORTHERN IRELAND (2007)</b>			
<b>KEY OBJECTIVES RELEVANT TO PLAN AND SA</b>	<b>KEY TARGETS AND INDICATORS RELEVANT TO PLAN AND SA</b>	<b>IMPLICATIONS FOR PLAN</b>	<b>IMPLICATIONS FOR SA</b>
<p>Make sure that everyone can enjoy a level of ambient air quality in public spaces, which poses no significant risk to health or quality of life.</p> <p>Render polluting emissions harmless.</p>	Sets air quality standards for 13 air pollutants.	Develop policies that aim to meet the standards.	Include sustainability objectives to reduce pollution and protect and improve air quality.

<b>THE UK LOW CARBON TRANSITION PLAN (2009)</b>			
<b>KEY OBJECTIVES RELEVANT TO PLAN AND SA</b>	<b>KEY TARGETS AND INDICATORS RELEVANT TO PLAN AND SA</b>	<b>IMPLICATIONS FOR PLAN</b>	<b>IMPLICATIONS FOR SA</b>
Plan plots how the UK will meet the 34 percent cut in emissions on 1990 levels by 2020. The Plan shows how reductions in the power sector and heavy industry; transport; homes and communities; workplaces and jobs; and farming, land and waste sectors could enable carbon budgets to 2022 to be met.	The plan includes a 5-point Action Plan covering the following areas:  Protecting the public from immediate risk;  Preparing for the future;  Limiting the severity of future climate change through a new international climate agreement;  Building a low carbon UK;  Supporting individuals, communities and businesses to play their part.	Plan should include policies that contribute towards achieving lower carbon emissions.	Objectives should reflect the aims set in the UK Low Carbon Transition Plan to reduce carbon emissions.
<b>THE CARBON PLAN: DELIVERING OUR LOW CARBON FUTURE (2011)</b>			
<b>KEY OBJECTIVES RELEVANT TO PLAN AND SA</b>	<b>KEY TARGETS AND INDICATORS RELEVANT TO PLAN AND SA</b>	<b>IMPLICATIONS FOR PLAN</b>	<b>IMPLICATIONS FOR SA</b>
The Carbon Plan is a Government wide plan of action on climate change, including domestic and international activity.	The plan includes a range of sectoral plans and targets including low carbon industry.	Plan should include policies that contribute towards achieving lower carbon emissions.	Objectives should reflect the aims set in the Plan.
<b>A STRATEGY FOR ENGLAND'S TREES, WOODS AND FORESTS (2007)</b>			
<b>KEY OBJECTIVES RELEVANT TO PLAN AND SA</b>	<b>KEY TARGETS AND INDICATORS RELEVANT TO PLAN AND SA</b>	<b>IMPLICATIONS FOR PLAN</b>	<b>IMPLICATIONS FOR SA</b>
To provide, in England, a resource of trees, woods and forests in places where they can contribute most in terms of environmental, economic and social benefit now and for future generations;  Ensure that existing and newly planted trees, woods and forests are resilient to the impacts of climate change and also contribute to the way in which biodiversity and natural resources adjust to a changing climate.  Protect and enhance the environmental resources of water, soil, air, biodiversity and landscapes (both	The strategy identifies some possible indicators including:  Proportion of woodland Sites of Special Scientific Interest (SSSIs) in favourable condition;  Woodland bird indicator – bird population associated with woodland;  Access to and use of woodland;  Trends in all plants and ancient woodland indicator plants.	Plan should to promote the sustainable management of our existing woods and forests.  Plan should, where appropriate, seek a steady expansion of woodland areas to provide more benefits for society and our environment.	Consider inclusion of objectives to promote sustainable management of our existing woods and forests.  Consider inclusion of objectives which aim to promote the expansion, enjoyment and understanding of woodland areas.

<p>woodland and non-woodland), and the cultural and amenity values of trees and woodland.</p> <p>Increase the contribution that trees, woods and forests make to the quality of life for those living in, working in or visiting England.</p> <p>Improve the competitiveness of woodland businesses and promote the development of new or improved markets for sustainable woodland products and ecosystem services where this will deliver identifiable public benefits, nationally or locally, including the reduction of carbon emissions.</p>			
<b>NATIONAL TRAILS PUBLICATION</b>			
<b>KEY OBJECTIVES RELEVANT TO PLAN AND SA</b>	<b>KEY TARGETS AND INDICATORS RELEVANT TO PLAN AND SA</b>	<b>IMPLICATIONS FOR PLAN</b>	<b>IMPLICATIONS FOR SA</b>
<p>This leaflet published by the Countryside Agency in 2005 details 15 of the most popular National Trails in the England and Wales. National Trails pass through some of the most stunning and diverse landscapes in Britain. Of particular relevance to Gloucestershire is the Cotswold Way Natural Trail and the Thames Path and Ridgeway National Trail.</p>	<p>No targets or indicators specifically, or directly relevant to minerals and waste plans.</p>	<p>Consider how the plan can protect those National Trails upon which it may have an impact.</p>	<p>Consider rights of way issues, the enjoyment of the countryside and the protection of National Trails in the SA Framework.</p>
<b>THE ENVIRONMENT AGENCY'S APPROACH TO GROUNDWATER PROTECTION (2017)</b>			
<b>KEY OBJECTIVES RELEVANT TO PLAN AND SA</b>	<b>KEY TARGETS AND INDICATORS RELEVANT TO PLAN AND SA</b>	<b>IMPLICATIONS FOR PLAN</b>	<b>IMPLICATIONS FOR SA</b>
<p>To prevent pollution of groundwater.</p>	<p>To meet Water Framework Directive requirements for groundwater quality.</p>	<p>Plan should recognise the importance and vulnerability of groundwater resources and ensure that they are not detrimentally affected by waste development.</p>	<p>Include an objective to protect groundwater quality.</p>
<b>FLOOD AND WATER MANAGEMENT ACT 2010</b>			
<b>KEY OBJECTIVES RELEVANT TO PLAN AND SA</b>	<b>KEY TARGETS AND INDICATORS RELEVANT TO PLAN AND SA</b>	<b>IMPLICATIONS FOR PLAN</b>	<b>IMPLICATIONS FOR SA</b>
<p>To improve the management of flood risk for people, homes and businesses.</p>	<p>Local Authorities to prepare flood risk assessments, flood maps and plans.</p>	<p>Plan should take account of flooding and water management issues and strategies.</p>	<p>Consider inclusion of objective to reduce flood risk and other impacts on</p>

To protect water supplies.	EA to prepare Local flood risk management strategies.		the water environment.
<b>WATER WHITE PAPER: WATER FOR LIFE (2011)</b>			
<b>KEY OBJECTIVES RELEVANT TO PLAN AND SA</b>	<b>KEY TARGETS AND INDICATORS RELEVANT TO PLAN AND SA</b>	<b>IMPLICATIONS FOR PLAN</b>	<b>IMPLICATIONS FOR SA</b>
<p>Objectives of the White Paper are to:</p> <p>Paint a clear vision of the future and create the conditions which enable the water sector and water users to prepare for it;</p> <p>Deliver benefits across society through an ambitious agenda for improving water quality, working with local communities to make early improvements in the health of our rivers by reducing pollution and tackling unsustainable abstraction;</p> <p>Keep short and longer term affordability for customers at the centre of decision making in the water sector;</p> <p>Work with water companies, regulators and other stakeholders to build understanding of the impact personal choices have on the water environment, water resources and costs; and</p> <p>Set out roles and responsibilities – including where Government will take a stronger role in strategic direction setting and assessing resilience to future challenges, as well as clear expectations on the regulators.</p>	No targets or indicators.	Ensure that site allocations and policies will support the wise use of water, and improvement of water quality.	Include sustainability objectives that relate to water quality and quantity.
<b>PLANNING FOR THE SUPPLY OF NATURAL BUILDING AND ROOFING STONE IN ENGLAND AND WALES (2004)</b>			
<b>KEY OBJECTIVES RELEVANT TO PLAN AND SA</b>	<b>KEY TARGETS AND INDICATORS RELEVANT TO PLAN AND SA</b>	<b>IMPLICATIONS FOR PLAN</b>	<b>IMPLICATIONS FOR SA</b>
This report describes the nature and significance of the building and roofing stone industry in England and Wales and its relationship to planning and development.	No key targets.	<p>Consider policies in the plan that support the continuing use of natural building stone – where there is demonstrated need.</p> <p>Consider the potential implications for</p>	Include sustainability objectives in the SA Framework that aim to provide for the demand for natural stone products, balanced against environmental and other considerations.

<p>The report highlights the fact that there is demand for natural stone products in three main areas:</p> <p>Repair and maintenance to historic buildings and structures using materials from original or compatible sources.</p> <p>Maintaining vernacular styles in new construction, using materials that are compatible with traditional local building practices.</p> <p>Contemporary design requirements for new buildings and structures, including internal and external decoration.</p> <p>The report concludes that there is a need to protect areas of designated interest and value, to prevent the unnecessary sterilisation of resources and also 'the need for positive action to encourage the continued operation of existing and new building stone quarries by minimising the burden placed upon them by the planning system as far as possible.</p>		<p>waste minimisation in this sector in that 'building stone production necessarily involves a relatively high proportion of waste'.</p>	
<b>COLLATION OF THE 2014 AGGREGATE MINERALS SURVEY FOR ENGLAND AND WALES</b>			
<b>KEY OBJECTIVES RELEVANT TO PLAN AND SA</b>	<b>KEY TARGETS AND INDICATORS RELEVANT TO PLAN AND SA</b>	<b>IMPLICATIONS FOR PLAN</b>	<b>IMPLICATIONS FOR SA</b>
<p>The report provides comprehensive information for monitoring and facilitating aggregates provision at local, regional and national level.</p> <p>Aggregate Minerals (AM) surveys, based at four-yearly intervals since 1973, provide an in depth and up-to-date understanding of regional and national sales, inter-regional flows, transportation, consumption and permitted reserves of primary aggregates. The Aggregate Minerals 2014 survey report also presents data on the movement and consumption of primary aggregates by sub region. Information is also presented on the quantity of aggregate minerals granted</p>	<p>No targets, but there are a number of significant indicators for example the South West (18.7 Mt, 34% total limestone sales) was the largest producer of limestone for aggregates.</p>	<p>Develop appropriate and sustainable policies in the light of the survey results.</p>	<p>Consider the results of the AM Survey.</p>

and refused planning permission and planning permission applications withdrawn between 2010 and 2014, and applications submitted between 2010 and 2014 that were awaiting a decision at 31 December 2014.			
<b>CLIMATE CHANGE ACT 2008</b>			
<b>KEY OBJECTIVES RELEVANT TO PLAN AND SA</b>	<b>KEY TARGETS AND INDICATORS RELEVANT TO PLAN AND SA</b>	<b>IMPLICATIONS FOR PLAN</b>	<b>IMPLICATIONS FOR SA</b>
<p>The purpose of the act is to provide a legally binding long-term framework to cut carbon emissions to ensure the UK meets its commitments to tackle climate change.</p> <p>The main elements of the Act are:</p> <p>Reducing emissions by 80% by 2050 compared to 1990 levels.</p> <p>Production of a Climate Change Risk Assessment every 5 years.</p> <p>A national adaptation programme which will be reviewed every 5 years which will address the most pressing climate change issues in England.</p>	<p>National target of reducing emissions by 80% by 2050 compared to 1990 levels, with an interim target of 34% by 2020.</p>	<p>Planning makes a significant contribution to both mitigating and adapting to climate change through its ability to influence the location, scale, mix and character of development. The plan should include policies that contribute towards achieving lower carbon emissions and greater resilience to the impacts of climate change.</p>	<p>Objectives should reflect the aims set in the Climate Change Act to reduce carbon emissions.</p>
<b>MINERAL EXTRACTION AND THE HISTORIC ENVIRONMENT (2008)</b>			
<b>KEY OBJECTIVES RELEVANT TO PLAN AND SA</b>	<b>KEY TARGETS AND INDICATORS RELEVANT TO PLAN AND SA</b>	<b>IMPLICATIONS FOR PLAN</b>	<b>IMPLICATIONS FOR SA</b>
<p>The document sets out English Heritage's position on mineral extraction and the high-level policies that will form the basis for responses and views put forward by English Heritage on any matter relating to the winning, working and safeguarding of minerals. Although it was produced before the NPPF English Heritage consider the document and a majority of the contents are still relevant. Its principal purpose is to guide the work of English Heritage, but it will also be of interest to the wider historic environment sector, government, local authorities, the minerals industry and other</p>	<p>No key targets (as yet.)</p>	<p>Ensure English Heritage's formal policy on mineral extraction is taken into account in the development of the MLP.</p>	<p>Consider the impacts upon the historic environment.</p>

<p>organisations that care for the environment.</p> <p>The document sets out English Heritage's formal policy on mineral extraction, including:</p> <p>Sustainability and supply</p> <p>Safeguarding the industry's heritage</p> <p>Impacts and mitigating of current and future extraction</p> <p>Maintaining historic fabric and local distinctiveness</p>			
<b>MINERAL EXTRACTION AND ARCHAEOLOGY: A PRACTICE GUIDE (2008)</b>			
<b>KEY OBJECTIVES RELEVANT TO PLAN AND SA</b>	<b>KEY TARGETS AND INDICATORS RELEVANT TO LAN AND SA</b>	<b>IMPLICATIONS FOR PLAN</b>	<b>IMPLICATIONS FOR SA</b>
<p>The document provides guidance specifically for dealing with archaeological remains as part of mineral development through the planning process. Although it was produced before the NPPF English Heritage consider the document and a majority of the contents are still relevant. The principal purpose of this Practice Guide is to provide clear and practical guidance on the archaeological evaluation of mineral development sites. The guide seeks to ensure that:</p> <p>the best-informed decisions are made regarding the level of archaeological knowledge needed at each stage of the planning process;</p> <p>the use of the full range of up to date and appropriate investigative techniques is considered;</p> <p>there is consistency in planning authority responses, proportionate to the archaeological potential of the site and reasonable in all other respects.</p>	<p>No key targets (as yet.)</p>	<p>Ensure the best practice is taken into account in the development of the LDF.</p>	<p>Consider the impacts upon archaeology.</p>



<b>PLANNING PRACTICE GUIDANCE ON MINERALS (2014)</b>			
<b>KEY OBJECTIVES RELEVANT TO PLAN AND SA</b>	<b>KEY TARGETS AND INDICATORS RELEVANT TO LAN AND SA</b>	<b>IMPLICATIONS FOR PLAN</b>	<b>IMPLICATIONS FOR SA</b>
<p>The report provides comprehensive information for monitoring and facilitating aggregates provision at local, regional and national level.</p> <p>Aggregate Minerals (AM) surveys, based at four-yearly intervals since 1973, provide an in depth and up-to-date understanding of regional and national sales, inter-regional flows, transportation, consumption and permitted reserves of primary aggregates. The Aggregate Minerals 2009 survey report also presents data on the movement and consumption of primary aggregates by sub region. Information is also presented on the quantity of aggregate minerals granted and refused planning permission and, for the first time, planning permission applications withdrawn or awaiting a decision, between 2006 and 2009, by site type and environmental designation.</p>	<p>No targets, but indicates that the South East is the largest producer of sand and gravel.</p>	<p>Develop appropriate and sustainable policies in the light of the survey results.</p>	<p>Include a sustainability objective that ensures sufficient mineral provision for the County.</p>
<b>MARINE POLICY STATEMENT</b>			
<b>KEY OBJECTIVES RELEVANT TO PLAN AND SA</b>	<b>KEY TARGETS AND INDICATORS RELEVANT TO LAN AND SA</b>	<b>IMPLICATIONS FOR PLAN</b>	<b>IMPLICATIONS FOR SA</b>
<p>The Marine Policy Statement (MPS) is the framework for preparing Marine Plans and taking decisions affecting the marine environment. It will contribute to the achievement of sustainable development in the United Kingdom marine area.</p> <p>The MPS will facilitate and support the formulation of Marine Plans, ensuring that marine resources are used in a sustainable way in line with the high level marine objectives and thereby:</p> <p>Promote sustainable economic development;</p> <p>Enable the UK's move towards a low-</p>	<p>None. The MPS refers mainly to what Marine Plans will need to address, which includes the need to make provision within Marine Plans for a level of supply of marine sand and gravel that ensures that marine aggregates (along with other sources of aggregates, including recyclates) contribute to the overarching Government objective of securing an adequate and continuing supply to the UK market for various uses.</p> <p>Gloucestershire falls into marine plan area 8 out of 11 Marine Plan Areas in the UK. All marine plan areas are scheduled to have a plan by 2021. However, only</p>	<p>While the MLP will not contain any policies relating to where and how marine aggregates will be extracted, it will include policies relating to safeguarding infrastructure such as wharves where marine aggregates may be landed. Therefore, the MLP will need to have regard to any policies in the relevant Marine Plan making provision for supply of marine aggregates, and any indirect effects that could arise from operation of wharves the receive imports of marine-won aggregates.</p>	<p>Include a sustainability objective that enables consideration of indirect effects on coastal hydrology and biodiversity associated with landing of marine-won aggregates.</p>

<p>carbon economy, in order to mitigate the causes of climate change and ocean acidification and adapt to their effects;</p> <p>Ensure a sustainable marine environment which promotes healthy, functioning marine ecosystems and protects marine habitats, species and our heritage assets; and</p> <p>Contribute to the societal benefits of the marine area, including the sustainable use of marine resources to address local social and economic issues.</p> <p>The MPS states that marine plans will need to be integrated with terrestrial development plans (such as the MLP), and states that integration of marine and terrestrial planning will be achieved through:</p> <p>Consistency between marine and terrestrial policy documents and guidance. Terrestrial planning policy and development plan documents already include policies addressing coastal and estuarine planning. Marine policy guidance and plans will seek to complement rather than replace these, recognising that both systems may adapt and evolve over time;</p> <p>Liaison between respective responsible authorities for terrestrial and marine planning, including in plan development, implementation and review stages. This will help ensure, for example, that developments in the marine environment are supported by the appropriate infrastructure on land and reflected in terrestrial development plans, and vice versa; and</p> <p>Sharing the evidence base and data where relevant and appropriate so as to achieve consistency in the data used in plan making and decisions.</p>	<p>the Draft Vision for the South West Marine Plan (including Area 8) have to date been published (see STRATEGIC / SUB-NATIONAL section.)</p>		
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<b>ENGLAND'S STATUTORY LANDSCAPE DESIGNATIONS: A PRACTICAL GUIDE TO YOUR DUTY OF REGARD (2010)</b>			
<b>KEY OBJECTIVES RELEVANT TO PLAN AND SA</b>	<b>KEY TARGETS AND INDICATORS RELEVANT TO LAN AND SA</b>	<b>IMPLICATIONS FOR PLAN</b>	<b>IMPLICATIONS FOR SA</b>
Conservation and enhancement of the natural beauty, wildlife and cultural heritage of the Cotswolds, Wye Valley and Mendip Hills AONBs and promotion of opportunities for the understanding and enjoyment of the special qualities of the AONBs by the public.	None.	Plan should have regard to the duties of the relevant authorities of the purposes of AONBs.  Plan should support the vision for the AONBs.  Key considerations include conservation and enhancement of the natural beauty, wildlife and cultural heritage of the AONBs and promotion of opportunities for the understanding and enjoyment of the special qualities of the AONBs by the public.	Objectives should reflect the vision and objectives of AONBs.
<b>THE GEOLOGICAL CONSERVATION REVIEW IN THE CONTEXT OF THE WIDER EARTH HERITAGE CONSERVATION EFFORT</b>			
<b>KEY OBJECTIVES RELEVANT TO PLAN AND SA</b>	<b>KEY TARGETS AND INDICATORS RELEVANT TO LAN AND SA</b>	<b>IMPLICATIONS FOR PLAN</b>	<b>IMPLICATIONS FOR SA</b>
To identify and describe the most important geological sites in Britain by:  Maintaining geological SSSIs.  Expanding the RIGS network.  Developing conservation techniques.  Improving documentation.	None.	Plan should take account of the importance of both designated and non-designated notable geological sites and features.	Objectives should protect and conserve sites of geological conservation importance.
<b>STRATEGIC / SUB-NATIONAL</b>			
<b>THAMES WATER RESOURCES MANAGEMENT PLAN (FINAL PUBLISHED VERSION 2014)</b>			
<b>KEY OBJECTIVES RELEVANT TO PLAN AND SA</b>	<b>KEY TARGETS AND INDICATORS RELEVANT TO PLAN AND SA</b>	<b>IMPLICATIONS FOR PLAN</b>	<b>IMPLICATIONS FOR SA</b>
Further significant reductions in leakage resulting in the reduction in leakage by a third by 2020.  A ten year programme of targeted compulsory metering.  An enhanced water efficiency programme.  An integrated Demand Management (IDM) approach to planning and	Reduction in leakage by one third by 2020 followed by further reductions.  Household meter penetration of around 80% by 2020 and the metering of all connected properties.	Consider the needs and requirements of all licensed water suppliers and statutory waste water undertakers.	The SA should contain objectives protecting water supplies and water bodies from pollution.

<p>delivery.</p> <p>Development of key schemes including Upper Thames Major Resource Development in 2021/22.</p> <p>The development of 'what if' analysis and contingency options.</p>			
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**WESSEX WATER RESOURCES MANAGEMENT PLAN (FINAL PUBLISHED VERSION- 2014)**

<b>KEY OBJECTIVES RELEVANT TO PLAN AND SA</b>	<b>KEY TARGETS AND INDICATORS RELEVANT TO PLAN AND SA</b>	<b>IMPLICATIONS FOR PLAN</b>	<b>IMPLICATIONS FOR SA</b>
<p>To improve the water supply network to guarantee the security of supply in the event of source failure, to help overcome low river flow problems and to provide alternative supplies when some sources are affected by elevated nitrate levels.</p> <p>To move progressively towards metering when a property changes hands, accompanied by tariffs aimed at encouraging sustainable use and protecting those in 'water poverty'.</p> <p>Communicating more clearly how customers can be more efficient in their use of water and offering additional services to promote water efficient behaviour.</p> <p>Protecting the quality of our water supplies by working with farmers and encouraging the Environment Agency to make full use of their powers to protect groundwater.</p>	<p>No specific targets or indicators that are directly relevant.</p>	<p>Consider the needs and requirements of all licensed water suppliers and statutory waste water undertakers.</p>	<p>The SA should contain objectives protecting water supplies and water bodies from pollution, promoting the efficient and sustainable management of waste water.</p>

**SEVERN TRENT WATER RESOURCES MANAGEMENT PLAN (FINAL PUBLISHED VERSION: 2014)**

<b>KEY OBJECTIVES RELEVANT TO PLAN AND SA</b>	<b>KEY TARGETS AND INDICATORS RELEVANT TO PLAN AND SA</b>	<b>IMPLICATIONS FOR PLAN</b>	<b>IMPLICATIONS FOR SA</b>
<p>Meet statutory obligations as a licensed water supply and waste water undertaker.</p> <p>Comply with environmental legislation and meet environmental obligations.</p> <p>Adopt the overall least financial, social and environmental cost strategy for achieving and maintaining target</p>	<p>None specifically relevant to the MCS.</p>	<p>Consider the needs and requirements of all licensed water suppliers and statutory waste water undertakers.</p>	<p>The SA should contain objectives protecting water supplies and water bodies from pollution and promote the efficient and sustainable management of waste water.</p>

<p>headroom throughout the planning period to 2035.</p> <p>Continue to promote and expand water efficiency programmes and water reuse options.</p> <p>Accelerate the installation of water meters and more sophisticated tariffs.</p> <p>Continue to drive down the level of leakage from the network.</p> <p>Reinforce the network to avoid interruptions to supply.</p> <p>Design and maintain water resource and supply systems to achieve no more than three hosepipe bans in 100 years.</p> <p>Increase the scope for water transfers across our own region and between water companies.</p> <p>Develop new sustainable water resources when needed.</p> <p>Ensure no failures in treated water quality outside the standards that are set.</p>			
<b>WELSH WATER: WATER RESOURCES MANAGEMENT PLAN 2015-2040</b>			
<b>KEY OBJECTIVES RELEVANT TO PLAN AND SA</b>	<b>KEY TARGETS AND INDICATORS RELEVANT TO PLAN AND SA</b>	<b>IMPLICATIONS FOR PLAN</b>	<b>IMPLICATIONS FOR SA</b>
<p>This Plan is aligned to their current policy position detailed in the document, 'Our Sustainable Future', and with their forthcoming Environment Strategy. Key aspects are:</p> <p>Looking after our assets - Our priorities to the milestone year 2015 include....providing robust infrastructure to enable continued economic growth and development in Wales.</p> <p>Responding to climate change - We will implement changes to our business activities to cope with extreme weather events....through Water Resources Plans and enhanced protection of our key</p>	<p>No specific targets or indicators that are directly relevant.</p>	<p>Consider the needs and requirements of all licensed water suppliers and statutory waste water undertakers.</p>	<p>The SA should contain objectives protecting water supplies and water bodies from pollution and promote the efficient and sustainable management of waste water.</p>

<p>assets.</p> <p>Over the next 25 years....our vision is that customers should be able to look forward to....at least a 50% cut in greenhouse gas emissions.</p> <p>Safeguarding the environment - protected areas will not be adversely affected by our water abstractions.</p> <p>Meeting customers' expectations - Our Water Resources Plans will be based on a hosepipe ban not occurring at a rate of more than once in every 20 years.</p>			
<b>BRISTOL WATER: WATER RESOURCES MANAGEMENT PLAN 2014</b>			
<b>KEY OBJECTIVES RELEVANT TO PLAN AND SA</b>	<b>KEY TARGETS AND INDICATORS RELEVANT TO PLAN AND SA</b>	<b>IMPLICATIONS FOR PLAN</b>	<b>IMPLICATIONS FOR SA</b>
<p>Improving network water efficiency.</p> <p>Helping customers reduce their demand for water.</p> <p>Developing existing and additional sources of water.</p> <p>Investigating opportunities for bulk supplies from other companies.</p> <p>Maintain security of water supply at current levels.</p> <p>Provide environmental assets that help to reduce overall greenhouse gas emissions.</p> <p>Help customers become aware of water use and water efficiency.</p> <p>Improve our own water efficiency by large leakage reductions.</p> <p>Deliver a fairer way to pay for water through metering.</p>	<p>No specific targets or indicators that are directly relevant.</p>	<p>Consider the needs and requirements of all licensed water suppliers and statutory waste water undertakers.</p>	<p>The SA should contain objectives protecting water supplies and water bodies from pollution and promote the efficient and sustainable management of waste water.</p>

<b>SEVERN RIVER BASIN DISTRICT: RIVER BASIN MANAGEMENT PLAN (2015)</b>			
<b>KEY OBJECTIVES RELEVANT TO PLAN AND SA</b>	<b>KEY TARGETS AND INDICATORS RELEVANT TO PLAN AND SA</b>	<b>IMPLICATIONS FOR PLAN</b>	<b>IMPLICATIONS FOR SA</b>
<p>By 2021:</p> <p>27% of surface waters (rivers, lakes estuaries and coastal waters) to be at good ecological status / potential or better (88% with an objective.)</p> <p>95% of surface waters to be at good chemical status (&gt;99% with an objective.)</p> <p>69% of ground waters to be at good chemical status (90% with an objective.)</p> <p>81% of ground waters to be at good quantitative status (81% with an objective.)</p> <p>29% of all water bodies to be at good or better overall status (87% with an objective.)</p> <p>83% of surface waters ecological elements to be at good or better status (98% with an objective.)</p> <p>95% of surface waters chemical elements to be at good status (&gt;99% with an objective.)</p> <p>92% of ground waters chemical elements to be at good status (98% with an objective.)</p> <p>92% of ground waters quantitative elements to be at good status (95% with an objective.)</p> <p>85% of wall water bodies' elements to be at good or better status (98% with an objective.)</p>	<p>To help monitor progress with this plan and show how the quality of the water environment is changing, the Environment Agency and Natural Resources Wales will report on a range of quality indicators. These could include:</p> <p>status or risks facing protected areas: drinking water protected areas, Natura 2000 sites, bathing waters, shellfish waters, and nutrient sensitive areas;</p> <p>ecological status plus individual status of some quality elements: fish, macrophytes, invertebrates, diatoms, phosphorous, dissolved oxygen, ammonia, specific pollutants, acidity;</p> <p>chemical status plus individual status of some quality elements;</p> <p>changes in status of each of the individual ecological status elements.</p> <p>This will be used as an indicator of overall progress towards good ecological status.</p>	<p>Consider the protection of water supplies and water bodies from pollution.</p>	<p>The SA should contain objectives protecting water supplies and water bodies from pollution.</p>
<b>THAMES RIVER BASIN DISTRICT: RIVER BASIN MANAGEMENT PLAN (2015)</b>			
<b>KEY OBJECTIVES RELEVANT TO PLAN AND SA</b>	<b>KEY TARGETS AND INDICATORS RELEVANT TO PLAN AND SA</b>	<b>IMPLICATIONS FOR PLAN</b>	<b>IMPLICATIONS FOR SA</b>
<p>By 2021:</p> <p>10% of surface waters (rivers, lakes</p>	<p>To help monitor progress with this plan and show how the quality of the water</p>	<p>Consider the protection of water supplies and water bodies from pollution.</p>	<p>The SA should contain objectives protecting water supplies and water</p>

<p>estuaries and coastal waters) to be at good ecological status / potential or better (58% with an objective.)</p> <p>99% of surface waters to be at good chemical status (&gt;99% with an objective.)</p> <p>62% of ground waters to be at good chemical status (96% with an objective.)</p> <p>60% of ground waters to be at good quantitative status (66% with an objective.)</p> <p>13% of all water bodies to be at good or better overall status (59% with an objective.)</p> <p>73% of surface waters ecological elements to be at good or better status (89% with an objective.)</p> <p>&gt;99% of surface waters chemical elements to be at good status (&gt;99% with an objective.)</p> <p>89% of ground waters chemical elements to be at good status (99% with an objective.)</p> <p>85% of ground waters quantitative elements to be at good status (89% with an objective.)</p> <p>80% of wall water bodies' elements to be at good or better status (92% with an objective.)</p>	<p>environment is changing, the Environment Agency and Natural Resources Wales will report on a range of quality indicators. These could include:</p> <p>status or risks facing protected areas: drinking water protected areas, Natura 2000 sites, bathing waters, shellfish waters, and nutrient sensitive areas;</p> <p>ecological status plus individual status of some quality elements: fish, macrophytes, invertebrates, diatoms, phosphorous, dissolved oxygen, ammonia, specific pollutants, acidity;</p> <p>chemical status plus individual status of some quality elements;</p> <p>changes in status of each of the individual ecological status elements.</p> <p>This will be used as an indicator of overall progress towards good ecological status.</p>		<p>bodies from pollution.</p>
<b>EMERGING SOUTH WEST MARINE PLAN</b>			
<p><b>KEY OBJECTIVES RELEVANT TO PLAN AND SA</b></p>	<p><b>KEY TARGETS AND INDICATORS RELEVANT TO PLAN AND SA</b></p>	<p><b>IMPLICATIONS FOR PLAN</b></p>	<p><b>IMPLICATIONS FOR SA</b></p>
<p>The vision for the south west marine plan areas in 2041:</p> <p>The strong historic, cultural, environmental and economic association with the Atlantic Ocean and the Western Approaches is maintained and enhanced.</p> <p>The prevalence of fishing and tourism and recreational activities continues to</p>	<p>No targets or indicators specifically, or directly relevant to minerals local planning</p>	<p>Consider the implications of the plan on future supplies of non land-won minerals and how these may contribute to the supply of minerals more generally.</p>	<p>The SA should contain objectives that appropriate respond to the delivery of the marine plan – in particular the management of the water environment covered by the marine plan and / or water environments. that may have an influence upon it.</p>



<p>have a strong influence in a traditional and quintessential maritime setting.</p> <p>The plan areas benefit from significant renewable energy resources including tidal range, tidal stream, wave and wind.</p> <p>A strong, sustainable maritime economy based on commercial fishing, tourism and port development encourages economic growth and enhances the well-being of inhabitants and visitors alike.</p>			
<b>SOUTH WEST NATURE MAP</b>			
<b>KEY OBJECTIVES RELEVANT TO PLAN AND SA</b>	<b>KEY TARGETS AND INDICATORS RELEVANT TO PLAN AND SA</b>	<b>IMPLICATIONS FOR PLAN</b>	<b>IMPLICATIONS FOR SA</b>
<p>To identify where most of the major biodiversity concentrations are found and where targets to maintain, restore and re-create wildlife might best be met.</p> <p>To formulate sustainable choices for development, e.g. through Local Development Frameworks and the Regional Spatial Strategy.</p> <p>To assist in targeting the new Environmental Stewardship Scheme.</p> <p>To develop partnerships and projects for biodiversity in the region.</p> <p>To provide a focus for projects that will help biodiversity to adapt to climate change.</p>	<p>No specific relevant targets but aims to prevent further biodiversity losses, re-establish lost wildlife and enable it to adapt to the pressures of climate change. The Map shows the best areas to maintain and expand (through restoration and/or re-creation) terrestrial wildlife habitats at a landscape scale.</p>	<p>See Gloucestershire Nature Map.</p>	<p>See Gloucestershire Nature Map.</p>
<b>LOCAL</b>			
<b>GLOUCESTERSHIRE STRATEGIC FLOOD RISK ASSESSMENT FOR MINERALS &amp; WASTE DEVELOPMENT FRAMEWORK (SEPTEMBER 2008)</b>			
<b>KEY OBJECTIVES RELEVANT TO PLAN AND SA</b>	<b>KEY TARGETS AND INDICATORS RELEVANT TO PLAN AND SA</b>	<b>IMPLICATIONS FOR PLAN</b>	<b>IMPLICATIONS FOR SA</b>
<p>The purpose of the SFRA is to:</p> <p>inform the SA so that flood risk is taken into account when considering options in the preparation of strategic land use policies.</p> <p>Propose appropriate policy recommendations for the management</p>	<p>No specific targets.</p>	<p>Carefully consider the implications of the SFRA in terms of the development of strategic policies and site allocations. Guide development to the areas of lowest flood risk. Guidance is provided within the NPPF.</p>	<p>The SA process should facilitate the assessment of flood risk from all sources of flooding as detailed in the SFRA.</p>

<p>of flood risk within Local Development Documents (LDDs.)</p> <p>Determine the acceptability of flood risk in relation to emergency planning capability.</p> <p>Identify the level of detail required for future site-specific Flood Risk Assessments (FRAs) that support planning applications.</p>			
<b>LANDSCAPE CHARACTER ASSESSMENTS</b>			
<b>KEY OBJECTIVES RELEVANT TO PLAN AND SA</b>	<b>KEY TARGETS AND INDICATORS RELEVANT TO PLAN AND SA</b>	<b>IMPLICATIONS FOR PLAN</b>	<b>IMPLICATIONS FOR SA</b>
<p>Many local authorities within Gloucestershire have undertaken Landscape Character Assessments that provide an assessment of the character, distinctiveness and qualities of the landscape character areas in each authority.</p> <p>These include:</p> <p>Cotswold Water Park (2009)</p> <p>Cotswold Area of Outstanding Natural Beauty (2004)</p> <p>Forest of Dean (2002)</p> <p>Stroud District Council (2000)</p> <p>They provide a widely accepted assessment of landscape character and can be used in a variety of planning strategies.</p> <p>Additionally, landscape characterisation, as outlined above, has also been undertaken as part of the Joint Core Strategy for Gloucester City Council, Cheltenham Borough Council and Tewkesbury Borough Council (2013).</p> <p>In addition to this, landscape sensitivity assessments have been undertaken for the Joint Core Strategy (2013) and Stroud District Council (2013) and these identify where the landscape is more or</p>	<p>No relevant key targets.</p>	<p>The plan should contain policies which ensure that proposals for the location and form of mineral sites are considered in light the recommendations of the local landscape character and landscape sensitivity assessments.</p>	<p>Landscape objectives could be used as part of the SA Framework.</p>

less sensitive to change.			
<b>A STRATEGIC FRAMEWORK FOR GREEN INFRASTRUCTURE IN GLOUCESTERSHIRE (2015)</b>			
<b>KEY OBJECTIVES RELEVANT TO PLAN AND SA</b>	<b>KEY TARGETS AND INDICATORS RELEVANT TO PLAN AND SA</b>	<b>IMPLICATIONS FOR PLAN</b>	<b>IMPLICATIONS FOR SA</b>
<p>The Framework sets out the following vision: -</p> <p>‘That Gloucestershire’s green infrastructure is enhanced, extended, promoted and managed to maximise its contribution to our high quality natural and historic environment, our health and well-being, our economy, our resilience to climate change and to a better quality of life for all.</p> <p>And that sustainable economic growth in the county is strengthened by giving green infrastructure the same consideration as other key county-wide infrastructure issues.</p> <p>The Framework also includes a suite of strategic principles. Those potentially relevant to Plan include: -</p> <p>Maximise opportunities to improve both strategic green infrastructure and more local green infrastructure, whenever change is being considered – from individual development proposals and open space improvements to landscape scale environmental projects and flood alleviation schemes;</p> <p>Ensure that green infrastructure principles are embedded in policies that guide change in the county, for example local plans; water catchment plans; economic plans etc.</p>	<p>No key targets relevant to the plan and SA.</p>	<p>Consider how the plan may be able to offer support to contributing to realising the vision, and delivering the strategic principles of the framework.</p>	<p>The SA should contain objectives that appropriate respond to the delivery of the framework</p>

<b>GLOUCESTERSHIRE NATURE MAP</b>			
<b>KEY OBJECTIVES RELEVANT TO PLAN AND SA</b>	<b>KEY TARGETS AND INDICATORS RELEVANT TO PLAN AND SA</b>	<b>IMPLICATIONS FOR PLAN</b>	<b>IMPLICATIONS FOR SA</b>
The Gloucestershire Nature Map has been recognised by the Local Nature Partnership (LNP) as being the basis of a strategic ecological network for the county. It also forms part of the Gloucestershire Biodiversity Partnership biodiversity delivery framework.	The Gloucestershire Nature Map is a response to the above.	Plans should reflect the aims and objectives of the Gloucestershire Nature Map in terms of enhancing wildlife (where possible) and protecting habitats and species when changes e.g. climate change threaten their existence.	The SA Objectives should reflect the aims and objectives of the Gloucestershire Nature Map.
<b>GLOUCESTERSHIRE COTSWOLDS GEODIVERSITY AUDIT &amp; LOCAL GEODIVERSITY ACTION PLAN 2005</b>			
<b>KEY OBJECTIVES RELEVANT TO PLAN AND SA</b>	<b>KEY TARGETS AND INDICATORS RELEVANT TO PLAN AND SA</b>	<b>IMPLICATIONS FOR PLAN</b>	<b>IMPLICATIONS FOR SA</b>
<p>The LGAP is intended to:</p> <p>Protect and manage the unique geodiversity of the Gloucestershire Cotswolds.</p> <p>Increase understanding and awareness of geodiversity.</p> <p>Promote geotourism, education and lifelong learning.</p>	No key targets as such.	Implications particularly for minerals plans and mineral working in the Cotswolds.	The SA Framework should consider and reflect the importance geodiversity in Gloucestershire and reflect the aims of the LDAP for the Gloucestershire Cotswolds.
<b>GLOUCESTERSHIRE'S LOCAL TRANSPORT PLAN (2015-2031)</b>			
<b>KEY OBJECTIVES RELEVANT TO PLAN AND SA</b>	<b>KEY TARGETS AND INDICATORS RELEVANT TO PLAN AND SA</b>	<b>IMPLICATIONS FOR PLAN</b>	<b>IMPLICATIONS FOR SA</b>
<p>Gloucestershire's vision for transport is for:</p> <p>'A resilient transport network that enables sustainable economic growth by providing door to door travel choices'</p> <p>The plan's objectives seek to -</p> <p>Support sustainable economic growth;</p> <p>Enable community connectivity;</p> <p>Conserve the environment;</p> <p>Improve community health and well-being;</p> <p>Support sustainable economic growth.</p>	No key targets relevant to the plan and SA.	<p>Consider how the plan may be able to offer support to contributing to realising the vision, and delivering the objectives and / or relevant LTP policies.</p> <p>Particular attention should be paid to ensuring the mineral-related traffic and the movement of minerals in general does not adversely affect the delivery of the LTP</p>	Ensure that the key issues of 'moving minerals in and around Gloucestershire' as set out in the LTP are sufficiently scrutinised through the SA process.

<b>GLOUCESTERSHIRE STRATEGIC ECONOMIC PLAN (SEP) (2014)</b>			
<b>KEY OBJECTIVES RELEVANT TO PLAN AND SA</b>	<b>KEY TARGETS AND INDICATORS RELEVANT TO PLAN AND SA</b>	<b>IMPLICATIONS FOR PLAN</b>	<b>IMPLICATIONS FOR SA</b>
<p>The SEP has been developed around three components: -</p> <p>Providing a highly employable and economically productive workforce that meets the needs of local business, particularly in high value growth sectors;</p> <p>Attracting and retaining successful businesses in high value sectors and the next generation of talented workers. Presented</p>	<p>No key targets relevant to the plan and SA.</p>	<p>Consider how the plan may be able to offer support to contributing to the delivery of the SEP's components</p> <p>Particular attention should be paid to ensuring steady and adequate supplies of minerals are facilitated so local economic competitiveness can be supported and key infrastructure realised.</p>	<p>Check to ensure that the elements contained within three components are being adequately reflected in the SA Framework.</p>
<b>COTSWOLD WATER PARK BIODIVERSITY ACTION PLAN (2007-2016)</b>			
<b>KEY OBJECTIVES RELEVANT TO PLAN AND SA</b>	<b>KEY TARGETS AND INDICATORS RELEVANT TO PLAN AND SA</b>	<b>IMPLICATIONS FOR PLAN</b>	<b>IMPLICATIONS FOR SA</b>
<p>Note: This BAP replaces the 1997 – 2007 BAP above.</p> <p><u>The 50 year Vision is as follows:</u></p> <p>“The Cotswold Water Park should be a premier site for nature conservation where the requirements of industry, leisure, people and wildlife are successfully integrated.”</p> <p><u>The Generic Action Plan is as follows:</u></p> <ol style="list-style-type: none"> <li>1. Landscape-scale approach – The Head of the Thames Wetland Corridor.</li> <li>2. Planning. Minerals planning and Development Control.</li> <li>3. Promote and facilitate collection and availability of biological information in the CWP.</li> <li>4. Promote ecological and environmental research of priority habitats and species in the CWP.</li> <li>5. Promote the balance of sports and recreation with nature conservation. <b>Sports and recreation is a key part of the</b></li> </ol>	<p>Various targets and actions under each Generic Action Plan 'Theme' 1 to 10.</p> <p>Various targets and actions under each of the following Habitat Action Plans (HAPs) and Species Action Plans (SAPs.)</p> <p>HAP for Boundary Features</p> <p>HAP for Built Structures</p> <p>HAP for Canals</p> <p>HAP for Framed Land</p> <p>HAP for Fen, Marsh &amp; Reeds swamp</p> <p>HAP for Lowland Neutral Grassland</p> <p>HAP for Sand &amp; Gravel Quarries</p> <p>Habitat Statement: Bare ground &amp; early successional habitats for invertebrates</p> <p>HAP for Standing Open Water</p> <p>Habitat Statement: Ponds</p> <p>HAP for Rivers &amp; Streams</p> <p>HAP for Woodland</p>	<p>Consider how the plan can contribute to the vision and targets of the Action Plan - as outlined in this table.</p> <p>Consider how conflicts of interest between the minerals industry and wildlife can be successfully resolved and mitigated against.</p> <p>Consider policies in the plan that protect and enhance biodiversity wherever possible.</p>	<p>Include SA Objectives in the Framework that reflect the vision and objectives of the latest Cotswold Water Park BAP.</p>

<p>CWP.</p> <p>6. Promote and enable land acquisition to safeguard sites of current and potential nature conservation importance.</p> <p>7. Grants &amp; Funding.</p> <p>8. Education, Advice &amp; Training.</p> <p>9. Publicity, Interpretation and Awareness-raising.</p> <p>10. Policy.</p>	<p>SAP for Barberry Carpet Moth</p> <p>SAP for Bats</p> <p>SAP for Bittern</p> <p>SAP for Black Poplar</p> <p>SAP for Breeding Waterbirds</p> <p>SAP for Dragonflies &amp; Damselflies</p> <p>Species Statement for Glow Worms</p> <p>SAP for Great Crested Newts</p> <p>Species Statement for Nightingale</p> <p>Species Statement for Otter</p> <p>Species Statement for Reed Bunting</p> <p>SAP for Stoneworts</p> <p>SAP for Water Voles</p> <p>Species Statement for White-Clawed Crayfish</p> <p>SAP for Wintering Waterbirds</p> <p>SAP for Non-Native Invasive Species.</p>		
<b>STRATEGIC REVIEW AND IMPLEMENTATION PLAN FOR THE COTSWOLD WATER PARK (2008)</b>			
<b>KEY OBJECTIVES RELEVANT TO PLAN AND SA</b>	<b>KEY TARGETS AND INDICATORS RELEVANT TO PLAN AND SA</b>	<b>IMPLICATIONS FOR PLAN</b>	<b>IMPLICATIONS FOR SA</b>
<p>The Cotswold Water Park (CWP) plan outlines core objective to achieve its vision, including:</p> <p>The CWP to become a distinctive countryside environment in which to live and work, engendering a sense of community spirit, pride, well-being, vitality and prosperity across the whole of the CWP area.</p> <p>The CWP to become a premier site for nature conservation, achieving regionally, nationally and internationally important biodiversity targets through a landscape-scale programme in which stakeholders can create, nurture, and protect rare and endangered indigenous</p>	<p>Core priorities of the plan include:</p> <p>Via the CWP BAP, deliver a landscape scale conservation approach that traverses the whole of the CWP area, utilising the inherent neutral grasslands, the reed beds and the floodplain grazing marsh to ensure that the CWP becomes a premier site for conservation in the UK.</p> <p>Integrate the CWP BAP objectives and principles into the planning framework of the respective local authorities. This will eventually be translated into more specific policy statements in the proposed Area Action Plan for the CWP (see Planning section.)</p> <p>Ensure that biodiversity targets and</p>	<p>Develop policies that contribute to the protection, creation and management of biodiversity.</p> <p>Ensure that the biodiversity value of proposed sites is taken into account when assessing planning permissions concerning minerals sites, and ensure consider how the plan can contribute to the vision and targets of the Biodiversity Action Plan.</p>	<p>Ensure that the protection of the biodiversity of habitats, (balanced against the need for mineral sites) is fully reflected in the SA Framework's environmental objectives and criteria.</p>

<p>habitats and species.</p> <p>The CWP to offer a range of sports, leisure and recreation facilities of local, regional and national significance that promote public access to and enjoyment of the countryside for local residents and visitors.</p> <p>The CWP to present a quality visitor destination that draws on the unique character of the lakes, the settlements, the sports, the history and the natural environment to deliver a wide range of experiences.</p> <p>The CWP to become a truly sustainable place that is pioneering in its approach to development that incorporates measures to significantly reduce the environmental footprint of all types of activity.</p>	<p>aspirations are integrated within all types of development and activities in the CWP (including agriculture, sports, leisure, recreation, tourism, mineral extraction and even settlements) as a means of delivering the BAP aspirations.</p> <p>Establish appropriate initiatives that will support the delivery of biodiversity creation and management in the long term, including visitor amenities, local community partnerships and business partnerships.</p> <p>Secure signature nature sites and reserves with public access associated with appropriate organisations (RSPB, Wiltshire Wildlife Trust, Natural England and the CWPS) that will promote and authenticate the wildlife credentials of the CWP.</p> <p>Explore innovative projects that seek to capitalise on environmental conservation for mutual benefit (e.g. eco-lodges.)</p> <p>Strengthen the role of the Nature Conservation Forum (NCF) in promoting the development of the area for biodiversity.</p>		
<b>GLOUCESTER-CHELTENHAM-TEWKESBURY JOINT CORE STRATEGY 2011-2031 (2017)</b>			
<b>KEY OBJECTIVES RELEVANT TO PLAN AND SA</b>	<b>KEY TARGETS AND INDICATORS RELEVANT TO PLAN AND SA</b>	<b>IMPLICATIONS FOR PLAN</b>	<b>IMPLICATIONS FOR SA</b>
<p>The JCS was formed to produce a co-ordinated strategic development plan to show how this area will develop during the period up to 2031.</p> <p><u>VISION</u></p> <p>By 2031 Gloucester City, Cheltenham Borough and Tewkesbury Borough will have continued to develop a highly attractive and accessible places in which to live, work and socialise.</p> <p>The Joint Core Strategy area will be recognised nationally as enjoying a vibrant, competitive economy with increased job opportunities and a strong</p>	<p>No key targets relevant to the plan and SA.</p>	<p>Consider how the plan may be able to offer support to the delivery of the vision, objectives and / or relevant core policies of the JCS.</p> <p>Particular attention should be paid to ensuring steady and adequate supplies of minerals are facilitated so local economic competitiveness can be supported and strategic-scale development (housing &amp; employment) and infrastructure can be realised. .</p>	<p>The SA Framework should seek to complement and not undermine the objectives that relate to the vision and objectives and / or relevant core policies of the core strategy.</p>

<p>reputation for being an attractive place in which to invest.</p> <p>The character and identity of individual communities will have been retained while improved access to housing will have addressed the needs of young families, single people and the elderly.</p> <p>New developments will have been built to the highest possible standards of design and focused on protecting the quality and distinctiveness of each community. Established in sustainable locations, without increasing the risk of flooding, they will have been designed with sensitivity towards existing villages, towns and cities and with respect for the natural and built environment.</p> <p>As a result of a strong commitment to the housing and employment needs of the existing and growing population, all residents and businesses will benefit from the improved infrastructure, which will include roads, public transport and <u>services, and community facilities.</u></p> <p><b>STRATEGIC OBJECTIVES</b></p> <p>1 – Building a strong competitive urban economy.</p> <p>2 – Ensuring vitality of town centres.</p> <p>3 – Supporting a prosperous rural economy.</p> <p>4 – Conserving and enhancing the environment.</p> <p>5 – Delivering excellent design in new developments.</p> <p>6 – Meeting the challenges of climate change.</p> <p>7 – Promoting sustainable transport.</p> <p>8 – Delivering a wide choice of quality homes.</p>			
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<p>9 – Promoting healthy communities.</p> <p>Sustainable development is seen as being of key importance in the Joint Core Strategy. It includes the 'Presumption in Favour of Sustainable Development' policy recommended by PINS.</p> <p>Core Policy SD3: Sustainable Design and Construction supports the unnecessary sterilisation of mineral resources via prior extraction "where it is practical, taking into account environmental acceptability and economic viability".</p>			
<b>DRAFT GLOUCESTER CITY PLAN 2016-2031 (2017)</b>			
<b>KEY OBJECTIVES RELEVANT TO PLAN AND SA</b>	<b>KEY TARGETS AND INDICATORS RELEVANT TO PLAN AND SA</b>	<b>IMPLICATIONS FOR PLAN</b>	<b>IMPLICATIONS FOR SA</b>
<p>The City Plan presently seeks to follow a number of key development principles. Of potential relevance to the plan and SA are as follows: -</p> <p>1 - To ensure development contributes to deliver a transforming City which brings regeneration benefits, promotes sustainable development and reduces the need for greenfield development by making the most efficient use of previously developed land and buildings.</p> <p>2 - To ensure that delivery of growth is supported by necessary infrastructure provision including transport, schools, medical and health centres, community facilities and youth provision.</p> <p>5 - To provide a balanced network of local and district centres that provide for the everyday shops, services and facilities needed by the local community.</p> <p>6 - To provide a balanced mix of new homes that provide for the needs and aspirations of the local community, working with neighbouring authorities where they are providing for housing needs of the Gloucester community.</p>	<p>No key targets relevant to the plan and SA.</p>	<p>Consider how the plan may be able to offer support to the delivery of the vision, objectives and / or relevant core policies of the City Plan.</p> <p>Particular attention should be paid to ensuring steady and adequate supplies of minerals are facilitated so local economic competitiveness can be supported and city-wide development (housing &amp; employment) and infrastructure can be realised</p>	<p>The SA Framework should seek to complement and not undermine the objectives that relate to the vision and objectives and / or relevant core policies of the City Plan.</p>

<p>7 - To encourage and facilitate inward and home grown investment, attract innovative growth sectors, create high and stable levels of economic growth and increase job opportunities.</p> <p>9 - To protect and enhance the City's leisure, recreation and environmental assets, including valuable heritage, public open space, allotments, areas of nature conservation, sensitive landscapes, playing fields and sporting facilities.</p> <p>12 - To deliver development that achieves high quality design that reduces crime and the fear of crime, builds positively on locally distinctiveness and contributes to the creation of an active, connected and sustainable City.</p> <p>13 - To ensure that development minimises its impact on climate change through sustainable construction and design, encourages the use of sustainable forms of transport and integrates with and makes the most of existing infrastructure.</p>			
<b>TEWKESBURY BOROUGH LOCAL PLAN TO 2011 (ADOPTED – MARCH 2006)</b>			
<b>KEY OBJECTIVES RELEVANT TO PLAN AND SA</b>	<b>KEY TARGETS AND INDICATORS RELEVANT TO PLAN AND SA</b>	<b>IMPLICATIONS FOR PLAN</b>	<b>IMPLICATIONS FOR SA</b>
<p>The Plan's contains an overall vision: -</p> <p>"For the Borough is to ensure that development within the area contributes positively to creating sustainable communities. This will be achieved by directing development to locations where the mix of uses and proximity to existing facilities minimises the increase in transport demand whilst maximising residents' choice for access to the range of destinations they use in their daily lives."</p> <p>It also comprises of five objectives that underline the plan's policies: -</p>	<p>No key targets relevant to the plan and SA.</p>	<p>Consider how the plan may be able to offer support to the delivery of the vision, objectives and / or relevant core policies of the currently adopted Tewkesbury Borough Local Plan</p> <p>Particular attention should be paid to ensuring steady and adequate supplies of minerals are facilitated so local economic competitiveness can be supported and Borough-wide development (housing &amp; employment) and infrastructure can be realised</p> <p>Also, how to ensure that any future minerals developments do not</p>	<p>The SA Framework should seek to complement and not undermine the objectives that relate to the vision and objectives and / or relevant core policies of the adopted Tewkesbury Borough Local Plan.</p>

<p>To promote sustainable development;</p> <p>To conserve and enhance the built and natural heritage of the Borough;</p> <p>To stimulate an approach to new development;</p> <p>To stimulate a healthy local economic base;</p> <p>To meet the needs of residents whilst enhancing their quality of life.</p>		<p>undermine the ambition to conserve and enhance the built and natural environment</p>	
<b>TEWKESBURY BOROUGH PLAN 2011 – 2031: DRAFT POLICIES AND SITE OPTIONS FOR PUBLIC CONSULTATION (2015)</b>			
<b>KEY OBJECTIVES RELEVANT TO PLAN AND SA</b>	<b>KEY TARGETS AND INDICATORS RELEVANT TO PLAN AND SA</b>	<b>IMPLICATIONS FOR PLAN</b>	<b>IMPLICATIONS FOR SA</b>
<p>The proposed vision for the Tewkesbury Borough Local Plan is as follows: -</p> <p>“Tewkesbury borough, a place where a good quality of life is open to all, where our environment and historic assets are cherished, and where a thriving economy supports healthy and happy communities.”</p> <p>The proposed objectives will potential linkages to the Plan and SA are concerned with: -</p> <p>Delivering a wide choice of quality homes and provision of the necessary infrastructure.</p> <p>Promoting sustainable transport. This also includes provision of infrastructure.</p> <p>Promoting healthy connected communities. This also includes provision of infrastructure.</p> <p>Supporting a prosperous and competitive economy. This also includes provision of infrastructure.</p> <p>Conserving and enhancing the built and natural environment (includes historic assets, design, landscape, biodiversity – steering development away from designated areas and making the most efficient use of land, which should be</p>	<p>No key targets relevant to the plan and SA.</p>	<p>Consider how the plan may be able to offer support to the delivery of the vision, objectives and / or relevant core policies of the Tewkesbury Borough Local Plan</p> <p>Particular attention should be paid to ensuring steady and adequate supplies of minerals are facilitated so local economic competitiveness can be supported and Borough-wide development (housing &amp; employment) and infrastructure can be realised</p> <p>Also, how to ensure that any future minerals developments do not undermine the ambition to conserve and enhance the built and natural environment</p>	<p>The SA Framework should seek to complement and not undermine the objectives that relate to the vision and objectives and / or relevant core policies of the Tewkesbury Borough Local Plan.</p>

brown field sites where available and appropriate.			
<b>TEWKESBURY BOROUGH FLOOD AND WATER MANAGEMENT SUPPLEMENTARY PLANNING DOCUMENT (ADOPTED – DECEMBER 2014)</b>			
<b>KEY OBJECTIVES RELEVANT TO PLAN AND SA</b>	<b>KEY TARGETS AND INDICATORS RELEVANT TO PLAN AND SA</b>	<b>IMPLICATIONS FOR PLAN</b>	<b>IMPLICATIONS FOR SA</b>
<p>The SPD's key objectives of potential relevance to the Plan are as follows: -</p> <p>To steer new development to areas with the lowest probability of flooding;</p> <p>To ensure that new development does not increase the risk of flooding either on a site or cumulatively elsewhere; and to seek betterment, where possible;</p> <p>To require the inclusion of Sustainable Drainage Systems (SuDS) within new developments, which mimic natural drainage as closely as possible and provision for their long-term maintenance, in order to mitigate the risk of flooding.</p> <p>To ensure that development incorporates appropriate water management techniques that maintain existing hydrological conditions and avoid adverse effects upon the natural water cycle.</p> <p>To encourage on-site storage capacity for surface water attenuation for storm events up to the 1% probability event (1 in 100 years) including allowance for climate change.</p>	No key targets relevant to the plan and SA.	Consider how the plan may be able to offer support to the delivery of the key objectives of the SPD, particularly where minerals developments within the SPD area or could impact upon it are concerned.	The SA Framework should seek to complement and not undermine the objectives of the SPD.
<b>STROUD DISTRICT LOCAL PLAN (2015)</b>			
<b>KEY OBJECTIVES RELEVANT TO PLAN AND SA</b>	<b>KEY TARGETS AND INDICATORS RELEVANT TO PLAN AND SA</b>	<b>IMPLICATIONS FOR PLAN</b>	<b>IMPLICATIONS FOR SA</b>
<p>The Local Plan contains a number of strategic objectives outlined below:</p> <p>Maintaining and improving accessibility to services and amenities for our communities;</p>	No key targets relevant to the plan and SA.	Consider how the plan may be able to offer policy support to aid with the delivery of the vision, objectives and / or relevant policies of the Stroud Local Plan.	The SA Framework should seek to complement and / or at least not undermine the objectives that relate to the vision, objectives and / or relevant core policies of the Stroud Local Plan

<p>Providing for a strong, diverse, vibrant local economy that enables balanced economic growth, coupled with enhanced job opportunities across the District;</p> <p>Improving the safety, vitality and viability of our town centres, which link to and support the needs of their rural hinterlands;</p> <p>Promoting healthier alternatives to the use of the private car and seeking to reduce CO2 emissions by using new technologies, active travel and/or smarter choices, working towards a more integrated transport system to improve access to local goods and services;</p> <p>Promoting a development strategy that mitigates global warming, adapts to climate change and respects our environmental limits;</p> <p>Conserving and enhancing Stroud District's distinctive qualities, based on landscape, townscape and biodiversity.</p> <p>The plan seeks to support the provision of between 6,800 and 12,500 net jobs, and 11,400 new homes up to 2031.</p> <p>A concentrated development strategy is being promoted with a small number of strategic growth areas - where there is best access to existing services, facilities, jobs and infrastructure.</p> <p>Delivery Policy ES1:</p> <p>Sustainable Construction and Design seeks efficiency in the materials used in development, including the type, life cycle and sources to be used; and flexibility and adaptability to allow future modification of use or layout and / or future refurbishment and retrofitting.</p>			
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<b>CHELTENHAM BOROUGH LOCAL PLAN SECOND REVIEW (2006)</b>			
<b>KEY OBJECTIVES RELEVANT TO PLAN AND SA</b>	<b>KEY TARGETS AND INDICATORS RELEVANT TO PLAN AND SA</b>	<b>IMPLICATIONS FOR PLAN</b>	<b>IMPLICATIONS FOR SA</b>
<p>The Plan seeks to deliver a total of 36 objectives, which collectively contribute to meeting the aims of the Cheltenham Community Plan. These include:</p> <p>O1 - To secure the provision of necessary and relevant services and facilities in conjunction with development;</p> <p>O2 - To achieve a high standard of design in new development;</p> <p>O5 - To make provision for identified development needs;</p> <p>O6 - To create more sustainable patterns of development, with priority use of previously-developed land;</p> <p>O7 - To make best use of development land;</p> <p>O9 - To conserve and enhance the setting of Cheltenham;</p> <p>O10 - To conserve the natural beauty of the Cotswold Hills;</p> <p>O11 - To conserve and improve Cheltenham's architectural, townscape and historical heritage;</p> <p>O12 - To conserve and improve Cheltenham's landscape character and green environment;</p> <p>O13 - To safeguard the countryside from encroachment and inappropriate development;</p> <p>O15 - To protect high quality agricultural land;</p> <p>O16 - To protect and improve the quality of land, air and water;</p> <p>O17 - To reduce waste and energy consumption and conserve natural</p>	<p>No key targets relevant to the plan and SA</p>	<p>Consider how the plan may be able to offer support to the delivery of the vision, objectives and / or relevant core policies of the adopted Cheltenham Borough Plan</p> <p>Particular attention should be paid to ensuring steady and adequate supplies of minerals are facilitated so local economic competitiveness can be supported and Borough-wide development (housing &amp; employment) and infrastructure can be realised.</p> <p>Also, how to ensure that any future minerals developments do not undermine the ambition to conserve and enhance the built and natural environment</p>	<p>The SA Framework should seek to complement and / or at least not undermine the objectives that relate to the objectives and / or relevant core policies of current adopted plan</p>

<p>resources;</p> <p>O18 - To maintain and encourage biodiversity;</p> <p>O19 - To maintain and enhance the economic vitality of the borough;</p> <p>O20 - To maintain economic diversity;</p> <p>O21 - To safeguard land and buildings in existing employment use, or if unoccupied, last in employment use;</p> <p>O29 - To encourage the retention and provision of a range of community facilities and services;</p> <p>O30 - To reduce the risk of flooding and flood damage;</p> <p>O31 - To make adequate provision in development for the satisfactory supply and treatment of water; and</p> <p>O34 - To ensure infrastructure in development is provided to a satisfactory standard.</p>			
<b>THE CHELTENHAM PLAN (PART ONE): PREFERRED OPTIONS (2017)</b>			
<b>KEY OBJECTIVES RELEVANT TO PLAN AND SA</b>	<b>KEY TARGETS AND INDICATORS RELEVANT TO PLAN AND SA</b>	<b>IMPLICATIONS FOR PLAN</b>	<b>IMPLICATIONS FOR SA</b>
<p>The Plan is founded on Three Vision Themes, which are set out below:</p> <p>Vision Theme A - Cheltenham is a place where people live in strong, safe, healthy, well-served and well-connected communities. Objectives include:</p> <p>a) Recognise the local distinctiveness of Cheltenham's various neighbourhoods and deliver regeneration where appropriate;</p> <p>b) Ensure provision of sufficient housing land and other opportunities for residential development that meets the needs of the current and future population of the Borough; and</p> <p>h) Support a network of neighbourhood</p>	<p>No key targets relevant to the plan and SA.</p>	<p>Consider how the plan may be able to offer policy support to aid with the delivery of the vision, objectives and / or relevant policies of The Cheltenham Plan.</p>	<p>The SA Framework should seek to complement and / or at least not undermine the objectives that relate to the vision, objectives and / or relevant core policies of The Cheltenham Plan</p>

<p>centres that provide an appropriate range of local amenities to support sustainable communities.</p> <p>Vision Theme B - Cheltenham is a place with a prosperous and enterprising economy where education and employment opportunities are increasing and diversifying, where businesses choose to invest and where the benefits are felt by all. Objectives include:</p> <ul style="list-style-type: none"> <li>a) Ensure provision of sufficient employment land and other opportunities for economic development to attract new businesses and to enable existing businesses to grow and develop within Cheltenham; and</li> <li>b) Promote the development of adaptable and flexible employment space within Cheltenham so that sites and buildings can be re-used with minimal environmental impact.</li> </ul> <p>Vision Theme C - Cheltenham is a place where the quality and sustainability of our cultural assets and natural and built environment are valued and recognised locally, nationally and internationally and tourists choose to visit and return to. Objectives include:</p> <ul style="list-style-type: none"> <li>a) Conserve and enhance Cheltenham's architectural, townscape and landscape heritage, particularly within the town's conservation areas;</li> <li>b) Conserve, manage and enhance Cheltenham's natural environment and biodiversity;</li> <li>d) Address the challenge of climate change, ensuring that development meets high design and sustainability standards and is built to be adaptable over the long term; and</li> <li>g) Manage and reduce the risk of flooding within the Borough.</li> </ul>			
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<b>FOREST OF DEAN CORE STRATEGY (2012)</b>			
<b>KEY OBJECTIVES RELEVANT TO PLAN AND SA</b>	<b>KEY TARGETS AND INDICATORS RELEVANT TO PLAN AND SA</b>	<b>IMPLICATIONS FOR PLAN</b>	<b>IMPLICATIONS FOR SA</b>
<p><u>The Core Strategy's vision states: -</u></p> <p><u>The Forest of Dean will be a thriving sustainable community with a high quality environment, a developing local economy including tourism, housing which meets the needs of residents (including affordable homes) and safer communities.</u></p> <p><u>Potentially relevant objectives are as follows:</u></p> <p>1 - Providing quality environments throughout the district- to protect the environment for the benefit of the community and in order to attract new businesses;</p> <p>3 - Providing homes including affordable homes- to meet the housing needs of the community; <u>and</u></p> <p>4 - Facilitate regeneration- to support a stronger more sustainable economy in a better quality environment.</p> <p>Policy CSP1: Design, environmental protection and enhancement (strategic objective: providing quality environments) includes:</p> <p>Consideration of any potential impact on the sterilisation of mineral resources and consideration of the potential for the prior extraction of those mineral resources ahead of development.</p>	<p>No key targets relevant to the plan and SA.</p>	<p>Consider how the plan may be able to offer support to the delivery of the vision, objectives and / or relevant core policies of the Core Strategy.</p> <p>Particular attention should be paid to ensuring steady and adequate supplies of minerals are facilitated so local economic competitiveness can be supported and District-wide development (housing &amp; employment) and infrastructure can be realised</p> <p>Also, how to ensure that any future minerals developments do not undermine the ambition to conserve and enhance the built and natural environment</p>	<p>The SA Framework should seek to complement and / or at least not undermine the objectives that relate to the vision, objectives and / or relevant core policies of the Core Strategy.</p>
<b>COTSWOLD DISTRICT LOCAL PLAN 2001-2011 (ADOPTED APRIL 2006)</b>			
<b>KEY OBJECTIVES RELEVANT TO PLAN AND SA</b>	<b>KEY TARGETS AND INDICATORS RELEVANT TO PLAN AND SA</b>	<b>IMPLICATIONS FOR PLAN</b>	<b>IMPLICATIONS FOR SA</b>
<p>The local plan sets out the following vision through to 2011: -</p> <p>Development will have been controlled in a way which continues to conserve and enhance the District's natural resources,</p>	<p>No key targets relevant to the plan and SA.</p>	<p>Consider how the plan may be able to offer support to the delivery of the vision, objectives and / or relevant core policies of the adopted local plan.</p> <p>Particular attention should be paid to</p>	<p>The SA Framework should seek to complement and / or at least not undermine those objectives that relate to the vision, objectives and / or relevant core policies of the adopted local plan.</p>

<p>built heritage and biodiversity.</p> <p>New development will have been carefully planned, designed and located in or adjacent to the most sustainable settlements (in the context of strategic spatial policy) and in a way which maximises the use of previously developed land within urban areas and creates a safe and attractive environment.</p> <p>New development will have been planned and located so that it minimises car use, the need to travel and the impact of traffic generally, and encourages use of public transport, cycling and walking.</p> <p>Employment opportunities will have been created and maximised in a sustainable way that enables the economy of the whole District to remain successful and well mixed.</p> <p>Agriculture will have diversified in a way which is sensitive to the Cotswold environment, whilst maintaining a vibrant rural economy.</p> <p>The strategy of restraint on development in the District will have been maintained, whilst sufficient affordable housing will have been provided in the right sustainable locations to meet the District's needs.</p> <p>Cirencester's role as the District's main service centre, together with the role of the Principal Settlements in providing everyday services to local communities, will have been enhanced, or, at the very least, maintained.</p> <p>Reasonable access will have been attained for local people to all basic services and facilities.</p>		<p>ensuring steady and adequate supplies of minerals are facilitated so local economic competitiveness can be supported and district-wide development (housing &amp; employment) and infrastructure can be realised</p> <p>Also, how to ensure that any future minerals developments do not undermine the ambition to conserve and enhance the built and natural environment</p>	
<p><b>COTSWOLD DISTRICT LOCAL PLAN SUBMISSION VERSION (2016)</b></p>			

KEY OBJECTIVES RELEVANT TO PLAN AND SA	KEY TARGETS AND INDICATORS RELEVANT TO PLAN AND SA	IMPLICATIONS FOR PLAN	IMPLICATIONS FOR SA
<p>Potentially relevant elements of the local plan's vision are as follows: -</p> <p>To have contributed to enabling a strong, competitive and innovative local economy;</p> <p>To have supported the delivery of a range of housing that helps to meet the requirements of all sections of the community;</p> <p>To have further capitalised on the District's key strengths, notably its high quality historic and natural environment;</p> <p>To have met the development needs of communities, businesses, and visitors paying particular account of: climate change and flood risk;</p> <p>the area's internationally recognised natural, built and historic environment; and</p> <p>the provision of adequate supporting infrastructure.</p> <p>The local plan's objectives that may relate to the Plan and the SA include:</p> <p>Maximising water and energy efficiency, promoting the use of renewable energy sources and sustainable construction methods, and reducing pollution and waste;</p> <p>Supporting the principle of waste minimisation.</p> <p>Maximise the quality of life by maintaining and supporting the delivery of infrastructure, services and facilities needed to support local communities and businesses.</p>	<p>No key targets relevant to the plan and SA.</p>	<p>Consider how the plan may be able to offer support to the delivery of the vision, objectives and / or relevant core policies of the local plan.</p> <p>Particular attention should be paid to ensuring steady and adequate supplies of minerals are facilitated so local economic competitiveness can be supported and district-wide development (housing &amp; employment) and infrastructure can be realised.</p> <p>Also, how to ensure that any future minerals developments do not undermine the ambition to conserve and enhance the built and natural environment.</p>	<p>The SA Framework should seek to complement and / or at least not undermine the objectives that relate to the vision, objectives and / or relevant core policies of the local plan.</p>

# Appendix 4

## Baseline Information

## Mineral baseline

Gloucestershire has a diverse geological base with significant mineral deposits of economic value. The County can be subdivided into the following mineral resource areas:

**Table 1: Mineral Resource Areas in Gloucestershire<sup>40</sup>.**

Mineral Resource Area	Mineral Type
Forest of Dean	<input type="checkbox"/> Limestone (Carboniferous) <input type="checkbox"/> Sandstone <input type="checkbox"/> Clay <input type="checkbox"/> Iron Ore* <input type="checkbox"/> Oil & Gas (potential – but as yet unproven)* <input type="checkbox"/> Coal
Cotswolds	<input type="checkbox"/> Clay <input type="checkbox"/> Limestone (Jurassic)
Upper Thames Valley	<input type="checkbox"/> Sand and Gravel <input type="checkbox"/> Clay <input type="checkbox"/> Cornbrash (Jurassic Limestone)
Vale of Moreton	<input type="checkbox"/> Sand and Gravel
Severn Vale	<input type="checkbox"/> Sand and Gravel <input type="checkbox"/> Clay

*\*Sources of iron ore are present but have not been worked in the County since the Second World War<sup>41</sup>. The potential for other onshore hydrocarbons, including both oil and gas, have been explored in the past within Gloucestershire. However, at present, no proposals including initial exploration have been brought forward. No new licenses, which are a requirement before any meaningful investigation can be considered, have been made available by the Government<sup>42</sup>.*

Gloucestershire possesses a range of mineral resources of local, regional and national importance. These include primary land-won and recycled / secondary aggregates, coal, and minerals that include clays and building stone<sup>43</sup>. **Figure 1** gives a simplified indication of Gloucestershire's mineral resources.

<sup>40</sup> Gloucestershire County Council (2003) Gloucestershire Minerals Local Plan (1997-2016) Available from: <http://www.gloucestershire.gov.uk/planning-and-environment/planning-policy/adopted-minerals-and-waste-local-plans/>.

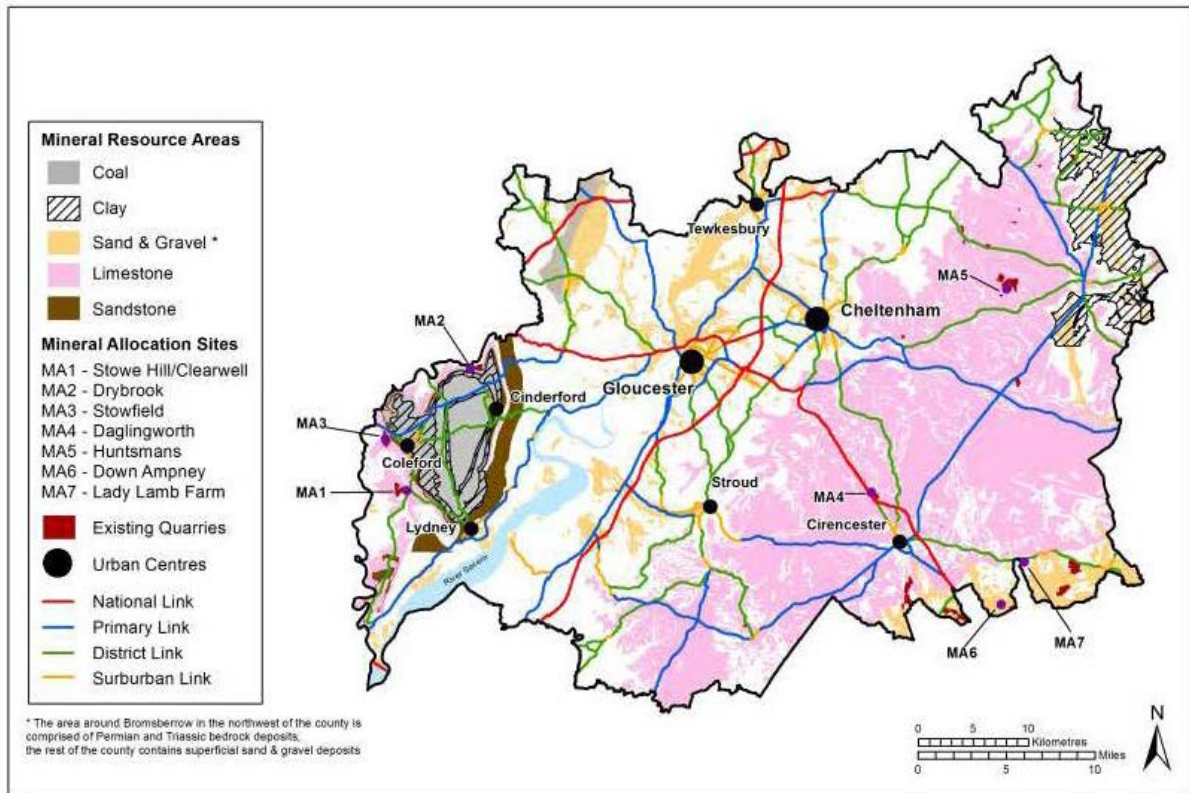
<sup>41</sup> Gloucestershire County Council (2003) Gloucestershire Minerals Local Plan. Available at:

<http://www.gloucestershire.gov.uk/planning-and-environment/planning-policy/adopted-minerals-and-waste-local-plans/>.

<sup>42</sup> Gloucestershire County Council (January 2018) Minerals Local Plan for Gloucestershire (2018-2032) Publication Plan.

<sup>43</sup> Gloucestershire County Council (January 2018) Minerals Local Plan for Gloucestershire (2018-2032) Publication Plan.

Figure 1: Gloucestershire's Mineral Resources<sup>44</sup>



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### Sand and Gravel

The sand & gravel resources of Gloucestershire comprise of fluvio-glacial and fluvial deposits that occur irregularly, but extensively over a number of lowland areas and river valleys around the County. Notable concentrations of sand & gravel deposits can be found to the southeast within the Upper Thames Valley, throughout the central lowland corridor of the Severn Vale, and to the far northeast of Gloucestershire, along a wide river valley area, called the Vale of Moreton. There are also some very small pockets of solid sand working around the Bromsberrow Heath area<sup>45</sup>.

### Supplies and Reserves

In 2016, 0.70 million tonnes of sand & gravel was supplied from Gloucestershire. As of 01/01/2017 the Aggregate Reserve total was 4.41 million tonnes and the remaining length of this landbank stands at 5.94 years. This is based upon the 10-year rolling average sales of 0.742mtpa. Applying the 3-year rolling average annual sales (i.e. 0.573mtpa) would increase the remaining length of landbank to 7.70 years<sup>46</sup>.

### Infrastructure

The vast majority of sand and gravel sites are concentrated within the Upper Thames Valley (UTV) resource area. However, there are minor sources in the Severn Vale corridor and in the Bromsberrow area. In terms of sand & gravel processing, the Upper Thames Valley area has the most capacity available in the County. Minerals Core Strategy Technical Evidence Paper MCS-A (July 2007) indicates that there are two concrete batching plants, four fixed processing plants and a block-making factory which benefit from planning permission. In addition, substantial processing opportunities can be found across the county boundary within Wiltshire. Example sites

<sup>44</sup> Gloucestershire County Council (January 2018) Minerals Local Plan for Gloucestershire (2018-2032) Publication Plan.

<sup>45</sup> Gloucestershire County Council (2007) Minerals Core Strategy Technical Paper MCS-A: Sand & Gravel Provision and Strategic Locations Report. Version 1 - July 2007. Available at: <http://www.gloucestershire.gov.uk/planning-and-environment/planning-policy/minerals-local-plan-for-gloucestershire/evidence-base-for-the-minerals-local-plan-for-gloucestershire/>.

<sup>46</sup> Gloucestershire County Council (November 2017) The Sixth Local Aggregates Assessment for Gloucestershire. Updated data covering the period: 01/01/2016-31/12/2016. Available at: <http://www.gloucestershire.gov.uk/planning-and-environment/planning-policy/minerals-local-plan-for-gloucestershire/evidence-base-for-the-minerals-local-plan-for-gloucestershire/>.

include: the Cleveland Farm Complex near Ashton Keynes and Eysey Manor Farm to the East of Latton. Outside of the Upper Thames Valley there is much less processing capacity, including two ready mixed concrete plants and several mobile processors. One of the ready mixed concrete plants is a stand-alone, satellite operation, which is fed by imported material some of which is has been barged along the River Severn and Sharpness Canal from Ryall quarry in Worcestershire<sup>47</sup>.

This is based on the most recent available data for the County and it is acknowledged that since 2007 the sand and gravel infrastructure within Gloucestershire may have changed.

### Markets

Market information for sand & gravel is based on washed and graded materials rather than as a finished aggregate product. Consequently, it is difficult to establish true market information and trends of local supplies as it is often transported from one site to another (sometimes across county and regional boundaries) depending upon the availability of plant and the proposed end-use. 2005 data would suggest that only a small fraction of sand & gravel is marketed directly within Gloucestershire. However, it is likely that a high proportion of the County's sand & gravel supplies were brought back to Gloucestershire as a finished aggregate product<sup>48</sup>.

The four-yearly national survey of aggregates (AM survey) provides marketing data (i.e. imports and exports between mineral planning authority areas.) The last published survey was 2014<sup>49</sup> and this data is incorporated within the Sixth Version Local Aggregates Assessment (LAA) for Gloucestershire (2017)<sup>50</sup>. In terms of sand and gravel exports, the LAA indicates that 77% of locally-sourced sand and gravel was marketed within the County. The only notable export (20%) was to Wiltshire. This is in sharp contrast to 2009 data, where only 18% of locally-sourced sand & gravel remained within Gloucestershire and a notable export (46%) was to Wiltshire. In terms of sand and gravel imports, it indicates that 60% of locally-consumed sand and gravel was sourced in County and a notable import (19%) came from other regions in the South West of England. This compares to 2009 when 49% of locally-consumed sand and gravel was sourced in County. Although there is limited information regarding imports into the County during 2009, it is understood that sand and gravel workings in Wiltshire represented an important source of imports. Therefore the South West has remained an important source of sand and gravel within Gloucestershire<sup>51</sup>.

### Crushed Rock

Gloucestershire's crushed rock resources can be divided into two specific types of limestone. These are separated over geological time and by geographical location. The older resources, known as Carboniferous limestone, occur within the Forest of Dean. And the younger resources, called Jurassic limestones are found in the Cotswolds. The Carboniferous limestones have the greatest degree of flexibility as an aggregate mineral. This is because they are more durable and harder than the Jurassic limestones. Whilst both limestone types can be used in general construction, it is generally only Carboniferous limestones that can provide for a wider range of high specification projects. Although two distinct crushed rock resource areas have been identified within Gloucestershire, the overall distribution of these resources is not confined to the County's administrative boundaries. For the Jurassic limestones of the Cotswolds, the resource area is much wider and covers parts of the neighbouring authorities of Bath & North East Somerset, Oxfordshire, Warwickshire, and Wiltshire. In the case of the Carboniferous limestones

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<sup>47</sup> Gloucestershire County Council (2007) Minerals Core Strategy Technical Paper MCS-A: Sand & Gravel Provision and Strategic Locations Report. Version I - July 2007. Available at: <http://www.gloucestershire.gov.uk/planning-and-environment/planning-policy/minerals-local-plan-for-gloucestershire/evidence-base-for-the-minerals-local-plan-for-gloucestershire/>.

<sup>48</sup> Gloucestershire County Council (2007) Minerals Core Strategy Technical Paper MCS-A: Sand & Gravel Provision and Strategic Locations Report. Version I - July 2007. Available at: <http://www.gloucestershire.gov.uk/planning-and-environment/planning-policy/minerals-local-plan-for-gloucestershire/evidence-base-for-the-minerals-local-plan-for-gloucestershire/>.

<sup>49</sup> British Geological Survey (2016) Collation of the results of the 2014 Aggregate Minerals survey for England and Wales. For the Department for Communities and Local Government and Welsh Government. Available at: <https://www.gov.uk/government/publications/aggregate-minerals-survey-for-england-and-wales-2014>.

<sup>50</sup> Gloucestershire County Council (November 2017) The Sixth Local Aggregates Assessment for Gloucestershire. Updated data covering the period: 01/01/2016-31/12/2016. Available at: <http://www.gloucestershire.gov.uk/planning-and-environment/planning-policy/minerals-local-plan-for-gloucestershire/evidence-base-for-the-minerals-local-plan-for-gloucestershire/>.

<sup>51</sup> Gloucestershire County Council (November 2017) The Sixth Local Aggregates Assessment for Gloucestershire. Updated data covering the period: 01/01/2016-31/12/2016. Available at: <http://www.gloucestershire.gov.uk/planning-and-environment/planning-policy/minerals-local-plan-for-gloucestershire/evidence-base-for-the-minerals-local-plan-for-gloucestershire/>.

from the Forest of Dean, comparable resources have been worked in the adjoining Welsh authority of Monmouthshire and more significantly to the Northwest of South Gloucestershire. There are also significant crushed rock resources further afield, which may have a relationship to Gloucestershire. These are found within North Somerset and Somerset<sup>52</sup>.

### *Supplies and Reserves*

In 2015, 1.65 million tonnes of crushed rock was supplied from Gloucestershire. As of 01/01/2017 the Aggregate Reserve total was 24.32 million tonnes and the remaining length of this landbank stands at 16.75 years. This is based upon the application of 10-year rolling average annual sales, which amounts to 1.452 million tonnes per annum. Applying the 3-year rolling average annual sales (1.540 mt) decreases the remaining length of the landbank to 15.79 years<sup>53</sup>.

### *Infrastructure*

Minerals Core Strategy Technical Evidence Paper MCS-B (July 2007) states that, according to recent data a total of 20 quarries with the potential for crushed rock working are identified in Gloucestershire. Of these, 12 quarries are in active production, and 13 are classed as either not in production or only supplying other quarried products (e.g. building stone and agricultural lime) There are a further five un-worked and "dormant" quarries which will require additional planning permissions for schemes of conditions of working before their reserves can be worked<sup>54</sup>.

Most of the County's crushed rock infrastructure and operational capacity is focused within the existing quarry sites of the Forest of Dean resource area. Minerals Core Strategy Technical Evidence Paper MCS-B details the fact that, according to recent figures there are three fixed processing plants, two roadstone coating plants, a concrete batching plant, a ready-mix concrete plant and several aggregate recycling facilities within this resource area. In contrast, crushed rock infrastructure within the Cotswold resource area are considerably less, with only two fixed processing plants, one concrete batching plant and one aggregate recycling facility in operation. Nevertheless, some mobile crushing plants are used intermittently at several hybrid-quarries that produce small amounts of crushed rock in association with building stone<sup>55</sup>.

It should be noted that the majority of ancillary plant used in the Cotswold resource area is of a mobile nature and is also required for building stone purposes (e.g. cutting, dressing, bagging etc.) and agricultural lime production<sup>56</sup>.

This is based on the most recent available data for the County and it is acknowledge that since 2007 the crushed rock infrastructure within Gloucestershire may have changed.

### *Markets*

In terms of crushed rock exports, the LAA indicates that 81% of locally-sourced crushed rock was supplied within Gloucestershire. The only notable export (10%) was to Worcestershire and Herefordshire. This is in contrast to 2009 data, where only 52% of locally-sourced crushed rock remained within Gloucestershire and a notable export (18%) was to Worcestershire and Herefordshire. In terms of crushed rock imports, it indicates that 64% of locally-consumed crushed rock was sourced in County and a notable import (31%) came from other regions in the South West of England. This compares to 2009 when 62% of locally-consumed sand and gravel was sourced in the County. Although there is limited information regarding imports into the

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<sup>52</sup> Gloucestershire County Council (2007) Minerals Core Strategy Technical Paper MCS-B: Crushed Rock Provision & Strategic Locations Study. Version I - July 2007. Available at: <http://www.gloucestershire.gov.uk/planning-and-environment/planning-policy/minerals-local-plan-for-gloucestershire/evidence-base-for-the-minerals-local-plan-for-gloucestershire/>.

<sup>53</sup> Gloucestershire County Council (November 2017) The Sixth Local Aggregates Assessment for Gloucestershire. Updated data covering the period: 01/01/2016-31/12/2016. Available at: <http://www.gloucestershire.gov.uk/planning-and-environment/planning-policy/minerals-local-plan-for-gloucestershire/evidence-base-for-the-minerals-local-plan-for-gloucestershire/>.

<sup>54</sup> Gloucestershire County Council (2007) Minerals Core Strategy Technical Paper MCS-B: Crushed Rock Provision & Strategic Locations Study. Version I - July 2007. Available at: <http://www.gloucestershire.gov.uk/planning-and-environment/planning-policy/minerals-local-plan-for-gloucestershire/evidence-base-for-the-minerals-local-plan-for-gloucestershire/>.

<sup>55</sup> Gloucestershire County Council (2007) Minerals Core Strategy Technical Paper MCS-B: Crushed Rock Provision & Strategic Locations Study. Version I - July 2007. Available at: <http://www.gloucestershire.gov.uk/planning-and-environment/planning-policy/minerals-local-plan-for-gloucestershire/evidence-base-for-the-minerals-local-plan-for-gloucestershire/>.

<sup>56</sup> Gloucestershire County Council (2007) Minerals Core Strategy Technical Paper MCS-B: Crushed Rock Provision & Strategic Locations Study. Version I - July 2007. Available at: <http://www.gloucestershire.gov.uk/planning-and-environment/planning-policy/minerals-local-plan-for-gloucestershire/evidence-base-for-the-minerals-local-plan-for-gloucestershire/>.



County during 2009, it is understood that crushed rock in the West of England area (mainly from nearby South Gloucestershire) represented an important source of imports. Therefore the South West has remained an important source of sand and gravel within Gloucestershire<sup>57</sup>.

### Natural Building & Roofing Stone

The working of natural building & roofing stone is an important part of the mineral industry in Gloucestershire. It is required for the on-going repair and maintenance of the County's rich and diverse historic built environment and for supplying new-build and specialist, high-grade architectural projects. Gloucestershire's natural building & roofing stone resources are divided into two mineral types: Limestone and Sandstone. These are separated over geological time and resource location across the County<sup>58</sup>.

#### *Supplies and Reserves*

In 2014, the figures for total sales of non-aggregate stone, for building and roofing stone, are as follows: limestone 36,746 tonnes, sandstone 15,083 tonnes, making a total of 51,829 tonnes. Non-aggregate reserves, including limestone and sandstone, have been consistently increasing over the last ten years, with the exception of 2009. As of December 2014, the estimated reserves of non-aggregate stone was 8.63 million tonnes<sup>59</sup>.

#### *Infrastructure*

Minerals Core Strategy Technical Evidence Paper MCS-C (August 2007) states that as of 31/12/2005, 36 quarries held valid planning permission for the working of natural building and roofing stone, and, of these sites, 17 were in production. It also indicates that most natural building & roofing stone operations in Gloucestershire are small-scale and focussed on the supply of local product for building conservation and more bespoke new build projects<sup>60</sup>.

This is based on the most recent available data for the County and it is acknowledge that since 2007 the natural building & roofing stone infrastructure within Gloucestershire may have changed.

#### *Markets*

There are two principal markets for natural building & roofing stone – repair of historic buildings and new build projects<sup>61</sup>. In Gloucestershire, the repair of historic buildings is a significant driver of local demand. The County has a renowned and rich built heritage, which includes 12,953 Listed Buildings<sup>62</sup> and 248 Conservation Areas<sup>63</sup>. A significant number of buildings and structures

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<sup>57</sup> Gloucestershire County Council (November 2017) The Sixth Local Aggregates Assessment for Gloucestershire. Updated data covering the period: 01/01/2016-31/12/2016. Available at: <http://www.gloucestershire.gov.uk/planning-and-environment/planning-policy/minerals-local-plan-for-gloucestershire/evidence-base-for-the-minerals-local-plan-for-gloucestershire/>.

<sup>58</sup> Gloucestershire County Council (2007) Minerals Core Strategy Technical Paper MCS-C: Natural Building & Roofing Stone Report. Version I - August 2007. Available at: <http://www.gloucestershire.gov.uk/planning-and-environment/planning-policy/minerals-local-plan-for-gloucestershire/evidence-base-for-the-minerals-local-plan-for-gloucestershire/>.

<sup>59</sup> Gloucestershire County Council (2017) Minerals & Waste Authority Monitoring Report (AMR) for Gloucestershire. Data for the period up to: 31/12/2014. Available at: <http://www.gloucestershire.gov.uk/planning-and-environment/planning-policy/authorities-monitoring-report-amr/>.

<sup>60</sup> Gloucestershire County Council (2007) Minerals Core Strategy Technical Paper MCS-C: Natural Building & Roofing Stone Report. Version I - August 2007. Available at: <http://www.gloucestershire.gov.uk/planning-and-environment/planning-policy/minerals-local-plan-for-gloucestershire/evidence-base-for-the-minerals-local-plan-for-gloucestershire/>.

<sup>61</sup> Gloucestershire County Council (2007) Minerals Core Strategy Technical Paper MCS-C: Natural Building & Roofing Stone Report. Version I - August 2007. Available at: <http://www.gloucestershire.gov.uk/planning-and-environment/planning-policy/minerals-local-plan-for-gloucestershire/evidence-base-for-the-minerals-local-plan-for-gloucestershire/>.

<sup>62</sup> Historic England (2018) Search The List. Available at: <https://historicengland.org.uk/listing/the-list/>.

<sup>63</sup> Gloucester City Council (2018) Conservation Areas. Available at: <http://www.gloucester.gov.uk/resident/planning-and-building-control/environmental-planning/historic-environment/Pages/Conservation-Areas.aspx>; Cheltenham Borough Council (2018) Cheltenham's conservation areas. Available at: [https://www.cheltenham.gov.uk/info/52/conservation/644/cheltenham\\_s\\_conservation\\_areas](https://www.cheltenham.gov.uk/info/52/conservation/644/cheltenham_s_conservation_areas); Stroud District Council (2018) Conservation areas. Available at: <https://www.stroud.gov.uk/environment/planning-and-building-control/conservation-listed-buildings-trees-and-hedgerows/conservation-areas>; Tewkesbury Borough Council (2018) Heritage. Available at: <https://www.tewkesbury.gov.uk/heritage/>; Forest of Dean District Council (2018) Conservation Areas. Available at: <http://www.fdean.gov.uk/residents/planning-building/historic-buildings-conservation-areas/conservation-areas/>; Cotswold District Council (2018) Conservation area maps and appraisals. Available at: <http://www.cotswold.gov.uk/residents/planning-building/historic-buildings-conservation-areas/conservation-area-maps-and-appraisals/>.

covered by one of the listings or which lie within a Conservation Area will at some point require new stone for repair and maintenance purposes<sup>64</sup>.

Despite the UK wide downturn in the production of building stone over the last 100 years or so, the local market has remained relatively constant. Planning policies and controls have also had an influence on the strength of this local market. This is demonstrated through district local plans and technical planning guides wherein policy support is given for the use of natural local stone, where it will act as a direct or suitable replacement in the repair of the historic environment<sup>65</sup>.

The other key market for local building stone is new build projects. This is concerned with maintaining vernacular styles and local distinctiveness through the greater use of local building materials. It also refers to the specific requirements of certain contemporary styles in both external and internal decoration (e.g. carved fireplaces, sculptures, ornaments and flagstones.) Similar to the sector for historic stone, district planning policies look to encourage the use of local building stone, where it contributes to the quality of the built environment<sup>66</sup>.

### Recycled Aggregates

Recycled aggregates in Gloucestershire are usually sourced from regeneration and redevelopment projects. They are made up of construction, demolition and excavation wastes that are mostly crushed on-site using mobile plant and then re-used without entering the wider supply chain or being presented onto the open aggregate market. A revised monitoring regime has revealed that during 2016 0.139 million tonnes of recycled aggregates was either generated or managed within fixed sites located across Gloucestershire. This figure represents just fewer than 6% of the total supply of primary aggregates sourced from within the County during 2016<sup>67</sup>.

It is highly likely that a larger amount of recycled aggregates has been employed by the construction industry. However, as a result of the data monitoring complexity highlighted above, there is currently no evidence to support or quantify this. The origin of recycled aggregates in Gloucestershire, means that the delivery of regeneration and redevelopment and initiatives to improve the implementation of waste minimisation in development projects rather than just an increase in construction activity, will likely be the biggest influence on the availability of future supplies<sup>68</sup>.

### Secondary Aggregates

No secondary aggregates facilities are operating in Gloucestershire. However, following the development of a new Energy from Waste (EfW) facility at Javelin Park near Gloucester, a new local source of secondary aggregate might become available in the near future. The EfW development allows for a processing facility for bottom ash, which has the potential to create a construction aggregate – incinerator bottom ash aggregate (IBAA.) Based on the proposed maximum throughput of 190,000 tpa of waste through the plant, it is estimated approximately 45,000 tpa of bottom ash could be generated. The EfW development is scheduled to be operational from 2019 onwards. If maximum IBAA production was to be realised, it would make a small contribution to the overall aggregate supply sourced from Gloucestershire. Based on 2016

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<sup>64</sup> Gloucestershire County Council (2007) Minerals Core Strategy Technical Paper MCS-C: Natural Building & Roofing Stone Report. Version I - August 2007. Available at: <http://www.gloucestershire.gov.uk/planning-and-environment/planning-policy/minerals-local-plan-for-gloucestershire/evidence-base-for-the-minerals-local-plan-for-gloucestershire/>.

<sup>65</sup> Gloucestershire County Council (2007) Minerals Core Strategy Technical Paper MCS-C: Natural Building & Roofing Stone Report. Version I - August 2007. Available at: <http://www.gloucestershire.gov.uk/planning-and-environment/planning-policy/minerals-local-plan-for-gloucestershire/evidence-base-for-the-minerals-local-plan-for-gloucestershire/>.

<sup>66</sup> Gloucestershire County Council (2007) Minerals Core Strategy Technical Paper MCS-C: Natural Building & Roofing Stone Report. Version I - August 2007. Available at: <http://www.gloucestershire.gov.uk/planning-and-environment/planning-policy/minerals-local-plan-for-gloucestershire/evidence-base-for-the-minerals-local-plan-for-gloucestershire/>.

<sup>67</sup> Gloucestershire County Council (November 2017) The Sixth Local Aggregates Assessment for Gloucestershire. Updated data covering the period: 01/01/2016-31/12/2016. Available at: <http://www.gloucestershire.gov.uk/planning-and-environment/planning-policy/minerals-local-plan-for-gloucestershire/evidence-base-for-the-minerals-local-plan-for-gloucestershire/>.

<sup>68</sup> Gloucestershire County Council (November 2017) The Sixth Local Aggregates Assessment for Gloucestershire. Updated data covering the period: 01/01/2016-31/12/2016. Available at: <http://www.gloucestershire.gov.uk/planning-and-environment/planning-policy/minerals-local-plan-for-gloucestershire/evidence-base-for-the-minerals-local-plan-for-gloucestershire/>.

figures, local IBAA would represent just fewer than 2% of the total amount of primary land-won aggregates sourced from within the County<sup>69</sup>.

## Clay

There are extensive and fairly widespread deposits of clay found across a number of areas within Gloucestershire. Noteworthy resources of economic value include the Carboniferous Clays found in the Forest of Dean and the Jurassic Clays known as the Charmouth Mudstone Formation near to Blockley in the Cotswolds. These resources support small local supplies of brick clay. Jurassic Blue Lias Clays found throughout parts of the Severn Vale have also been marketed more recently. Locally they have been used as a lining material for landfill sites, the construction of ponds and lakes and other engineering works<sup>70</sup>.

## Coal

Three coalfields are found within Gloucestershire – Forest of Dean, Newent and parts of the Oxfordshire-Berkshire Coalfield, which lies on the eastern fringes of the County. The only deposits of proven economic value are those found within the Forest of Dean. These form part of a wider resource known as the Carboniferous South Wales Coal Measures that includes coalfields located in South Wales, Bristol, Somerset and Kent. Coal from the Forest of Dean has been worked over many centuries and has been highly influential in the local area's evolving built and cultural heritage and economic profile. In recent decades, coal working in the Forest of Dean has become increasing low-key and intermittent. It is carried by a small number of independent operators known as Freeminers who are allowed to work coal under ancient custom and law. All workings are at relatively shallow depth and usually through inclined drift mines. More significant, industrial-scale working of coal ceased within the Forest of Dean over 30 years ago. This also exploited shallow coal resources, but mostly using surface mining techniques, traditionally known as open-cast or open pit working. Deep mining has also featured in the past, but the last deep mines closed nearly 50 years ago, in the mid-1960s<sup>71</sup>.

## Oil & gas

Conventional oil and gas resources have previously been explored within Gloucestershire. A number of exploratory boreholes have been drilled. Investigations have also been made as to the potential for gas storage. Drilling activities took place between the early 1960s and early 1980s. Published records show that boreholes were largely concentrated in the east of the county within Cotswold District around Stow-on-the-Wold, Sherborne and Windrush. Two boreholes were also drilled in Tewkesbury Borough at Staverton and west of Coombe Hill. All wells proved to be either dry or contained minor gas of no commercial consequence. They have been plugged and abandoned. Unconventional oil and gas resources may also be present within the County. However, geological evidence suggests the potential is low. The exploitation of coal bed methane (CBM) or abandoned mine methane (AMM) may be possible due to the presence of coal, although local records derived from worked areas within the Forest of Dean Coalfield, point to the absence of any meaningful gas accumulations<sup>72</sup>.

In December 2015, the UK government announced it had issued Petroleum Exploration and Development licences (PEDLs) covering 4 'blocks' containing part of the Forest of Dean and a small section of Stroud at Sharpness adjacent to the River Severn. The PEDL licenses allow licensee holders time-limited and exclusive rights to investigate the potential for oil and gas and to undergo production subject to planning and other regulatory regimes. However, none of the licences were pursued leaving the County with no active PEDL licences<sup>73</sup>.

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<sup>69</sup> Gloucestershire County Council (November 2017) The Sixth Local Aggregates Assessment for Gloucestershire. Updated data covering the period: 01/01/2016-31/12/2016. Available at: <http://www.gloucestershire.gov.uk/planning-and-environment/planning-policy/minerals-local-plan-for-gloucestershire/evidence-base-for-the-minerals-local-plan-for-gloucestershire/>.

<sup>70</sup> Gloucestershire County Council (January 2018) Minerals Local Plan for Gloucestershire (2018-2032) Publication Plan.

<sup>71</sup> Gloucestershire County Council (January 2018) Minerals Local Plan for Gloucestershire (2018-2032) Publication Plan.

<sup>72</sup> Gloucestershire County Council (January 2018) Minerals Local Plan for Gloucestershire (2018-2032) Publication Plan.

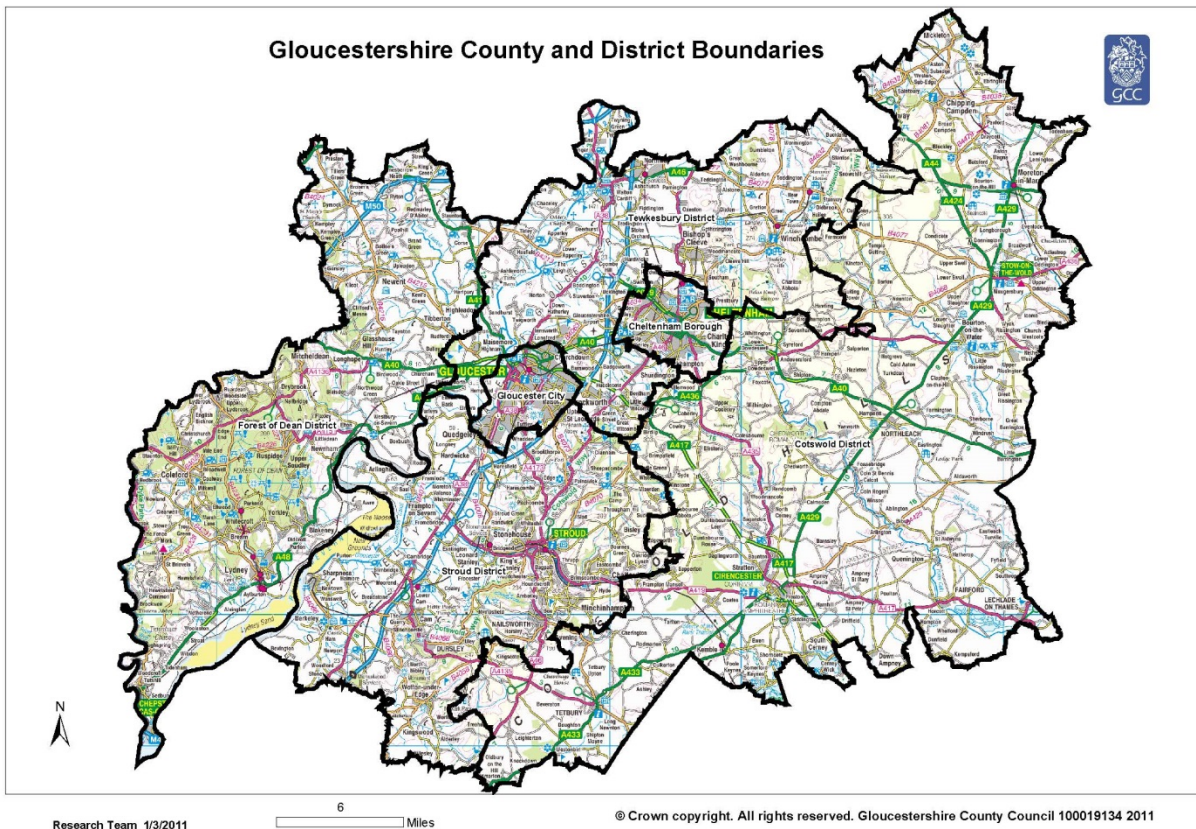
<sup>73</sup> Gloucestershire County Council (January 2018) Minerals Local Plan for Gloucestershire (2018-2032) Publication Plan.

## Other Baseline Information

### Overview and character of the county

The heritage, culture and environment of the County helps support the County's quality of life and economy. Gloucestershire is substantially a rural county with the main urban focus in Gloucester and Cheltenham. It supports a wealth of international, national and locally important environmental assets, which need the appropriate level of protection from minerals and waste development<sup>74</sup>.

Figure 2: Gloucestershire and the six Districts<sup>75</sup>



### Gloucestershire in relation to the factors in Annex 1 of the SEA Directive

#### *Biodiversity*

As a rural county Gloucestershire is relatively rich in habitats and species and much has been achieved through the Biodiversity Action Plan (BAP) process and on-going through the new Local Nature Partnership<sup>76</sup>. However certain species are still in decline and habitats being lost. Climate Change may prove to be very serious long term threat adding to declines<sup>77</sup>. The County has a wide array of nature conservation designations ranging from the International level to the Local.

<sup>74</sup> Gloucestershire County Council (November 2017) The Sixth Local Aggregates Assessment for Gloucestershire. Updated data covering the period: 01/01/2016-31/12/2016. Available at: <http://www.gloucestershire.gov.uk/planning-and-environment/planning-policy/minerals-local-plan-for-gloucestershire/evidence-base-for-the-minerals-local-plan-for-gloucestershire/>.

<sup>75</sup> Gloucestershire County Council (2011) Gloucestershire County and District Boundaries. Available at: <https://inform.gloucestershire.gov.uk/viewpage.aspx?c=page&page=GeographyandBoundaries-BoundaryAtlas>.

<sup>76</sup> Gloucestershire's Natural Environment (2018) The Plan. Available at: <http://gloucestershirenature.org.uk/actionplan/index.php>.

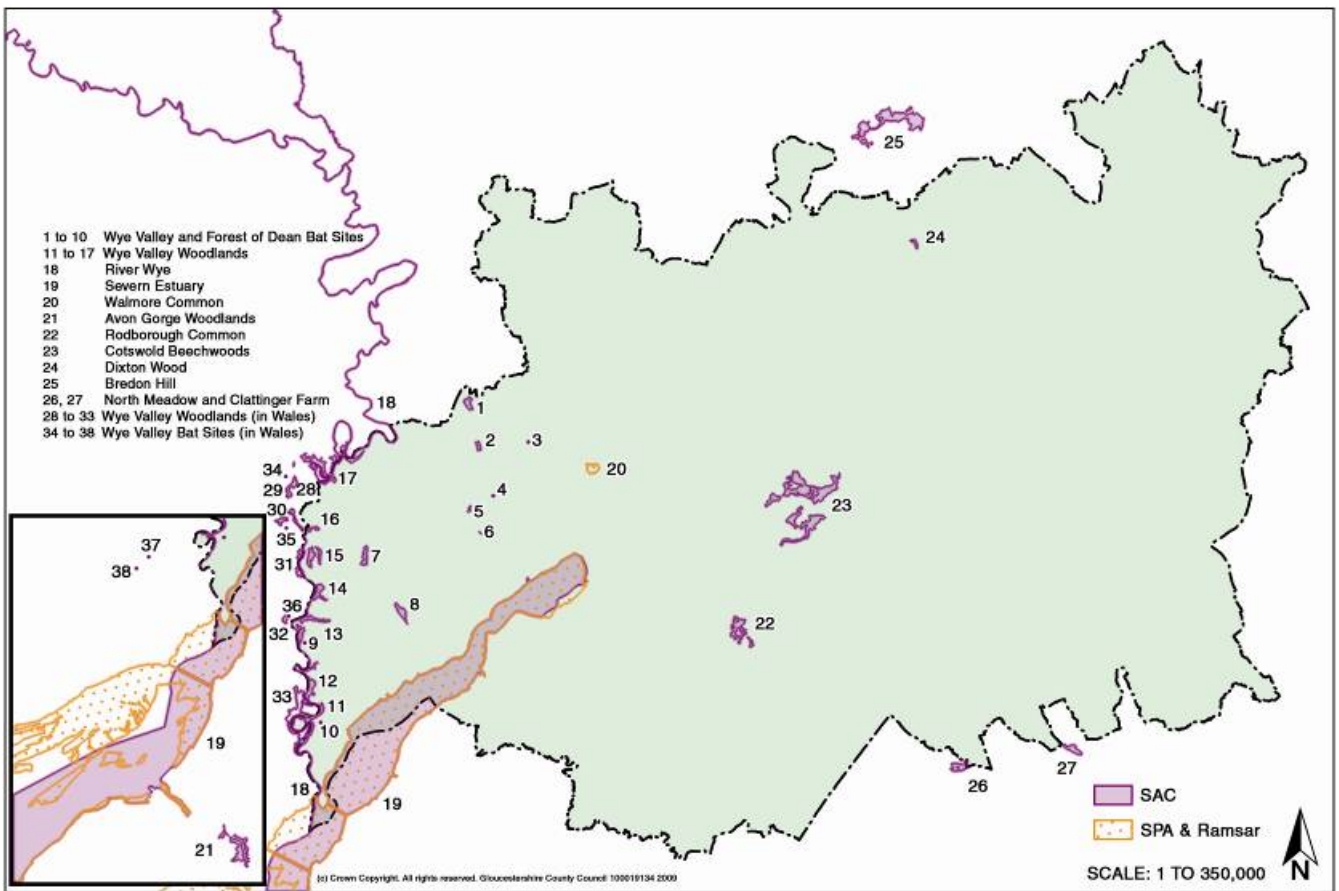
<sup>77</sup> Gloucestershire's Natural Environment (2018) Biodiversity Loss. Available at: <http://gloucestershirenature.org.uk/biodiversity/biodiversity-loss.php>.

International nature conservation designations include Ramsar sites, Special Protection Areas (SPAs) and Special Areas of Conservation (SACs) <sup>78</sup>.

Ramsar sites are Wetlands of International Importance listed under the auspices of the Ramsar Convention on Wetlands (established in Ramsar, Iran, in 1971.) SPAs are designated under the EU Birds Directive (79/409/EEC) in order to conserve the habitats of vulnerable species (listed in Annex I of the Directive) and of migratory birds. SACs are designated under the EU Habitats Directive (92/43/EEC.) As a requirement of DPD preparation, the Minerals and Waste Planning Policy Team have to undertake a Habitat Regulations Assessment (HRA) of the plans it is producing. The purpose of HRA of land use plans is to ensure that protection of the integrity of European sites is a part of the planning process at a regional and local level. The requirements are outlined in Article 6(3) and (4) of the European Communities (1992) Council Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora (“Habitats Directive”) <sup>79</sup>.

**Figure 3** below and **Table 2** detail the European Sites in and close to Gloucestershire.

**Figure 3: European Sites in and close to Gloucestershire**<sup>80</sup>



<sup>78</sup> Gloucestershire’s Natural Environment (2018) Biodiversity in Gloucestershire. Available at: <http://gloucestershirenature.org.uk/biodiversity/gloucestershire.php>.

<sup>80</sup> Gloucestershire County Council (June 2016) Planning for the Protection of European Sites: Habitat Regulations Assessment (HRA.) Main Report for the Gloucestershire Minerals Local Plan (MLP.) (Version 1.2 for Pre-Publication Draft MLP Stage.) Available at: <http://www.gloucestershire.gov.uk/planning-and-environment/planning-policy/minerals-local-plan-for-gloucestershire/evidence-base-for-the-minerals-local-plan-for-gloucestershire/>.

**Table 2: European Sites in and close to Gloucestershire<sup>81</sup>**

European Site	Designation	District / Area
Rodborough Common	SAC	Stroud
Dixton Wood	SAC	Tewkesbury
Wye Valley and Forest of Dean Bat Sites	SAC	Forest of Dean, Monmouthshire
River Wye	SAC	Forest of Dean, Monmouthshire, Herefordshire, Powys
Wye Valley Woodlands	SAC	Forest of Dean, Monmouthshire, Herefordshire
North Meadow and Clattinger Farm	SAC	Wiltshire
Cotswold Beechwoods	SAC	Cotswold
Bredon Hill	SAC	Worcestershire
Walmore Common	SPA & Ramsar	Forest of Dean
Severn Estuary	SPA & Ramsar	Stroud, Forest of Dean
Avon Gorge Woodlands	SAC	City of Bristol

All SPAs and SACs in Gloucestershire are also designated Sites of Special Scientific Interest (SSSI.) SSSI are designated by Natural England to provide statutory protection for the best examples of the UK's flora, fauna, or geological or physiographical features. Consultation is required if they are threatened in any way<sup>82</sup>. There are over 120 SSSIs in Gloucestershire (see **Figure 4**)<sup>83</sup>. The most recent condition of SSSI survey (Natural England, 26 February 2018) showed that 96.39% of the county's SSSIs were meeting favourable or unfavourable recovering status<sup>84</sup>. Seven SSSIs have been additionally designated as National Nature Reserves (NNRs)<sup>85</sup>.

<sup>81</sup> Gloucestershire County Council (June 2016) Planning for the Protection of European Sites: Habitat Regulations Assessment (HRA.) Main Report for the Gloucestershire Minerals Local Plan (MLP.) (Version 1.2 for Pre-Publication Draft MLP Stage.) Available at: <http://www.gloucestershire.gov.uk/planning-and-environment/planning-policy/minerals-local-plan-for-gloucestershire/evidence-base-for-the-minerals-local-plan-for-gloucestershire/>.

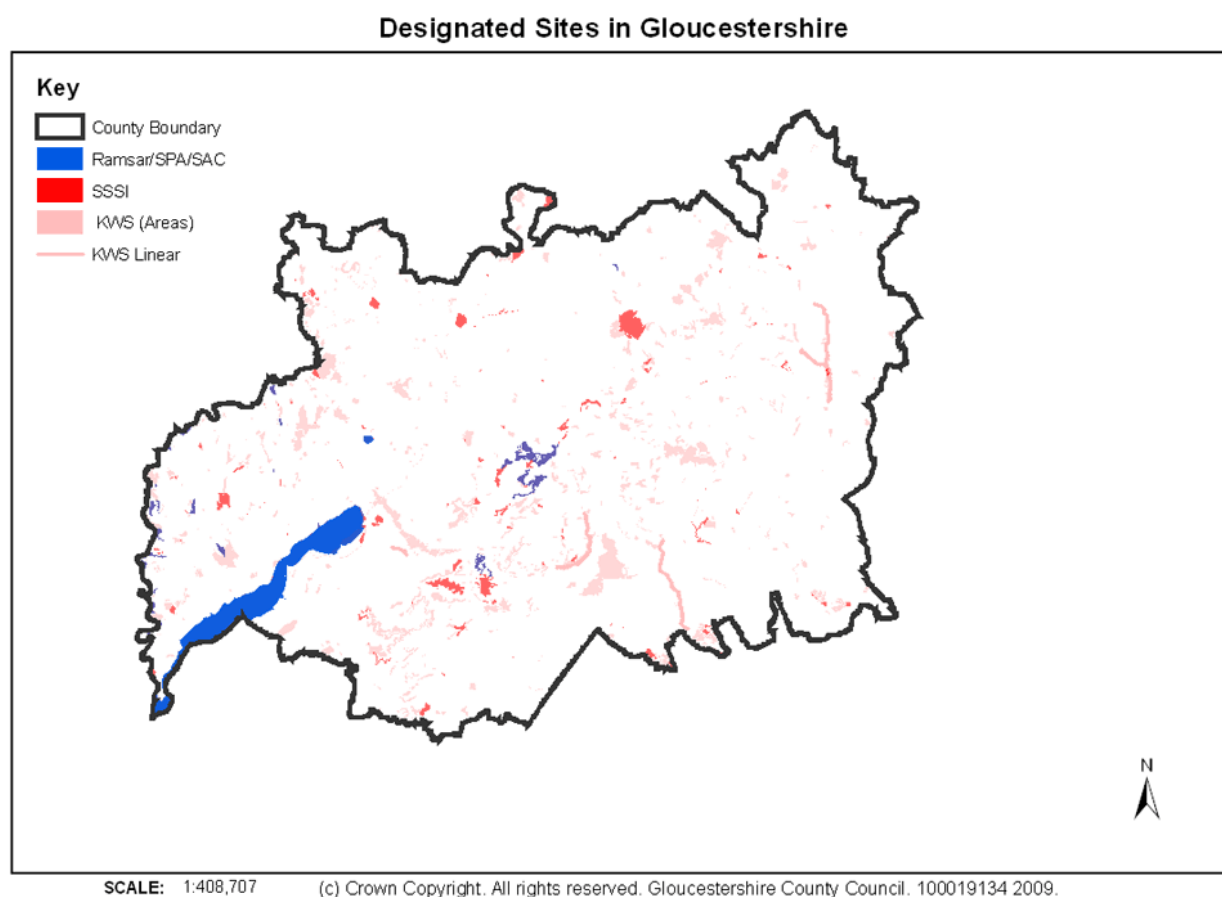
<sup>82</sup> JNCC (2014) Protected areas designations directory. Available at: <http://jncc.defra.gov.uk/page-1527>.

<sup>83</sup> Gloucestershire's Natural Environment (2018) Biodiversity in Gloucestershire. Available at: <http://gloucestershirenature.org.uk/biodiversity/gloucestershire.php>.

<sup>84</sup> Natural England (2018) Designated Sites View: Condition of SSSI for SSSI in County GLOUCESTERSHIRE. Available at: <https://designatedsites.naturalengland.org.uk/ReportConditionSummary.aspx?countyCode=16&ReportTitle=GLOUCESTERSHIRE>.

<sup>85</sup> Natural England (2018) Designated Sites View: Condition of SSSI Units for NNR in County GLOUCESTERSHIRE. Available at: <https://designatedsites.naturalengland.org.uk/ReportUnitCondition.aspx?countyCode=16&SiteType=ALL&ReportTitle=GLOUCESTERSHIRE>.

Figure 4: European Sites, SSSIs and Key Wildlife Sites in Gloucestershire<sup>86</sup>.



The largest environmental designations in terms of extent are the three Areas of Outstanding Natural Beauty (AONB) in the County: the Cotswolds, part of the Wye Valley and a very small section of the Malvern Hills<sup>87</sup>. AONBs cover 137,816 hectares or 51% of the County area (see **Figure 5**)<sup>88</sup>. Their primary purpose is to conserve and enhance natural beauty while taking into account the economic and social needs of the area<sup>89</sup>.

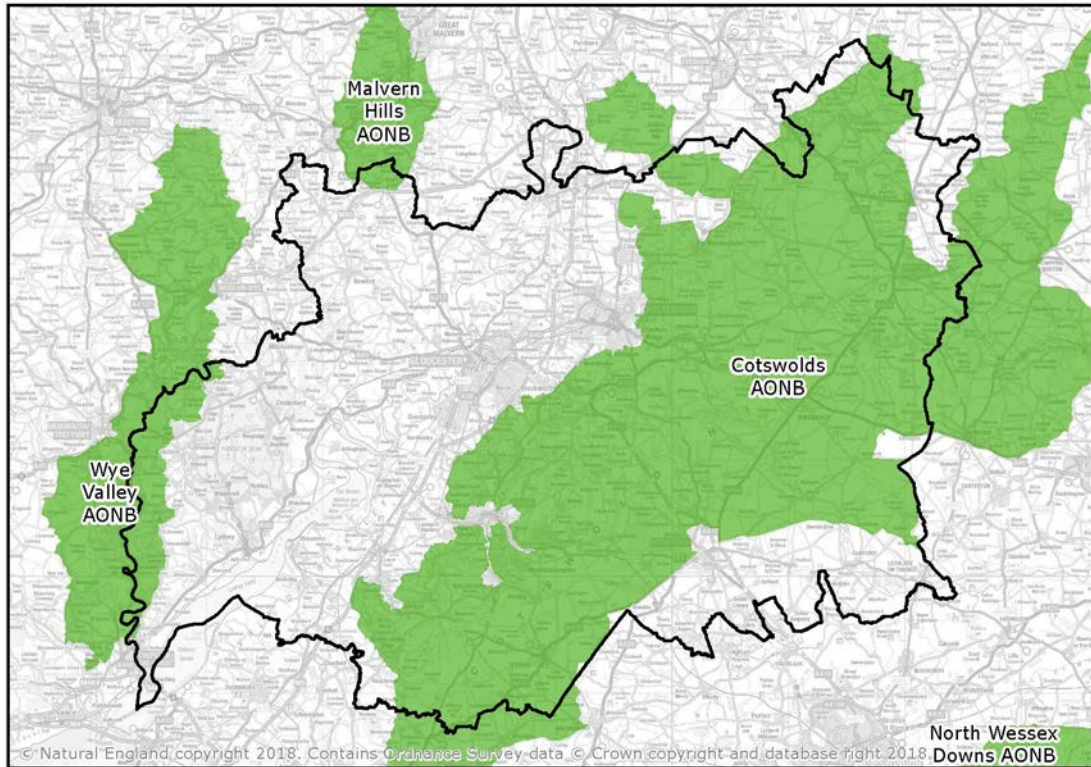
<sup>86</sup> Gloucestershire's Natural Environment (2018) Biodiversity in Gloucestershire. Available at: <http://gloucestershirenature.org.uk/biodiversity/gloucestershire.php>.

<sup>87</sup> Gloucestershire's Natural Environment (2018) Biodiversity in Gloucestershire. Available at: <http://gloucestershirenature.org.uk/biodiversity/gloucestershire.php>.

<sup>88</sup> Calculated using the following datasets: Natural England (2017) Areas of Outstanding Natural Beauty (England.) Available at: <https://data.gov.uk/dataset/areas-of-outstanding-natural-beauty-england1>; Ordnance Survey (October 2017) Boundary-Line™. Available at: <https://www.ordnancesurvey.co.uk/opendatadownload/products.html#BDLINE/>.

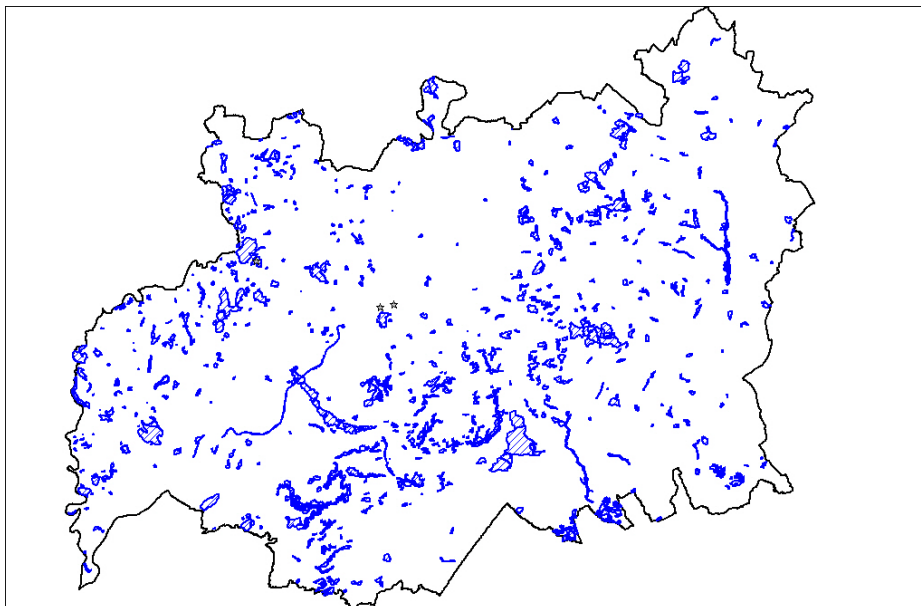
<sup>89</sup> Natural England (2017) Areas of outstanding natural beauty (AONBs): designation and management. Available at: <https://www.gov.uk/guidance/areas-of-outstanding-natural-beauty-aonbs-designation-and-management>.

**Figure 5: Extent of AONB in Gloucestershire**



In addition to the international and national designations listed above there are a range of regional and local designations including Key Wildlife Sites (see **Figure 6**), Local Nature Reserves, Private Nature Reserves (for example those managed by the Wildlife Trust, Woodland Trust and Royal Society for the Protection of Birds (RSPB), Regionally Important Geological Sites (RIGS)<sup>90</sup>, Special Landscape Areas, Ancient Woodland Sites (see **Figure 7**), and Registered Commons.

**Figure 6: Key wildlife sites in Gloucestershire<sup>91</sup>**

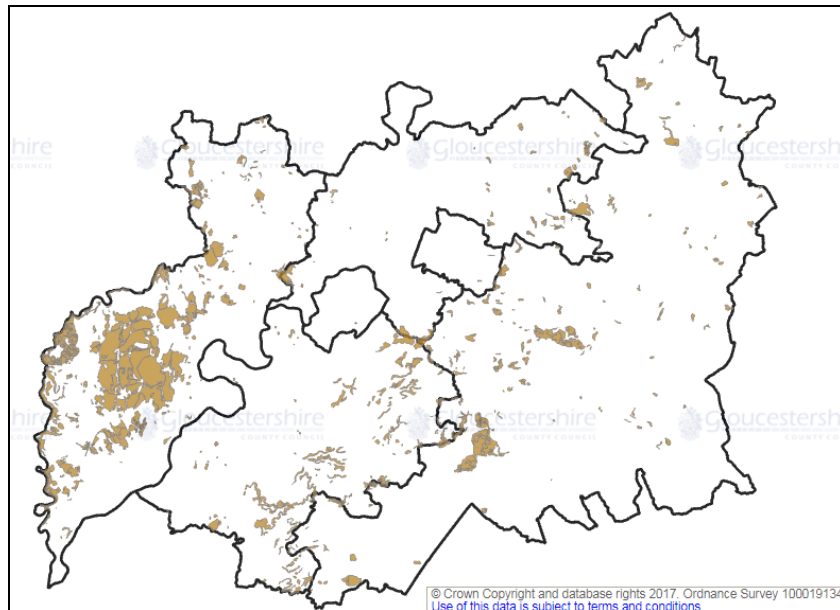


<sup>90</sup> While the government has proposed to change the name of Regionally Important Geological Sites (RIGS) to Local Geological Sites; in Gloucestershire they are still referred to as RIGS.

<sup>91</sup> Gloucestershire Wildlife Trust (2018) Key Wildlife Sites. Available at: <http://www.gloucestershirewildlifetrust.co.uk/what-we-do/local-nature-conservation/conservation-areas/key-wildlife-sites>.



**Figure 7: Extent of Ancient Woodland in Gloucestershire<sup>92</sup>**



### Population

As of mid-2016, 623,129 people were living in Gloucestershire, 51% of whom are female and 49% are male<sup>93</sup>. The 2011 Census found that 91.6% of Gloucestershire residents were White British, 2.1% were Asian/Asian British, 1.5% were from a Mixed/Multiple Ethnic group, 0.9% were Black/Black British, 0.6% were White Irish, 0.1% were of Gypsy or Irish Traveller origin, 3.1% were in an 'other White' category and 0.2% were in another ethnic group. Some 36% of the people who were not White British were born in the UK. The 2011 Census found that overall, 4.6% of the population in Gloucestershire was from Black and Minority Ethnic (BME) backgrounds; this figure increased to 8.4% when the Irish, Gypsy or Irish Traveller and 'other White' categories were included. The proportion of people from Black and Minority Ethnic backgrounds was considerably lower than the national figure of 14.6%<sup>94</sup>.

In terms of the local economy, key economic indicators show Gloucestershire in a favourable light. The County has historically low levels of unemployment, and gross value added per head similar to the national average. Unemployment in Gloucestershire was 2.8% in September 2017, below the national figure of 4.5%. In 2017 the average County income was £549.20 per week, slightly lower than the national average (£552.70 per week)<sup>95</sup>. However the average weekly income in Tewkesbury (£574.90)<sup>96</sup> and Cheltenham (£572.70)<sup>97</sup> were well above the national average, and the average weekly income in Gloucester was well below the national average (£502.00)<sup>98</sup>.

The Indices of Deprivation are made up of 7 domains: Income; Employment; Health deprivation and disability; Education, Skills and Training deprivation; Barriers to Housing and Services; Crime and Living Environment. These are combined to give the Index of Multiple Deprivation. According to Government Indices of Deprivation there are significant pockets of deprivation in the County mainly in the urban areas of Gloucester and Cheltenham, with 10 and 3 Lower Super Output

<sup>92</sup> Gloucestershire County Council (2012) Proposals Map. Available at: <http://www.gloucestershire.gov.uk/planning-and-environment/planning-policy/policies-proposals-map/>.

<sup>93</sup> Nomis (2018) Labour Markey Profile – Gloucestershire. Available at: <https://www.nomisweb.co.uk/reports/lmp/la/1941962903/report.aspx?town=gloucester>.

<sup>94</sup> Inform Gloucester (2018) Equalities Profile 2018. Available at: <https://inform.gloucestershire.gov.uk/Resource.aspx?ResourceID=1078>.

<sup>95</sup> Nomis (2018) Labour Markey Profile – Gloucestershire. Available at: <https://www.nomisweb.co.uk/reports/lmp/la/1941962903/report.aspx?town=gloucester>.

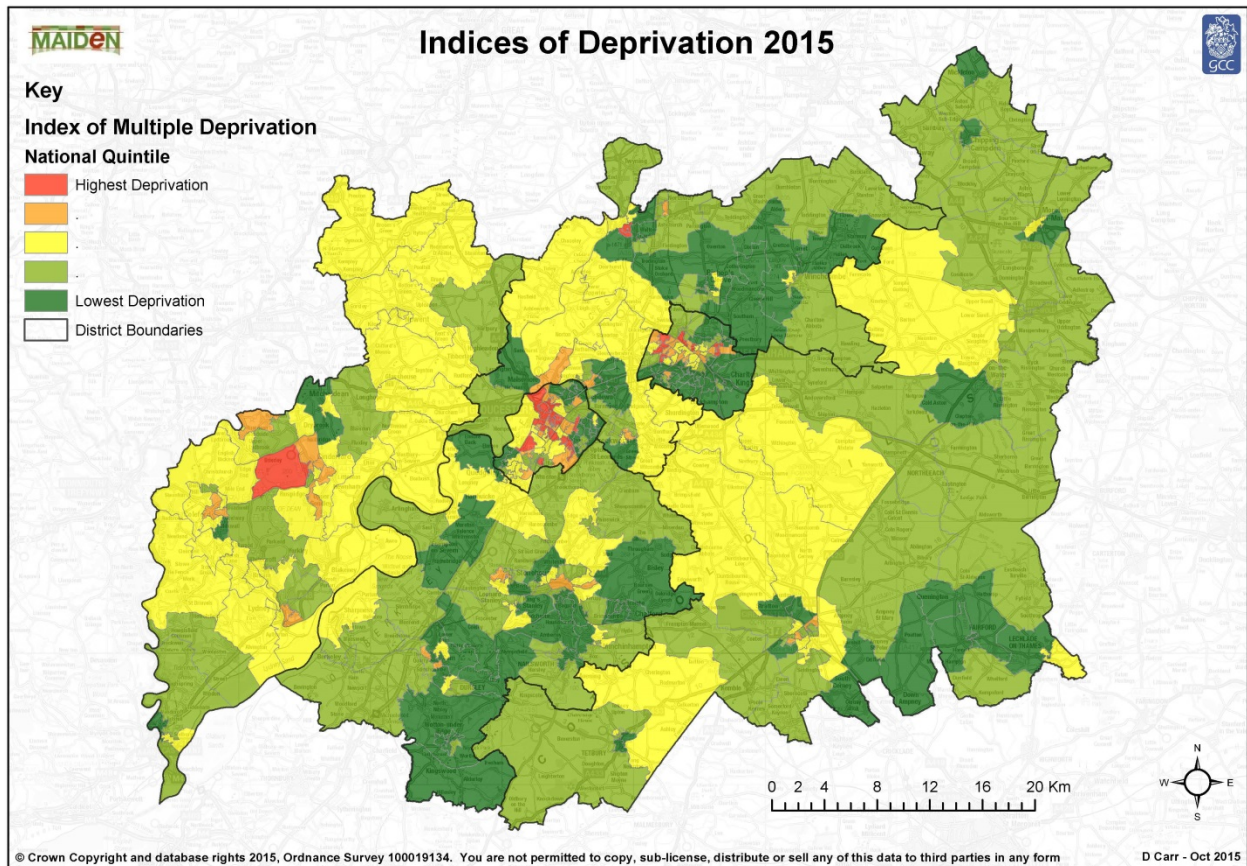
<sup>96</sup> Nomis (2018) Labour Markey Profile – Tewkesbury. Available at: <https://www.nomisweb.co.uk/reports/lmp/la/1946157377/report.aspx?town=tewkesbury>.

<sup>97</sup> Nomis (2018) Labour Markey Profile – Cheltenham. Available at: <https://www.nomisweb.co.uk/reports/lmp/la/1946157372/report.aspx?town=cheltenham>.

<sup>98</sup> Nomis (2018) Labour Markey Profile – Gloucester. Available at: <https://www.nomisweb.co.uk/reports/lmp/la/1946157375/report.aspx?town=gloucester>.

Areas in the urban areas respectively within to 10% most deprive areas in England<sup>99</sup>. (See **Figure 8** below.)

**Figure 8: Gloucestershire Index of Multiple Deprivation 2015<sup>100</sup>**



In terms of crime rates, the figures for Gloucestershire are relatively low, compared to the national average for the key crimes such as robberies, drugs, bike theft and public order, with the majority of crime being anti-social behaviour<sup>101</sup>. See **Figure 9** below for an indication of Gloucestershire's crime 'hotspots'<sup>102</sup>.

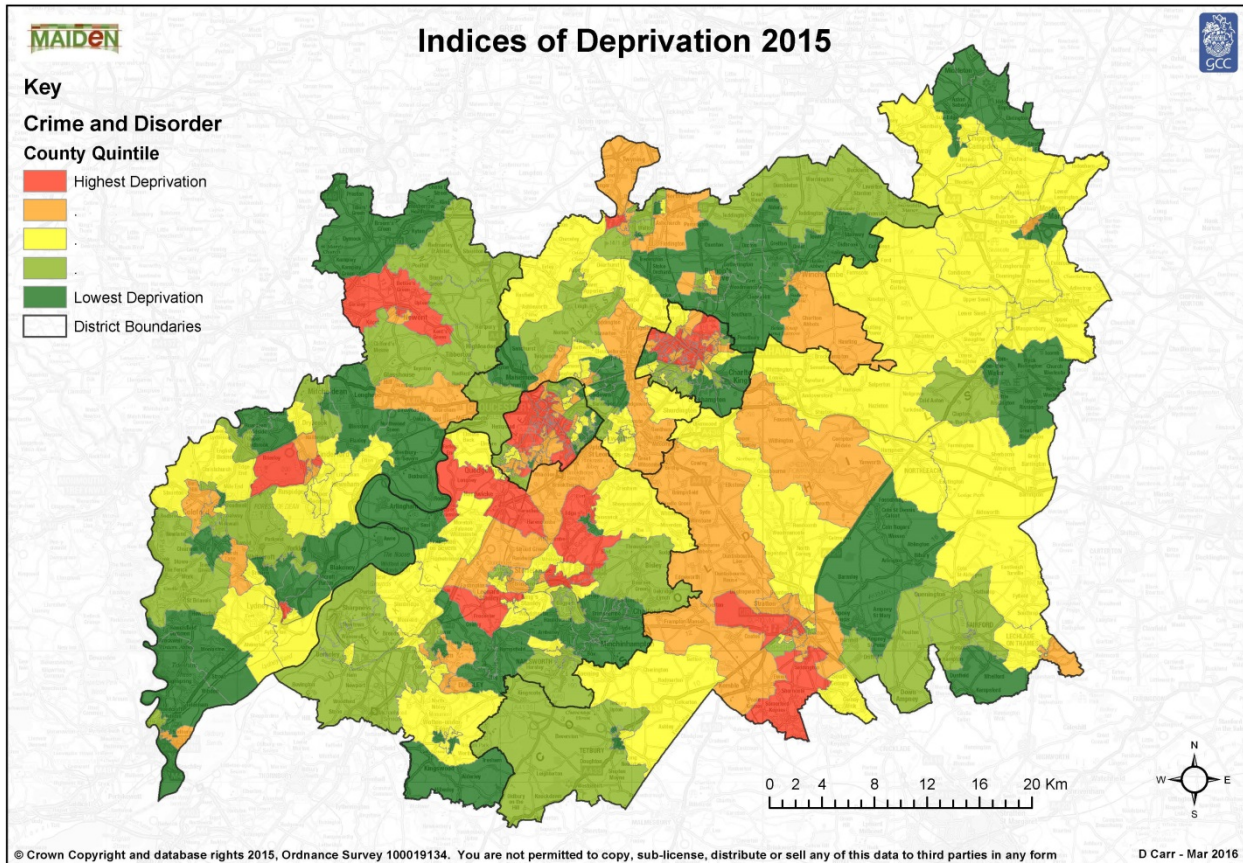
<sup>99</sup> Ministry of Housing, Communities & Local Government (2015) English indices of deprivation 2015. Available at: <https://www.gov.uk/government/statistics/english-indices-of-deprivation-2015>.

<sup>100</sup> Inform Gloucester (2016) Indices of Deprivation 2015. Available at: [https://inform.gloucestershire.gov.uk/viewpage.aspx?c=page&page=Deprivation\\_Maps2015](https://inform.gloucestershire.gov.uk/viewpage.aspx?c=page&page=Deprivation_Maps2015).

<sup>101</sup> UK Crime Statistics (November 2017) Gloucestershire Constabulary. Available at: [http://www.ukcrimestats.com/Police\\_Force/Gloucestershire\\_Constabulary](http://www.ukcrimestats.com/Police_Force/Gloucestershire_Constabulary); UK Crime Statistics (November 2017) National Picture. Available at: [http://www.ukcrimestats.com/National\\_Picture/](http://www.ukcrimestats.com/National_Picture/).

<sup>102</sup> Inform Gloucester (2016) Map - IMD2015 - County Quintiles - Crime and Disorder - Gloucestershire. Available at: <https://inform.gloucestershire.gov.uk/Resource.aspx?ResourceID=66>.

Figure 9: Crime Hotspots in Gloucestershire<sup>103</sup>



### Human Health

#### General health

The following information on health in Gloucestershire comes from the Public Health England 2017 Health Profile. Health indicators in Gloucestershire are generally better than for England as a whole. The priorities for Gloucestershire are reducing obesity, reducing the harm caused by alcohol, improving mental health, improving health and wellbeing into older age, and tackling health inequalities<sup>104</sup>.

#### Life expectancy

On average, people live longer than the England average. Levels of deprivation across Gloucestershire are generally low compared to the rest of England. However, there are pockets of deprivation in Gloucester and Cheltenham, in which life expectancy is 7.7 years lower for men and 5.4 years lower for women<sup>105</sup>. The following chart shows that for both men and women, life expectancy at birth in Cotswold District, Tewkesbury Borough, Cheltenham Borough and Stroud District is higher than the average for England. Gloucester City is very close to the national average. Men in Gloucester are below the English average (see **Figure 10**)<sup>106</sup>.

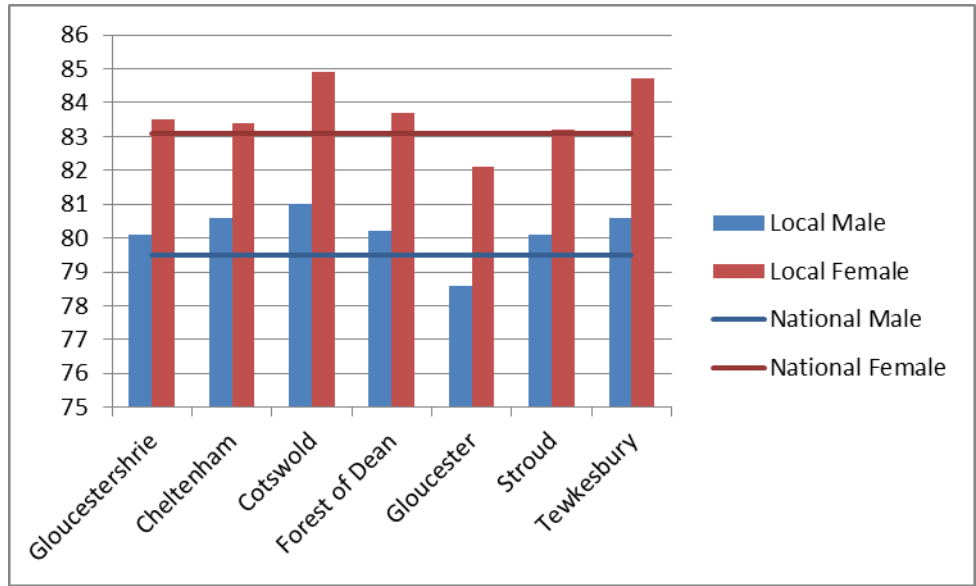
<sup>103</sup> Inform Gloucester (2016) Map - IMD2015 - County Quintiles - Crime and Disorder - Gloucestershire. Available at: <https://inform.gloucestershire.gov.uk/Resource.aspx?ResourceID=66>.

<sup>104</sup> Public Health England (2017) Gloucestershire health profile 2017. Available at: <http://fingertipsreports.phe.org.uk/health-profiles/2017/e10000013.pdf>.

<sup>105</sup> Public Health England (2017) Gloucestershire health profile 2017. Available at: <http://fingertipsreports.phe.org.uk/health-profiles/2017/e10000013.pdf>.

<sup>106</sup> Public Health England (2017) Gloucestershire health profile 2017. Available at: <http://fingertipsreports.phe.org.uk/health-profiles/2017/e10000013.pdf>; Public Health England (2017) Cheltenham health profile 2017. Available at: <http://fingertipsreports.phe.org.uk/health-profiles/2017/e07000078.pdf>; Public Health England (2017) Cotswold health profile 2017. Available at: <http://fingertipsreports.phe.org.uk/health-profiles/2017/e07000079.pdf>; Public Health England (2017) Forest of Dean health profile 2017. Available at: <http://fingertipsreports.phe.org.uk/health-profiles/2017/e07000080.pdf>; Public Health England (2017) Gloucester health profile 2017. Available at: <http://fingertipsreports.phe.org.uk/health-profiles/2017/e07000081.pdf>; Public Health

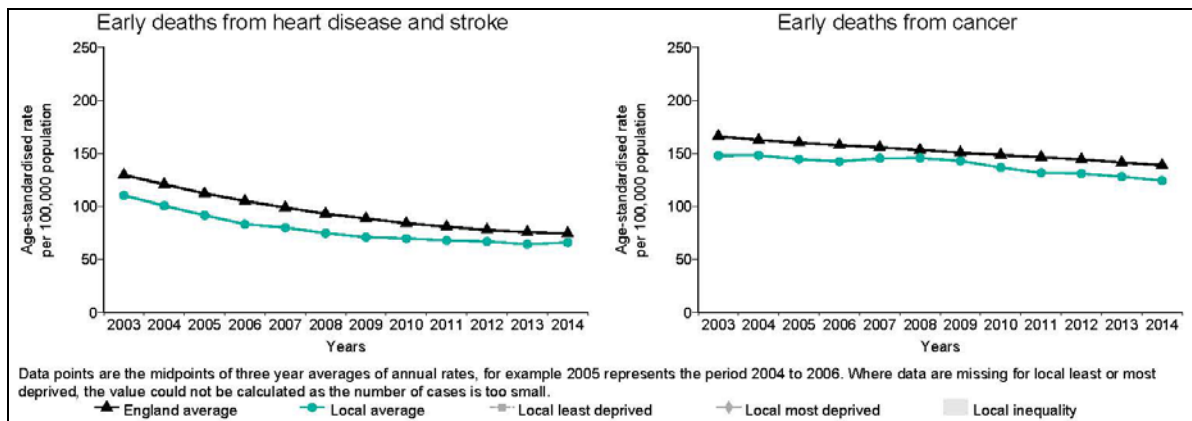
Figure 10: Life Expectancy at Birth – England & Districts in Gloucestershire<sup>107</sup>



Key trends

Early death rates from heart disease and stroke, and from cancer are lower than the England rates and falling, following the national trend (see **Figure 11**)<sup>108</sup>.

Figure 11: Key trends – Health inequalities: changes over time<sup>109</sup>.



Flora and Fauna

Despite the large number of statutory and local designations, Gloucestershire has suffered from large-scale habitat and species loss over the last 50 years. This has largely been due to changes in farming practices. Among the species that have suffered from decline are farmland birds. Over a 40 year period in Gloucestershire there had been a decline in 22 species, 15 species increased

England (2017) Stroud health profile 2017. Available at: <http://fingertipsreports.phe.org.uk/health-profiles/2017/e07000082.pdf>; Public Health England (2017) Tewkesbury health profile 2017. Available at: <http://fingertipsreports.phe.org.uk/health-profiles/2017/e07000083.pdf>.

<sup>107</sup> Public Health England (2017) Gloucestershire health profile 2017. Available at: <http://fingertipsreports.phe.org.uk/health-profiles/2017/e10000013.pdf>; Public Health England (2017) Cheltenham health profile 2017. Available at: <http://fingertipsreports.phe.org.uk/health-profiles/2017/e07000078.pdf>; Public Health England (2017) Cotswold health profile 2017. Available at: <http://fingertipsreports.phe.org.uk/health-profiles/2017/e07000079.pdf>; Public Health England (2017) Forest of Dean health profile 2017. Available at: <http://fingertipsreports.phe.org.uk/health-profiles/2017/e07000080.pdf>; Public Health England (2017) Gloucester health profile 2017. Available at: <http://fingertipsreports.phe.org.uk/health-profiles/2017/e07000081.pdf>; Public Health England (2017) Stroud health profile 2017. Available at: <http://fingertipsreports.phe.org.uk/health-profiles/2017/e07000082.pdf>; Public Health England (2017) Tewkesbury health profile 2017. Available at: <http://fingertipsreports.phe.org.uk/health-profiles/2017/e07000083.pdf>.

<sup>108</sup> Public Health England (2017) Gloucestershire health profile 2017. Available at: <http://fingertipsreports.phe.org.uk/health-profiles/2017/e10000013.pdf>.

<sup>109</sup> Public Health England (2017) Gloucestershire health profile 2017. Available at: <http://fingertipsreports.phe.org.uk/health-profiles/2017/e10000013.pdf>.

in number, 3 species were lost and there were 2 new species<sup>110</sup>. At present over 200 species identified in the UK as priority species are thought to occur in Gloucestershire. Many of these species are also protected under the Wildlife & Countryside Act as well as for some the Habitats Regulations such as the European Otter, Dormouse, Lesser Horseshoe and Greater Horseshoe Bat, and Pipistrelle Bat<sup>111</sup>. The Wye Valley and Forest of Dean SAC has 26% of the national population of the Lesser Horseshoe Bat and 6% of the Greater Horseshoe Bat<sup>112</sup>. Wetlands areas such as the Severn Estuary, Slimbridge Wildfowl Centre and the Cotswolds Water Park centre provide important habitats for protected and priority over-wintering and migratory birds.

In terms of the protection of flora and fauna, under Section 41(3) of the Natural Environment and Rural Communities Act 2006 (NERC) the Secretary of State must take steps (where they are reasonably practicable), and promote the taking of steps by others, to further the conservation of certain listed habitats and species<sup>113</sup>. In light of this duty, seven sectors have been identified where actions taken by public bodies and other stakeholders could deliver significant conservation benefits for the habitats and species on the list. The English List is available on the JNCC website<sup>114</sup>.

The Gloucestershire Local Nature Partnership promotes the conservation of local biodiversity which targets the conservation, enhancement and creation of priority habitats within the Gloucestershire Nature Map<sup>115</sup>. The Gloucestershire Nature Map consists of a number of constituent parts called Strategic Nature Areas (SNAs.) When viewed alongside the rivers targeted by the Environment Agency through the Water Framework Directive process the Gloucestershire Nature Map represents a strategic ecological network for Gloucestershire<sup>116</sup>. Additional to the County approach the Cotswold Water Park Biodiversity Action Plan 2007-2016 provides detailed information and biodiversity targets for the south west corner of the County and into Wiltshire and Swindon beyond<sup>117</sup>.

### *Mineral site restoration*

There are issues over the general quality of mineral site restoration and also problematic issues in the Cotswold Water Park regarding wet restoration and 'bird strike' issues in relation to the proximity of RAF Fairford. There are a number of specific issues that need to be considered in regards to the Cotswold Water Park – protection and enhancement of existing sites, consideration of the whole environment, the need for a more coherent approach to restoration and after use, ensuring that environmental priorities are considered for the lifetime of a quarrying operation, need for an ecosystems services approach to balance the differing/conflicting needs of biodiversity and people<sup>118</sup>.

### *Soil, Air and Water*

#### *Soil*

The Agricultural Land Classification (ALC) system provides a framework for classifying land according to the extent to which its physical or chemical characteristics impose long-term limitations on agricultural use. The principal factors influencing agricultural production are climate, site and soil. These factors, together with interactions between them, form the basis for

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<sup>110</sup> Gloucestershire Environment Partnership (2011) State of the Natural Environment Report. Available at: <http://www.gloucestershiREWILDLIFETRUST.CO.UK/what-we-do/research-and-publications/state-natural-environment>.

<sup>111</sup> Gloucestershire's Natural Environment (2018) Priority Species. Available at: <http://www.gloucestershiRENATURE.ORG.UK/actionplan/priority-species.php>.

<sup>112</sup> JNCC (2018) Wye Valley and Forest of Dean Bat Sites/ Safleoedd Ystumod Dyffryn Gwy a Fforest y Ddena. Available at: <http://jncc.defra.gov.uk/protectedsites/sacselection/sac.asp?EUcode=UK0014794>.

<sup>113</sup> Legislation.gov.uk (2006) Natural Environment and Rural Communities Act 2006. Available at: <https://www.legislation.gov.uk/ukpga/2006/16/contents>.

<sup>114</sup> JNCC (2016) UK BAP priority species and habitats. Available at: <http://jncc.defra.gov.uk/page-5705>.

<sup>115</sup> Gloucestershire's Natural Environment (2018) The Plan. Available at: <http://www.gloucestershiRENATURE.ORG.UK/actionplan/index.php>.

<sup>116</sup> Gloucestershire's Natural Environment (2018) Gloucestershire Nature Map. Available at: <http://www.gloucestershiRENATURE.ORG.UK/actionplan/nature-map.php>.

<sup>117</sup> Harris, G and Pickering, Dr. S J (eds) (2008) Cotswold Water Park Biodiversity Action Plan 2007 – 2016. Cotswold Water Park Society. Available at: <http://www.waterpark.org/resources-documents/>.

<sup>118</sup> Cotswold Water Park (2008) Cotswold Water Park Biodiversity Action Plan 2007-2016. Available at: <http://www.waterpark.org/resources-documents/>.

classifying land into one of five grades, where Grade 1 describes land as excellent (land of high agricultural quality and potential) and Grade 5 describes land as very poor (land of low agricultural quality and potential.) Land falling outside of these scores is deemed to be 'primarily in non-agricultural use', or 'land predominantly in urban use'<sup>119</sup>.

The majority of land within Gloucestershire is Grade 3 (good to moderate soil quality.) There are also significant areas of urban land use in Gloucester and Cheltenham, and a large area of other non-agricultural land in the west, the woodland cover in the Forest of Dean<sup>120</sup>.

Soil erosion is an increasing problem throughout the UK and erosion due to wind and rainfall already results in the annual loss of around 2.2 million tonnes of topsoil in the UK<sup>121</sup>. 38% of soils in southwest England show signs of enhanced surface water runoff due to soil degradation<sup>122</sup>. The increased sediment in rivers caused by soil runoff also poses a threat to aquatic ecosystems<sup>123</sup>.

## Air

Air quality is a less significant issue in Gloucestershire than in some counties as a result of the largely rural nature of the County. However, road transport is a major source of local air pollution and both Gloucester City and Cheltenham Borough exhibit significantly higher concentrations of pollutants associated with road traffic than the more rural districts. The issue of air quality has been considered within the Gloucestershire Local Transport Plan (2015-2031)<sup>124</sup>.

The County has seven areas declared under Section 83 of the Environment Act 1995 by district councils as Air Quality Management Areas (AQMAs.) The seven declared AQMAs in Gloucestershire test above the target objective levels for nitrogen dioxide (NO<sub>2</sub>) that have relevant exposure to Gloucestershire residents. In each case traffic is the main source of air pollution. Under The Air Quality (England) Regulations 2002 the highway authority has a duty to work in partnership with the district with the aim of reducing AQMAs. The target to reduce the annual mean concentration level of transport derived NO<sub>2</sub> at each of the county's AQMAs<sup>125</sup>. **Table 3** lists the Local Air Quality Management Areas (AQMAs) that have been declared in the County<sup>126</sup>.

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<sup>119</sup> Natural England (2012) Natural England Technical Information Note TIN049: Agricultural Land Classification: protecting the best and most versatile agricultural land. Available at: <http://publications.naturalengland.org.uk/publication/35012>.

<sup>120</sup> Natural England (2010) Agricultural Land Classification Map South West Region (ALC006.) Available at: <http://publications.naturalengland.org.uk/publication/144017?category=5954148537204736>.

<sup>121</sup> Defra (2009) Safeguarding our Soils: A Strategy for England. Available at: <https://www.gov.uk/government/publications/safeguarding-our-soils-a-strategy-for-england>.

<sup>122</sup> European Commission (2015) More than one third of soils studied in southwest England are highly degraded. Available at: [http://ec.europa.eu/environment/integration/research/newsalert/pdf/more\\_than\\_one\\_third\\_of\\_soils\\_studied\\_in\\_south\\_west\\_england\\_a\\_re\\_highly\\_degraded\\_52si4\\_en.pdf](http://ec.europa.eu/environment/integration/research/newsalert/pdf/more_than_one_third_of_soils_studied_in_south_west_england_a_re_highly_degraded_52si4_en.pdf).

<sup>123</sup> Environment Agency (2004) The state of soils in England and Wales. Available at: [http://www.adlib.ac.uk/resources/000/030/045/stateofsoils\\_775492.pdf](http://www.adlib.ac.uk/resources/000/030/045/stateofsoils_775492.pdf).

<sup>124</sup> Gloucestershire County Council (June 2016) Gloucestershire's Local Transport Plan (2015-2031): Overarching strategy. Available at: <https://www.gloucestershire.gov.uk/transport/gloucestershires-local-transport-plan-2015-2031/overarching-strategy/>.

<sup>125</sup> Gloucestershire County Council (June 2016) Gloucestershire's Local Transport Plan (2015-2031): Overarching strategy. Available at: <https://www.gloucestershire.gov.uk/transport/gloucestershires-local-transport-plan-2015-2031/overarching-strategy/>.

<sup>126</sup> Defra (2018) AQMAs interactive map. Available at: <https://uk-air.defra.gov.uk/aqma/maps>.

**Table 3: Local Air Quality Management Areas in Gloucestershire<sup>127</sup>**

District	Geographic coverage
Gloucester City	Barton Street
	Priory Road
	Painswick Road
Tewkesbury	Tewkesbury Town Centre
Forest of Dean	Lydney
Cheltenham	Cheltenham Borough wide
Cotswold	The Air Balloon Roundabout, Birdlip

### Water

Gloucestershire is estimated to have 5284km of watercourses, a widespread and important resource. They vary in character and quality from rivers of international importance such as the Wye, designated as Special Area of Conservation (SAC), to those which have been degraded and constrained by river engineering and various forms of development. There is a strong relationship between rivers and particular minerals in that sand and gravel resources are often present in river valleys<sup>128</sup>.

There are three main catchments into which all Gloucestershire's rivers and streams flow: the Lower Severn; the Lower Wye and the Upper Thames<sup>129</sup>.

The water quality is monitored as part of meeting the European Water Framework Directive (WFD.) The WRD will help protect and enhance the quality of:

- surface waters;
- groundwaters;
- transitional waters; and
- coastal waters (out to one mile from low-water)<sup>130</sup>.

The Severn river basin district (including the Wye) and the Thames river basin district river basin management plans detail the status of the surface waters and groundwaters within these districts, based on the WFD definition of status (see **Table 4**)<sup>131</sup>.

<sup>127</sup> Defra (2018) AQMAs interactive map. Available at: <https://uk-air.defra.gov.uk/aqma/maps>.

<sup>128</sup> Gloucestershire County Council (2008) Joint Technical Evidence Paper WCS-MCS-3 Flooding & Hydrological Issues. Available at: <https://www.gloucestershire.gov.uk/planning-and-environment/planning-policy/minerals-local-plan-for-gloucestershire/evidence-base-for-the-minerals-local-plan-for-gloucestershire/>.

<sup>129</sup> Gloucestershire County Council (2008) Joint Technical Evidence Paper WCS-MCS-3 Flooding & Hydrological Issues. Available at: <https://www.gloucestershire.gov.uk/planning-and-environment/planning-policy/minerals-local-plan-for-gloucestershire/evidence-base-for-the-minerals-local-plan-for-gloucestershire/>.

<sup>130</sup> European Parliament, Council of the European Union (2000) Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000 establishing a framework for Community action in the field of water policy. Available at: <http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32000L0060>.

<sup>131</sup> Defra and Environment Agency (2016) River basin management plans: 2015. Available at: <https://www.gov.uk/government/collections/river-basin-management-plans-2015#severn-river-basin-district-rbmp:-2015>.

**Table 4: Classification of surface waters and ground waters within the Severn river basin district and the Thames river basin district<sup>132</sup>**

District	Surface water ecological status or potential	Surface water chemical status	Groundwater quantitative status	Groundwater chemical status
River Severn	20% good	95% good	79% good	64% good
River Thames	8% good	99% good	53% good	62% good

Groundwater is particularly susceptible to nitrate pollution caused by agricultural fertilizer. In order to protect groundwater against nitrate pollution certain areas of the County have been identified as groundwater nitrate vulnerable zones. There are major aquifers associated with the carboniferous limestone geology of the Cotswold hills and parts of the Forest of Dean. The two broad areas of mineral working in the County are the Forest of Dean and the Upper Thames Valley. Mineral working can affect the future availability of groundwater resources by materially restricting recharge, diverting flow, causing particulate or the introduction of chemical pollutants. Surface water regimes can also be adversely affected in terms of diverted flows, overloaded watercourses and the introduction of chemical and suspended solids contaminants<sup>133</sup>.

There are six Catchment Abstraction Plans (CAMS) that cover Gloucestershire. These detail how the Environment Agency manage water resources, existing and future abstraction licences and water availability within river catchments. The Severn Vale Abstraction Licensing Strategy illustrates how the southern area of the Severn Vale CAMS, near Stroud and the Southern area of the Cotswolds, has limited water availability which is restricted for Groundwater. Water resources in these areas are available for less than 30% of the time<sup>134</sup>.

The Hydrogeological Impact Assessments for each draft MLP allocation highlight potential hydrological impacts of each allocation, including impacts upon water quality<sup>135</sup>.

### *Flooding in Gloucestershire*

The threat of flooding is present across many parts of Gloucestershire. Significant flooding events in the recent past have highlighted the need to be better prepared and for greater resilience. Over the coming decades the risk of flooding is set to rise. This is due to ever increasing demands upon land from a growing population and the impacts of climate change. Gloucestershire is expected to see greater fluctuations in weather patterns with wetter winters, periods of prolonged drought and more severe, extreme wet weather events at other times of the year<sup>136</sup>.

Mineral developments have the potential to contribute both positively and negatively to the risk of flooding. While the working of sand and gravel is recognised as being water-compatible, extracting other local mineral resources will require careful consideration of their relationship with areas of heightened flood risk. It is vitally important that the development of mineral sites in all locations does not undermine Gloucestershire's resilience to the effects of flooding now and in the future<sup>137</sup>.

<sup>132</sup> Defra and Environment Agency (2016) River basin management plans: 2015. Available at: <https://www.gov.uk/government/collections/river-basin-management-plans-2015#severn-river-basin-district-rbmp:-2015>.

<sup>133</sup> Gloucestershire County Council (2008) Joint Technical Evidence Paper WCS-MCS-3 Flooding & Hydrological Issues. Available at: <https://www.gloucestershire.gov.uk/planning-and-environment/planning-policy/minerals-local-plan-for-gloucestershire/evidence-base-for-the-minerals-local-plan-for-gloucestershire/>.

<sup>134</sup> Environment Agency (2018) Abstraction licensing strategies (CAMS process.) Available at: [https://www.gov.uk/government/collections/water-abstraction-licensing-strategies-cams-process#west-midlands-\(map-area-7.\)](https://www.gov.uk/government/collections/water-abstraction-licensing-strategies-cams-process#west-midlands-(map-area-7.))

<sup>135</sup> Atkins (2016) Gloucestershire Emerging New Minerals Plan Hydrogeological Assessment. Available at: <https://www.gloucestershire.gov.uk/planning-and-environment/planning-policy/minerals-local-plan-for-gloucestershire/evidence-base-for-the-minerals-local-plan-for-gloucestershire/>.

<sup>136</sup> Gloucestershire County Council (January 2018) Minerals Local Plan for Gloucestershire (2018-2032) Publication Plan.

<sup>137</sup> Gloucestershire County Council (January 2018) Minerals Local Plan for Gloucestershire (2018-2032) Publication Plan.



The Hydrogeological Impact Assessments for each draft MLP allocation highlight potential hydrological impacts of each allocation, including impacts upon flood risk<sup>138</sup>.

### Pollution incidents

There have been 8 serious water land or air pollution incidents in 2017, 7 in 2016, 13 in 2015 and 14 in 2014. The majority of these have either been in the Forest of Dean District or in Gloucester City<sup>139</sup>.

### Climatic factors

Climate change is recognised as one of the greatest threats facing the world today. It is now widely accepted that man-made emissions of greenhouse gases are responsible for the increase in temperatures and that temperatures are rising faster than previously thought. As shown in **Table 5**, the changes resulting from global warming are likely to result in warmer, drier summers and milder, wetter winters<sup>140</sup>.

**Table 5: Future Seasonal Climate in the South West<sup>141</sup>**

Projection Year	2020s			2050s			2080s		
	Low	Med	High	Low	Med	High	Low	Med	High
Winter Mean Temperature	+1.2°C	+1.3°C	+1.2°C	+1.8°C	+2.1°C	+2.3°C	+2.4°C	+2.8°C	+3.4°C
Summer Mean Temperature	+1.6°C	+1.6°C	+1.5°C	+2.5°C	+2.7°C	+3.1°C	+2.9°C	+3.9°C	+5°C
Summer Mean Precipitation	-7%	-8%	-5%	-14%	-20%	-20%	-16%	-24%	-30%
Winter Mean Precipitation	+6%	+7%	+6%	+12%	+17%	+18%	+19%	+23%	+31%

Action on climate change is a global challenge that many national governments are committed to. Tackling and responding to climate change is enshrined in UK law and targets have been set alongside the development of wide ranging policy framework. The planning system has an important role to play in delivering action on climate change alongside maintaining steady and adequate mineral supplies. The challenge for the future management of mineral developments is to ensure a meaningful contribution will be made. This may arise through efforts to minimise greenhouse gas emissions particularly from transporting minerals; supporting the delivery of infrastructure to increase resilience to climate change impacts and integrating features that will help in successfully adapting local environments to forecast changes envisaged over the coming decades linked to climate change<sup>142</sup>.

Gloucestershire's renewable electricity and heat capacity has slowly increased over the years. The January 2018 Renewable energy planning database monthly extract indicates that the County's electricity capacity is 171 MW and is predominantly delivered by solar photovoltaics<sup>143</sup>.

<sup>138</sup> Atkins (2016) Gloucestershire Emerging New Minerals Plan Hydrogeological Assessment. Available at: <https://www.gloucestershire.gov.uk/planning-and-environment/planning-policy/minerals-local-plan-for-gloucestershire/evidence-base-for-the-minerals-local-plan-for-gloucestershire/>.

<sup>139</sup> Environment Agency (2018) Environmental Pollution Incidents. Available at: <https://data.gov.uk/dataset/environmental-pollution-incidents>.

<sup>140</sup> UK Climate Projections (2014) Maps & key findings. Available at: <http://ukclimateprojections.metoffice.gov.uk/21708>.

<sup>141</sup> UK Climate Projections (2014) Maps & key findings. Available at: <http://ukclimateprojections.metoffice.gov.uk/21708>.

<sup>142</sup> Gloucestershire County Council (January 2018) Minerals Local Plan for Gloucestershire (2018-2032) Publication Plan.

<sup>143</sup> DBEIS (2018) Renewable energy planning database monthly extract: January 2018. Available at: <https://www.gov.uk/government/publications/renewable-energy-planning-database-monthly-extract>.

The major rivers in Gloucestershire (the River Severn in particular) frequently flood in the winter months particularly after heavy and prolonged rain upstream. But intense summer rainfall events (potentially as a result of a changing climate) are also leading to extreme flooding<sup>144</sup>. The floods of the summer of 2007 severely affected many communities in the County, flooding 5,000 homes and businesses and 135,000 homes (over half the homes in the County) were without drinking water for up to 17 days<sup>145</sup>. Particularly hard hit were Tewkesbury, Gloucester and Cheltenham as well as many villages, in floods as bad, if not worse, than the severe event of 1947 along much of the River Severn. As the climate changes flooding is an increasing threat in the County and the issues are increasingly complex. Flooding is no longer resultant just from heavy winter rainfall causing rivers and streams to burst their banks. Flash floods from extreme summer rainfall events are now a major flooding risk for areas that would have otherwise not have been considered at risk. Linked to this are issues of increased runoff from urbanised environments and the inability of old and damaged drainage systems to cope massive volumes of water generated in extreme events<sup>146</sup>.

### *Materials assets*

#### *Motorways and major roads*

The M5 runs through Gloucestershire linking, northbound, to Birmingham and the West Midlands and, to the south, to Bristol, the South West and Wales. The Gloucestershire section covers close to 30 miles. A dual-carriageway (A417/419) provides access to Swindon and the M4 with a two-hour drive time to Heathrow, three hours to the South East and channel ports. The M50, which connects the West Midlands to Wales also runs through the County's northern boundary for a distance of 10 miles<sup>147</sup>.

The busiest routes in the County, exceeding the national average journey time of 2.41 vehicle minutes per mile, are sections of the A38, A40, A4013, A4019, A417, A4173, A430, A432, A435, A46, B4063, B4073, B4215, Barnwood Road, Hucclecote Road and Leckhampton Road in Cheltenham and Gloucester. Analysis of internal congestion monitoring data shows that between 2008/09 and 2010/11, there has been a gradual worsening of congestion on a number of corridors in Cheltenham and Gloucester<sup>148</sup>.

#### *Rail links*

Main line intercity rail services bring London Paddington and Heathrow within two hours reach of Gloucestershire. The regional network also provides access to Birmingham, Bristol, Cardiff, Oxford and Swindon. Gloucestershire has railway stations at Ashchurch (Tewkesbury), Cam and Dursley, Cheltenham, Gloucester, Kemble (near Cirencester), Lydney, Moreton-in-Marsh, Stonehouse and Stroud that account for nearly 5 million passenger journeys each year. The Cross-country mainline bisects Gloucestershire north to south and there is also a route from Gloucester running to South Wales (Cardiff to Midlands line) and from Stonehouse towards the South East (South Cotswolds line.) A further line passes through Moreton-in-Marsh in the north east of the County (North Cotswolds line)<sup>149</sup>.

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<sup>144</sup> Gloucestershire County Council (2008) Joint Technical Evidence Paper WCS-MCS-3 Flooding & Hydrological Issues. Available at: <https://www.gloucestershire.gov.uk/planning-and-environment/planning-policy/minerals-local-plan-for-gloucestershire/evidence-base-for-the-minerals-local-plan-for-gloucestershire/>.

<sup>145</sup> Flood ProBE (2011) Case Study: Gloucestershire, GB flood 2007 Fact Sheet. Available at: <http://www.floodprobe.eu/partner/assets/documents/Floodprobe-Factsheet-casestudy-gloucester.pdf>

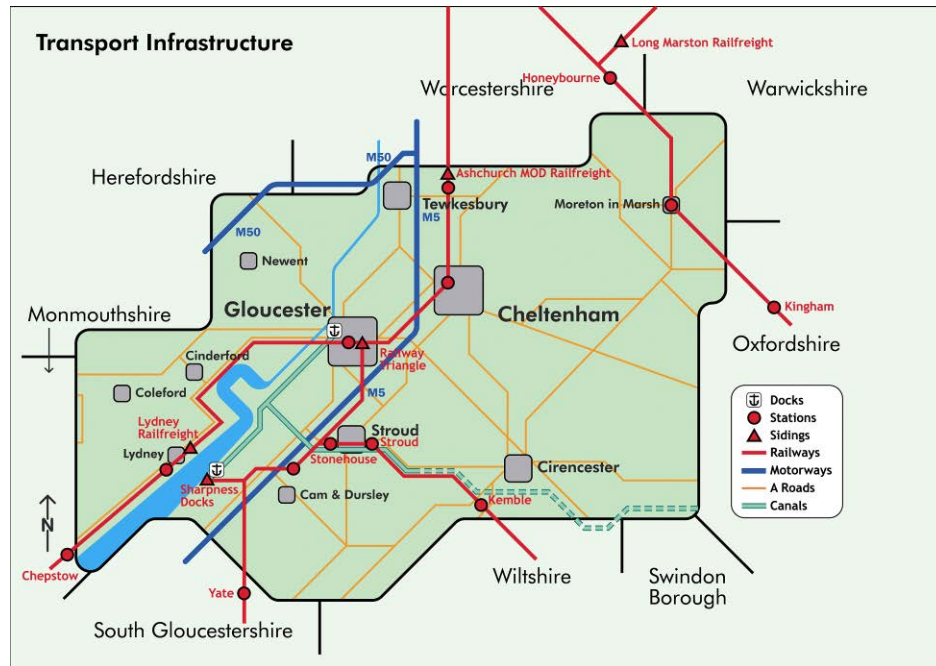
<sup>146</sup> Gloucestershire County Council (2008) Joint Technical Evidence Paper WCS-MCS-3 Flooding & Hydrological Issues. Available at: <https://www.gloucestershire.gov.uk/planning-and-environment/planning-policy/minerals-local-plan-for-gloucestershire/evidence-base-for-the-minerals-local-plan-for-gloucestershire/>.

<sup>147</sup> Gloucestershire County Council (January 2018) Minerals Local Plan for Gloucestershire (2018-2032) Publication Plan.

<sup>148</sup> Gloucestershire County Council (2017) Gloucestershire's Local Transport Plan 2015-2031: Policy Document PD 4 – Highways. Available at: <https://www.gloucestershire.gov.uk/transport/gloucestershires-local-transport-plan-2015-2031/>.

<sup>149</sup> Gloucestershire County Council (January 2018) Minerals Local Plan for Gloucestershire (2018-2032) Publication Plan.

Figure 12: Transport Infrastructure in Gloucestershire<sup>150</sup>



### Airports

Gloucestershire Airport is centrally located between Gloucester and Cheltenham providing facilities for air transport, executive jets, helicopters, charter flights, flying schools, aero engineering and maintenance. RAF Fairford is a strategically significant military asset, which has international prominence.<sup>151</sup> Throughout its history it has accommodated both the UK and other air forces, most notable the US. RAF Fairford was also designated as a TransOceanic Abort Landing site during NASA's Space Shuttle programme partially due to its 3km long runway. NASA-trained fire and medical crews were once stationed at the base<sup>152</sup>.

### Waterways and Dockside facilities

The historic Gloucester Docks in the heart of the city is now a focal point for water-based leisure activities. Two working dry docks continue to provide ship repair and re-fit facilities with access to the sea through the Gloucester and Sharpness Canal. Sharpness Docks on the Bristol Channel is the county's only remaining commercial port. It provides extensive cargo-handling facilities and port-related services accommodating vessels up to 6,000 dead weight tonnes<sup>153</sup>. Waterborne transport in the county mainly consists of privately owned small leisure craft and canal barges, although some commercial freight movement has occurred in the recent past. In 2005 attempts were made to re-institute the barging of minerals – sand & gravel from Ryall Quarry in Worcestershire to Gloucester. The river and the Gloucester and Sharpness canal also provide Gloucestershire with the possibility to develop sustainable waterborne freight transport. This should be encouraged, particularly as other parts of the UK (London in particular) have very successfully developed the infrastructure needed to transport large volumes of waste and construction materials by water<sup>154</sup>.

<sup>150</sup> Gloucestershire County Council (2008) Minerals & Waste Core Strategies: Joint Technical Evidence Paper WCS-MCS-1 Transport. Available at: <https://www.gloucestershire.gov.uk/planning-and-environment/planning-policy/minerals-local-plan-for-gloucestershire/evidence-base-for-the-minerals-local-plan-for-gloucestershire/>.

<sup>151</sup> Gloucestershire County Council (January 2018) Minerals Local Plan for Gloucestershire (2018-2032) Publication Plan.

<sup>152</sup> Ministry of Defence (2012) Did you know.... Available at:

<http://webarchive.nationalarchives.gov.uk/20120913152819/http://www.mod.uk/DefenceInternet/AboutDefence/Organisation/KeyFactsAboutDefence/DidYouKnow.htm>.

<sup>153</sup> Gloucestershire County Council (January 2018) Minerals Local Plan for Gloucestershire (2018-2032) Publication Plan.

<sup>154</sup> Gloucestershire County Council (2008) Minerals & Waste Core Strategies: Joint Technical Evidence Paper WCS-MCS-1 Transport. Available at: <https://www.gloucestershire.gov.uk/planning-and-environment/planning-policy/minerals-local-plan-for-gloucestershire/evidence-base-for-the-minerals-local-plan-for-gloucestershire/>.

## Public rights of way

Gloucestershire has 3,500 miles of footpaths, bridleways and green lanes that make up its public rights of way network (PROW)<sup>155</sup>. They are an important landscape element in both rural and urban areas of the County, playing an important part in the daily lives of many people who use them for leisure, exercise and the up-keep of health, or as part of their daily routine. Nationally 15 per cent of all visitors to the countryside go walking, which brings many benefits from supporting the rural economy to improving the health and wellbeing of participants. Three 'National Trails' run through Gloucestershire namely; the Thames Path, the Cotswold Way and Offa's Dyke Path<sup>156</sup>. The PROW network is managed by the County Council who maintain a definitive map of all paths and rights of way in the County. Volunteers and local conservation groups assist in the maintenance of PROW.

## Tourist assets

The landscape and historic villages and towns of Gloucestershire are clearly a major material asset. During 2016 Westonbirt, The National Arboretum, was the 7<sup>th</sup> top attraction within in the South West in terms of visitor numbers<sup>157</sup>.

### *Cultural heritage including architectural and archaeological heritage*

The historic environment of the County has been formed as a result of the activities of human communities over many thousands of years in clearing, farming and settling the landscape. There is extensive evidence of the past in the form of prehistoric settlement and burial sites, Roman towns and villas, medieval churches and other features of more local importance. The historic legacy of agriculture, industry, architecture and social organisation makes a significant contribution to the distinctive landscapes found in Gloucestershire.

There are around 42,000 records of archaeological sites in the Gloucestershire Sites and Monuments Record<sup>158</sup>. There are 478 Scheduled Monuments within the County<sup>159</sup>. Archaeological investigations continue to reveal many sites of historical importance in all areas of the County. These range from Neolithic and Iron Age sites, through extensive Roman and Romano British Settlements, important medieval sites, Regency and Georgian buildings, and the legacy of past industrial activities.

Conservation Areas and the register of Listed Buildings held by district councils affords protection to areas of particular architectural or historic interest. The County has a renowned and rich built heritage, which includes 248 Conservation Areas<sup>160</sup> and 12,953 Listed Buildings<sup>161</sup>. There are 102 buildings within the County which are on the Heritage At Risk Register<sup>162</sup>.

Gloucestershire's natural and historic environment makes an important contribution to the local economy in terms of its tourism value. Both minerals and waste development can have major impacts on their surroundings. Great care must be taken to ensure that such development does

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<sup>155</sup> Gloucestershire County Council (2011) Rights of Way and Countryside Access Improvement Plan 2011 – 2026. Available at: <https://www.gloucestershire.gov.uk/roads-parking-and-rights-of-way/public-rights-of-way/>.

<sup>156</sup> Gloucestershire County Council (2011) Rights of Way and Countryside Access Improvement Plan 2011 – 2026. Available at: <https://www.gloucestershire.gov.uk/roads-parking-and-rights-of-way/public-rights-of-way/>.

<sup>157</sup> Visit Britain (2017) Annual Survey of Visits to Visitor Attractions: Latest results: 2016 Full Attractions Listing. Available at: <https://www.visitbritain.org/annual-survey-visits-visitor-attractions-latest-results>.

<sup>158</sup> Gloucestershire County Council (2018) Request archaeological data from Gloucestershire's Historic Environment Record (HER.) Available at: <https://www.gloucestershire.gov.uk/planning-and-environment/archaeology/request-archaeological-data-from-gloucestershires-historic-environment-record-her/>.

<sup>159</sup> Historic England (2018) Search the List. Available at: <https://historicengland.org.uk/listing/the-list/>.

<sup>160</sup> Gloucester City Council (2018) Conservation Areas. Available at: <http://www.gloucester.gov.uk/resident/planning-and-building-control/environmental-planning/historic-environment/Pages/Conservation-Areas.aspx>; Cheltenham Borough Council (2018) Cheltenham's conservation areas. Available at: [https://www.cheltenham.gov.uk/info/52/conservation/644/cheltenhams\\_conservation\\_areas](https://www.cheltenham.gov.uk/info/52/conservation/644/cheltenhams_conservation_areas); Stroud District Council (2018) Conservation areas. Available at: <https://www.stroud.gov.uk/environment/planning-and-building-control/conservation-listed-buildings-trees-and-hedgerows/conservation-areas>; Tewkesbury Borough Council (2018) Heritage. Available at: <https://www.tewkesbury.gov.uk/heritage/>; Forest of Dean District Council (2018) Conservation Areas. Available at: <http://www.fdean.gov.uk/residents/planning-building/historic-buildings-conservation-areas/conservation-areas/>; Cotswold District Council (2018) Conservation area maps and appraisals. Available at: <http://www.cotswold.gov.uk/residents/planning-building/historic-buildings-conservation-areas/conservation-area-maps-and-appraisals/>.

<sup>161</sup> Historic England (2018) Search The List. Available at: <https://historicengland.org.uk/listing/the-list/>.

<sup>162</sup> Historic England (2018) Heritage at Risk Register. Available at: <https://historicengland.org.uk/advice/heritage-at-risk/search-register/>.

not intrude on the archaeological legacy of the County and does not result in damage to their wider settings, or alter their relationship with the wider rural area around them. Even where visible archaeological remains and elements of the historic environment are not destroyed by minerals development, their setting can be compromised either by the proximity of surface workings themselves or by unsympathetic structures or developments to the infrastructure supporting both surface and below ground minerals operations<sup>163</sup>.

Increased levels of dust produced by minerals development may affect the setting of archaeological and historically significant sites even where these do not impact directly on the monument or structure itself. Unsympathetic landscape restoration following minerals development can also have a major impact on the setting of surviving archaeological or historically significant remains and may significantly reduce the historic character and legibility of the landscape in which these are sited<sup>164</sup>.

### *Landscape*

Gloucestershire's landscape is characterised by six priority landscapes. From west to east these are: Forest of Dean and Wye Valley, Lower Leadon Vale, Severn Vale, Cotswold Escarpment, Cotswolds River Valleys and Cotswold Water Park<sup>165</sup>. In terms of a more detailed landscape character assessment, the County is divided into 33 distinct Landscape Character Types<sup>166</sup>. The Gloucestershire Nature Map identifies the main priority habitats in the County as: Grazing Marsh, Limestone Grassland, Lowland Meadows, Wet Grassland and Woodland (see **Figure 13**)<sup>167</sup>.

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<sup>163</sup> Gloucestershire County Council (2009) Minerals & Waste Core Strategies Joint Technical Evidence Paper: WCS-MCS-6. Available at: <https://www.gloucestershire.gov.uk/planning-and-environment/planning-policy/minerals-local-plan-for-gloucestershire/evidence-base-for-the-minerals-local-plan-for-gloucestershire/>.

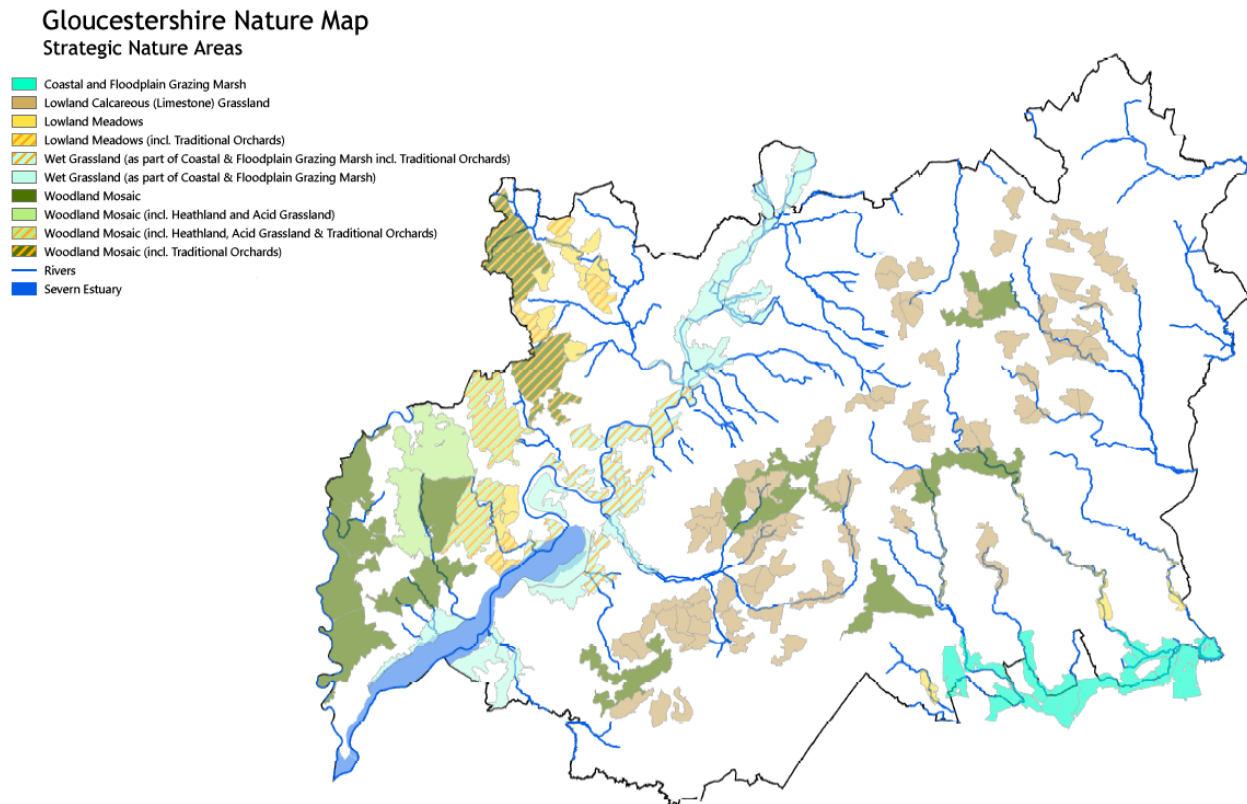
<sup>164</sup> Gloucestershire County Council (2009) Minerals & Waste Core Strategies Joint Technical Evidence Paper: WCS-MCS-6. Available at: <https://www.gloucestershire.gov.uk/planning-and-environment/planning-policy/minerals-local-plan-for-gloucestershire/evidence-base-for-the-minerals-local-plan-for-gloucestershire/>.

<sup>165</sup> Gloucestershire's Natural Environment (2018) Priority Landscapes. Available at: <http://www.gloucestershirenature.org.uk/actionplan/priority-landscapes.php>.

<sup>166</sup> Gloucestershire County Council (2002) County Landscape Character Types. Available at: <https://www.gloucestershire.gov.uk/planning-and-environment/ecology-and-landscape/landscape/>.

<sup>167</sup> Gloucestershire Local Nature Partnership (2011) Nature Map. Available from: <http://www.gloucestershirenature.org.uk/images/naturemap/NatureMap-Dec2011.png>.

Figure 13: Gloucestershire Nature Map<sup>168</sup>



The different geological formations and soils of each area have determined the nature of the vegetation within the County as well as its building styles and settlement patterns. Many local industries have also left their particular mark on the landscape. There are five National Character Areas (NCA) within Gloucestershire. These are based on natural lines within the landscape and not on administrative boundaries. The five are Malvern Hills, Forest of Dean and Lower Wye, Severn and Avon Vales, Cotswolds, and Bristol, Avon Valleys and Ridges<sup>169</sup>.

The Forest of Dean is situated on an upland trough of old red sandstone that has been overlaid twice by carboniferous limestone, and then by millstone grit containing iron ores and coal measures. It lies in a hilly area between the Rivers Wye and Severn and is still heavily forested with constrained access.

The Wye Valley, on the Forest of Dean's western boundary, is a designated Area of Outstanding Natural Beauty and contains some of the most important semi-natural woodland in Britain and some of the scarcest trees. The River Wye itself is also important as a largely natural system of high water quality and conservation interest. Settlement in the Forest has tended to be linear, following the watercourses and coal measures and villages are built of the grey-brown and red stone local to the area.

The Forest of Dean is one of England's largest ancient forests containing over 11,000 hectares of woodland. This area forms the largest single area of public access in the County, attracting over 1.5 million visits per year. The area of the Royal Forest still contains extensive areas of old oak woods with abundant flora and fauna in a variety of different habitats.

The area also has a range of habitats on the coal measures and sandstone, which are scarce in the County as a whole. The historic industries of tin mining and coal mining have left local features such as abandoned spoil heaps and dismantled railways that, now regenerated, give distinctive character. 'Free miners' continue to operate very small coal mines in the area and there are many kilometres of old underground mine workings and extensive natural cave systems

<sup>168</sup> Gloucestershire Local Nature Partnership (2011) Nature Map. Available from: <http://www.gloucestershirenature.org.uk/images/naturemap/NatureMap-Dec2011.png>.

<sup>169</sup> Natural England (2012-2014) National Character Areas. Available at: <http://publications.naturalengland.org.uk/category/587130>.

which have contributed to a nationally important population of rare lesser and greater horseshoe bats.

The Severn Vale is an area created by the floodplain of the River Severn between the foot of the Cotswold escarpment and the hilly area of the Forest of Dean. It is this area of the County that is most urbanised with Cheltenham and Gloucester and major transport routes concentrated through it. The designated Green Belt between Gloucester and Cheltenham has been successful in defining limits to urban areas, but in recent years it has come under increasing pressure in terms of the need for sustainable communities and efficient transport networks.

The Severn Vale is of particular significance for bird life, with several sites in the floodplain of the River Severn seasonally providing ideal conditions for wintering wildfowl. As an estuarine system the Severn Estuary is an internationally important site.

The area known as 'The Cotswolds' contains a number of different landscape character areas. The dramatic edge landscape of the main escarpment runs south west to north east and is very steep in places, resulting in a strong visual impact. The many indentations within the escarpment run into the Cotswolds. On the north west side of the escarpment are five hills known as outliers. Around Stroud and Winchcombe the landscape is more incised. In the northern part of the Cotswolds there is an area of high wold where the topography is softer with smaller and narrower valleys and broad plateau tops, which merge into a dip slope in the middle of the Cotswolds.

The Oolitic limestone belt from which the Cotswolds are formed has also resulted in unimproved limestone grassland habitat of great wildlife value. The grassland of commons, valleys and scarp contain ancient turf formed by grazing over many centuries and now support an abundance of attractive wild flowers and butterflies. They are also home to one of the prime areas of beech woodland in Britain. Beech woods are habitats for many scarce species. In addition, the unmistakable vernacular of Cotswold villages and towns has made it an international target for recreation and tourism.

The Upper Thames Valley, to the south / south east of the Cotswolds is dominated by the physical impacts of sand and gravel extraction. The development of recreation and natural areas in the Cotswold Water Park provide an excellent example of sensitive restoration of mineral workings. The lakes and wetland areas are gaining in wildlife importance, and increasing in national and international recognition.

#### *The interrelationship between the above factors*

There are obviously numerous and complex inter-relationships between all the baseline issues and factors that have been considered in this section of the report. For instance the protection, preservation and enhancement of Gloucestershire's natural environment – its biodiversity, landscape, flora, fauna, soil /air /water quality has a direct relationship with people's quality of life and the benefit to the local economy in terms of the numbers of tourists who visit the County. Population increases will have a significant impact in coming years. Gloucestershire may see pressure for houses and services having an impact on the environment.

In terms of mineral development a balance has to be struck between protecting Gloucestershire's environment, the amenity of its residents and visitors and providing minerals which are needed by society and from which we all derive benefit. Progress needs to be made in reducing the levels of primary minerals that are extracted, through the reduction, reuse and recycling of appropriate materials.

Arguably, of all the issues dealt with in this review of baseline, climate change has the greatest potential to have wide-spread and long lasting social, economic and environmental impacts.

# Appendix 5

## Policy appraisal matrices



## Compatibility of Vision and MLP Objectives with SA objectives

SA objectives	Vision	1. Reuse & Recycling (SR)	2. Resource Management (RM)	3. Provision & Supply (PS)	4. The Environment (ENV)	5. Local communities (LC)	6. Restoration (RA)	7. Transport (MM)
<b>Social</b>								
1. Health and wellbeing	+	+	0	0	0	+	+	+
2. Amenity of local communities	+	+	0	0	0	+	+	+
<b>Economic</b>								
3. Sustainable economic development	++	0	0	++	0	0	+	0
4. Employment opportunities	++	0	0	++	0	+	+	+
5. Safety of commercial or military aerodromes	+	0	0	0	0	+	+	0
6. Conservation of minerals resources	+	++	++	+/-	0	0	0	0
<b>Environmental</b>								
7. Biodiversity	++	+/-	0	+/-	++	0	+	0
8. Landscape	++	+/-	0	+/-	++	0	+/-	0
9. Restoration of mineral sites	++	+	+	0	0	0	++	0
10. Material, cultural and recreational assets	+	0	0	+/-	+	+	+	+
11. Geodiversity	++	0	0	+/-	++	0	+	0
12. Historic environment, heritage assets and their setting	+	0	0	+/-	+	0	+	0
13. Flooding	++	0	0	+/-	+/-	0	+/-	0
14. Soil / land quality	+?	+	+	+/-	+	0	+	0
15. Air quality	+	+/-	0	+/-	+	0	+/-	+
16. Water quality and quantity	++	0	0	+/-	+	0	+/-	0
17. Impacts of lorry traffic on the environment and communities	+	+/-	0	+/-	+	0	+/-	+
18. Climate Change	++	+/-	0	+/-	+	0	+	+

### Policy SR01 Maximising the use of secondary and recycled aggregates

SA Objective and Sub Questions	SA Score	Justification
<p>1. To promote sustainable development and sustainable communities and improve the health and wellbeing of people living and working in Gloucestershire as well as visitors to the County.</p>	-?	<p>Policy SR01 encourages the increased use of secondary and recycled aggregates as an alternative to primary aggregates. In Gloucestershire, the main source of recycled aggregates is the reprocessing of waste materials from construction, demolition and excavation (CDE) projects.</p> <p>There may be minor negative effects on the local health and wellbeing of people living and working in Gloucestershire due to impacts such as dust, noise, vibration and traffic associated with the secondary and recycled aggregate facilities, particularly as these tend to be sourced from more urban locations. Recycled aggregates mostly occur within urban areas due to the link with renewal and regeneration schemes and are normally used close to where they are sourced (often on-site). Similarly, secondary aggregates are also likely to be located closer to urban areas, as incinerator bottom ash (IBAA) will be available from the Javelin Park Energy-from-Waste (EfW), which is located on the edge of Gloucester and due to be operational from 2019 onwards. However, the effects would be uncertain as the potential for effects will depend on the exact nature and design of the sites, which would not be known until the planning application stage.</p> <p>Furthermore, an increase in the use and production of secondary and recycled aggregates could potentially contribute to a decrease in demand for primary aggregates, which are generally sourced from countryside locations. These locations tend to be in areas of greater environmental sensitivity and have limited infrastructure, which can have particular impacts on rural communities as transportation often requires the use of low-capacity, rural, local roads. As such, effects are uncertain as use of secondary and recycled aggregates may reduce these impacts associated with primary aggregate extraction and transportation. This is discussed further with regards to SA Objective 17 below.</p>
<p>2. To safeguard the amenity of local communities from the adverse impacts of mineral development.</p>	-?	<p>As described above, Policy SR01 encourages the use of secondary and recycled aggregates over primary aggregates. There may be minor negative effects on the amenity of local communities in Gloucestershire due to impacts such as noise, vibration and traffic associated with the secondary and recycled aggregate facilities. However, the effects would be uncertain as the potential for effects will depend on the exact nature and design of the sites, which would not be known until the planning application stage. In addition, an increase in the use and production of secondary and recycled aggregates could potentially contribute to a decrease in demand for primary aggregates, which would reduce the potential effects of primary extraction in the longer term, although this</p>

SA Objective and Sub Questions	SA Score	Justification
		is also uncertain.
3. To promote sustainable economic development in Gloucestershire giving opportunities to people from all social and ethnic backgrounds.	+	Secondary and recycled aggregates are important local and national resources and support sustainable economic growth. They support a wide range of end uses and industries and it is therefore important that there is a sufficient supply of material to supply construction and to provide the infrastructure, buildings, energy and goods that Gloucestershire and the country need. The policy is likely to have a minor positive effect on this SA objective, as it supports the use of secondary/recycled aggregate in construction, which will therefore support economic prosperity and make a positive contribution to the local and national economy.
4. To provide employment opportunities in both rural and urban areas of the County, promoting diversification in the economy.	+	<p>Secondary and recycled aggregates are important within new developments and encourage local markets to utilise alternatives to primary won material. This stimulation in local markets may attract more investment thus presenting opportunities for employment.</p> <p>The policy is likely to have a minor positive effect on this SA objective, as it supports the use of secondary/recycled aggregate in construction, which will therefore support employment opportunities and make a positive contribution to the local and national economy; whether urban or rural.</p>
5. To ensure that mineral sites do not compromise the safety of commercial or military aerodromes.	0	This policy is unlikely to affect this SA objective and so a negligible effect is identified.
6. To conserve minerals resources from inappropriate development whilst providing for the supply of aggregates and other minerals sufficient for the needs of society.	++	The intention of this policy is likely to have significant positive effects on this SA objective as supporting the use of secondary/recycled aggregate will reduce the extraction of virgin materials.
7. To protect, conserve and enhance biodiversity in Gloucestershire.	+/-?	<p>Policy SR01 could potentially lead to minor negative effects for biodiversity, as support for the use of secondary/recycled aggregates in construction also indirectly supports the facilities used to produce them which could have potential impacts on designated sites, protected species or habitats.</p> <p>In contrast, secondary and recycling facilities do not occur in isolation as their facilities are usually located alongside existing construction/demolition, mineral or waste management sites. During the secondary and recycled facilities' construction therefore, potential negative impacts on biodiversity are likely to already occur due to the presence of existing associated infrastructure. Furthermore, secondary and recycled aggregates</p>

SA Objective and Sub Questions	SA Score	Justification
		<p>may reduce demand for primary extraction which has potentially more adverse effects on biodiversity. A minor positive effect is therefore likely resulting in mixed effects overall (minor positive/minor negative).</p> <p>The mixed effects however would be uncertain as the potential for effects will depend on the exact nature and design of secondary/recycled aggregate facilities, which would not be known for new sites until the planning application stage.</p>
8. To protect, conserve and enhance the landscape in Gloucestershire.	+/-?	<p>Policy SR01 could potentially lead to negative effects for landscape and landscape character, as support for the use of secondary/recycled aggregates in construction also indirectly supports facilities used to produce them which could impact upon the landscape.</p> <p>In contrast, secondary and recycling facilities do not occur in isolation as their facilities are usually located alongside existing construction/demolition, mineral or waste management sites. During the secondary and recycled facilities' construction therefore, potential negative impacts on landscape are likely to already occur due to the presence of existing associated infrastructure. Furthermore, secondary and recycled aggregates may reduce demand for primary extraction which has potentially more adverse effects on Gloucestershire's landscape. A minor positive effect is therefore likely resulting in mixed effects overall (minor positive/minor negative).</p> <p>However, the effects would be uncertain as the potential for effects will depend on the exact nature and design of secondary/recycled aggregate facilities, which would not be known for new sites until the planning application stage.</p>
9. To restore mineral sites to a high standard in order to achieve the maximum after use benefits including the conservation and enhancement of biodiversity, and delivery of green infrastructure where possible.	0	<p>This policy is unlikely to affect this SA objective as it relates to secondary and recycled aggregates and not extraction of primary aggregates at minerals sites and so a negligible effect is identified.</p>
10. To protect conserve and enhance Gloucestershire's material, cultural and recreational assets.	+/-?	<p>This policy encourages the use of secondary and recycled aggregate in construction. In Gloucestershire, the main source of the 139,000 tonnes of recycled aggregates is derived from the reprocessing of waste materials from construction and demolition projects. There may be minor negative effects on Gloucestershire's material, cultural and recreational assets due to impacts such as dust, noise, vibration and traffic associated with the secondary and recycled aggregate facilities. Secondary and recycling facilities however do not occur in isolation as they are usually located alongside existing</p>

SA Objective and Sub Questions	SA Score	Justification
		<p>construction/demolition, mineral or waste management sites. During the secondary and recycled facilities' construction therefore, potential negative impacts on Gloucestershire's material, cultural and recreational assets are likely to already occur due to the presence of existing associated infrastructure. Furthermore, secondary and recycled aggregates may reduce demand for primary extraction which has potentially more adverse effects on Gloucestershire's material, cultural and recreational assets. A minor positive effect is therefore likely resulting in mixed effects overall (minor positive/minor negative).</p> <p>However, the effects would be uncertain as the potential for effects will depend on the exact nature and design of the sites, which would not be known until the planning application stage.</p>
11. To protect conserve and enhance geodiversity in Gloucestershire.	0	No effects are expected on this SA objective as secondary/recycling aggregate facilities are most likely to be associated with construction and demolition sites and are unlikely to be located so as to affect geodiversity.
12. To protect conserve and enhance the historic environment, heritage assets and their setting.	+/-?	<p>The policy is likely to have minor negative effects on this SA objective, as some secondary/recycling aggregate facilities could therefore affect nearby heritage assets and their setting due to noise and vibration associated with working. Secondary and recycling facilities however do not occur in isolation as they are usually located alongside existing construction/demolition, mineral or waste management sites. During the secondary and recycled facilities' construction therefore, potential negative impacts on Gloucestershire's historic environment, heritage assets and their setting are likely to already occur due to the presence of existing associated infrastructure. Furthermore, secondary and recycled aggregates may reduce demand for primary extraction which has potentially more adverse effects on historic environment, heritage assets and their setting. A minor positive effect is therefore likely resulting in mixed effects overall (minor positive/minor negative).</p> <p>However, the effects would be uncertain as the potential for effects will depend on the exact nature and design of secondary/recycled aggregate facilities, which would not be known for new sites until the planning application stage.</p>
13. To prevent flooding, in particular preventing inappropriate development in the floodplain.	+/-?	Supporting the use of secondary/recycled aggregates in construction could also indirectly support facilities used to produce them which may be located in areas at risk of flooding. Secondary and recycling facilities however do not occur in isolation as they are usually located alongside existing construction/demolition, mineral or waste management sites. During the secondary and recycled facilities' construction therefore, potential negative impacts on flooding is likely to already occur due to the presence of existing associated

SA Objective and Sub Questions	SA Score	Justification
		<p>infrastructure. Furthermore, secondary and recycled aggregates may reduce demand for primary extraction which could potentially increase the risk of flooding. A minor positive effect is therefore likely resulting in mixed effects overall (minor positive/minor negative).</p> <p>However, it is recognised that secondary/recycled aggregates facilities would be subject to the policies in the Gloucestershire Waste Local Plan and the NPPF, and are therefore unlikely to be located in areas at risk of flooding, and as such, this policy is considered unlikely to have an effect on this SA objective.</p>
14. To protect and enhance soil / land quality in Gloucestershire.	0	<p>The exact land take and location of any future secondary/recycling aggregate facilities will not be known until the planning application stage for new sites. Therefore, the potential loss of high quality agricultural land (i.e. Grades 1 – 3) is also unknown at this stage.</p> <p>However, the GCC Waste Local Plan provides a steer towards the location of secondary/recycled aggregate facilities away from greenfield sites, and are generally developed alongside existing waste, construction/demolition or mineral infrastructure, therefore not on greenfield land. As such, this policy is considered unlikely to have an effect on this SA objective.</p>
15. To protect and enhance air quality in Gloucestershire, helping to meet local, national and international objectives for air quality.	+/-?	<p>Policy SR01 may have a minor negative impact on this SA objective, as the option supports the use of secondary/recycled aggregates in construction which indirectly supports the facilities used to produce them which are likely to involve activities (e.g. lorry traffic) that may negatively affect air quality. For example, due to the proximity of sensitive receptors and the distance mineral related traffic has to travel.</p> <p>Secondary and recycling facilities however do not occur in isolation as they are usually located alongside existing construction/demolition, mineral or waste management sites. During the secondary and recycled facilities' construction therefore, potential negative impacts to air quality are likely to already occur due to the presence of existing associated infrastructure. Furthermore, secondary and recycled aggregates may reduce demand for primary extraction that contributes to poor air quality. A minor positive effect is therefore likely, resulting in mixed effects overall (minor positive/minor negative).</p> <p>However, this would be uncertain as the potential for effects will depend on the exact nature and design of secondary/recycled aggregate facilities, which would not be known for new sites until the planning application stage.</p>

SA Objective and Sub Questions	SA Score	Justification
<p>16. To protect and enhance water quality and quantity in Gloucestershire, and to ensure that minerals development does not compromise sustainable sources of water supply.</p>	+/-?	<p>Policy SR01 may have a minor negative impact on this SA objective, as the option supports the use of secondary/recycled aggregates in construction which indirectly supports the facilities used to produce them which are likely to involve activities (e.g. washing of materials) that may negatively affect water quality.</p> <p>Secondary and recycling facilities however do not occur in isolation as they are usually located alongside existing construction/demolition, mineral or waste management sites. During the secondary and recycled facilities' construction therefore, potential negative impacts to water quality are likely to already occur due to the presence of existing associated infrastructure. Furthermore, secondary and recycled aggregates may reduce demand for primary extraction that contributes to poor water quality. A minor positive effect is therefore likely, resulting in mixed effects overall (minor positive/minor negative).</p> <p>However, this would be uncertain as the potential for effects will depend on the exact nature and design of secondary/recycled aggregate facilities, which would not be known for new sites until the planning application stage.</p>
<p>17. To reduce the adverse impacts of lorry traffic on the environment and communities through means such as:</p> <ul style="list-style-type: none"> <li>a) reducing the need to travel</li> <li>b) promoting more sustainable means of transport e.g. by rail or water</li> <li>c) sensitive lorry routing</li> <li>d) the use of sustainable alternative fuels</li> </ul>	+/-?	<p>Policy SR01 is likely to have mixed minor positive and minor negative effects on this SA objective, as the policy supports the use of secondary/recycled aggregates in construction, which indirectly supports the facilities used to produce them. These facilities involve less road miles compared to primary aggregate sites due to the economics and distances involved in the supply of alternative aggregates, as fixed recycled inert sites in Gloucestershire are located relatively close to development areas, so a minor positive effect is identified. Conversely, the transportation of secondary and recycled aggregates from facilities will still involve lorry traffic movements, which at some sites may comprise multiple movements per day, as so a minor negative effect is expected. However, the effects would be uncertain as the potential for effects will depend on the exact nature and design of secondary/recycled aggregate facilities, and their traffic levels, lorry routing and access arrangements, which would not be known for new sites until the planning application stage.</p>
<p>18. To reduce contributions to and to adapt to Climate Change.</p>	+	<p>Policy SR01 may have minor positive effects on greenhouse gas emissions as secondary/recycled aggregate facilities support the reduction in primary aggregate extraction, which is an intensive industry that contributes to emissions of greenhouse gases.</p>





### Policy MS01 Non-mineral developments within MSAs

SA Objective and Sub Questions	SA Score	Justification
<p>1. To promote sustainable development and sustainable communities and improve the health and wellbeing of people living and working in Gloucestershire as well as visitors to the County.</p>	+/-?	<p>Through Policy MS01, Mineral Safeguarding Areas (MSAs) may potentially restrict non-mineral developments that could otherwise have a negative effect on the health and wellbeing of people. However, the MSAs may lead to more and/or the continuation of mineral activities that could have a detrimental impact on the health and wellbeing of people. It must be emphasised, however, that the process of safeguarding does not mean that extraction will be automatically allowed or that non-mineral development cannot take place.</p> <p>Overall, a mixed minor positive/minor negative effect is likely for this SA objective. However, effects would be uncertain as the potential for effects will depend on the exact nature and design of proposals within MSAs, which for some will not be known until the planning application stage.</p>
<p>2. To safeguard the amenity of local communities from the adverse impacts of mineral development.</p>	+/-?	<p>Through Policy MS01, MSAs may potentially restrict non-mineral developments that could otherwise have a negative effect on the amenity of local communities. However, the MSAs may lead to more and/or the continuation of mineral activities that could have a detrimental impact on local amenity. It must be emphasised, however, that the process of safeguarding does not mean that extraction will be automatically allowed or that non-mineral development cannot take place.</p> <p>Overall, a mixed minor positive/minor negative effect is likely for this SA objective. However, any effects would be uncertain as the potential for effects will depend on the exact nature and design of proposals within MSAs, which for some will not be known until the planning application stage.</p>
<p>3. To promote sustainable economic development in Gloucestershire giving opportunities to people from all social and ethnic backgrounds.</p>	+/-	<p>Minerals are essential to support sustainable economic growth and our quality of life. It is therefore important that there is a sufficient supply of material to provide the infrastructure, buildings, energy and goods that the country needs, including locally for Gloucestershire.</p> <p>Through Policy MS01, MSAs should help safeguard mineral resources from sterilisation and ancillary facilities from conflicting land uses, and may therefore have a positive effect on economic development related to minerals. However, as non-mineral developments may potentially be restricted within MSAs, the policy could also have negative effects on economic development, as Safeguarding Areas may reduce opportunities for other types of development. Yet the policy outlines that MSAs will only be permitted if the need for non-mineral development is greater than mineral</p>

SA Objective and Sub Questions	SA Score	Justification
		<p>development, the type of development is exempt or the mineral concerned is not economically valuable.</p> <p>It must be emphasised, however, that the process of safeguarding does not mean that extraction will be automatically allowed or that non-mineral development cannot take place. Therefore, overall this policy is likely to have mixed significant positive/minor negative effects on this SA objective.</p>
<p>4. To provide employment opportunities in both rural and urban areas of the County, promoting diversification in the economy.</p>	<p>+/-</p>	<p>Minerals are essential to support sustainable economic growth. It is therefore important that there is a sufficient supply of material to provide the infrastructure, buildings, energy and goods that the country needs, including locally for Gloucestershire.</p> <p>Through Policy MS01, MSAs should help safeguard mineral resources from sterilisation and ancillary facilities from conflicting land uses, and may therefore have a positive effect on economic development related to minerals, which in turn will have positive effects on employment opportunities associated with economic development. However, as non-mineral developments may potentially be restricted within MSAs, the policy could also have negative effects on employment opportunities. The policy does state that MSAs will only be permitted if the need for non-mineral development is greater than mineral development, the type of development is exempt or the mineral concerned is not economically valuable.</p> <p>It must be emphasised, however, that the process of safeguarding does not mean that extraction will be automatically allowed or that non-mineral development cannot take place. Therefore, overall this policy is likely to have mixed minor positive/minor negative effects on this SA objective.</p>
<p>5. To ensure that mineral sites do not compromise the safety of commercial or military aerodromes.</p>	<p>+/-?</p>	<p>Through Policy MS01, MSAs may lead to more mineral extraction activities, including sand and gravel extracted in the Cotswolds Water Park which is located within and in close proximity to the safeguarding zone for RAF Fairford. Therefore, the policy could have minor negative effects on the safety of commercial or military aerodromes due to the potential for birds, due to water based site restoration, to provide a hazard to aircraft.</p> <p>However, the policy for MSAs is more focused on whether non-minerals developments should be permitted within the MSAs and states that non-minerals development within MSAs will be permitted provided "it is appropriate and practicable to extract the mineral prior to non-minerals development taking place" or "the overriding need for the development outweighs the desirability to prevent safeguarded minerals from being</p>

SA Objective and Sub Questions	SA Score	Justification
		sterilised", the type of development is exempt or the mineral concerned is not economically valuable. Therefore, overall Policy MS01 could have mixed minor positive/minor negative effects on this SA objective. However, any effects would be uncertain as the potential for effects will depend on the exact nature and design of proposals within Safeguarding Areas, which for some will not be known until the planning application stage. Furthermore, it must be emphasised, that the process of safeguarding does not mean that extraction will be automatically allowed.
6. To conserve minerals resources from inappropriate development whilst providing for the supply of aggregates and other minerals sufficient for the needs of society.	++	Policy MS01 will have significant positive effects on this SA objective, as the policy ensures that mineral resources will be protected from unnecessary sterilisation by other development, whilst not creating a presumption that resources defined in MSAs will be worked, and ensures that minerals resources will be adequately and effectively considered in all land-use planning decisions.
7. To protect, conserve and enhance biodiversity in Gloucestershire.	+?	Policy MS01 may have minor positive effects on biodiversity, as the potential prevention of non-mineral development in Safeguarding Areas that would prejudice mineral workings may prevent development that could harm biodiversity. Also, areas used for mineral activity within Safeguarding Areas, in the long-term, could benefit biodiversity as a result of the restoration of mineral sites. It must be emphasised, however, that the process of safeguarding does not mean that extraction will be automatically allowed or that non-mineral development cannot take place. However, any effects would be uncertain as the potential for effects will depend on the exact nature and design of proposals within Safeguarding Areas, which will not be known until the planning application stage.
8. To protect, conserve and enhance the landscape in Gloucestershire.	+/-?	Policy MS01 may have minor positive effects on landscape, as the potential prevention of non-mineral development in Safeguarding Areas that would prejudice mineral workings may prevent development that could negatively impact on the landscape. However, the Safeguarding Areas may lead to more mineral workings (e.g. where the mineral needs to be worked before non-mineral development can take place) or the continuation of ancillary mineral facilities that could have a detrimental impact on the landscape. It must be emphasised, however, that the process of safeguarding does not mean that extraction will be automatically allowed or that non-mineral development cannot take place. Overall, a mixed effect, minor positive/minor negative is likely for this SA objective. However, any effects would be uncertain as the potential for effects will depend on the exact nature and design of proposals within Safeguarding Areas, which for some will not be known until the planning application stage.

SA Objective and Sub Questions	SA Score	Justification
<p>9. To restore mineral sites to a high standard in order to achieve the maximum after use benefits including the conservation and enhancement of biodiversity, and delivery of green infrastructure where possible.</p>	<p>+?</p>	<p>Policy MS01 may potentially restrict non-mineral developments that may not be able to be restored to such a high standard, or be able to provide benefits to conservation and biodiversity enhancement as well as mineral sites. Furthermore, Safeguarding Areas may lead to more mineral extraction activities (e.g. where the mineral needs to be worked before non-mineral development can take place) or the continuation of ancillary mineral facilities that could provide benefits via site restoration. Therefore, minor positive effects are expected for this SA objective. It must be emphasised, however, that the process of safeguarding does not mean that extraction will be automatically allowed or that non-mineral development cannot take place. However, any effects would be uncertain as the potential for effects will depend on the exact nature and design of proposals within Safeguarding Areas, which for some will not be known until the planning application stage.</p>
<p>10. To protect conserve and enhance Gloucestershire's material, cultural and recreational assets.</p>	<p>+/-?</p>	<p>Policy MS01 may potentially restrict non-mineral developments that could otherwise have a negative effect on Gloucestershire's material, cultural and recreational assets (e.g. Public Rights of Way). However, the Safeguarding Areas may lead to more mineral extraction activities (e.g. where the mineral needs to be worked before non-mineral development can take place) or the continuation of ancillary mineral facilities that could have a detrimental impact on these assets. It must be emphasised, however, that the process of safeguarding does not mean that extraction will be automatically allowed or that non-mineral development cannot take place. Overall, a mixed effect minor positive/minor negative is likely for this SA objective. However, any effects would be uncertain as the potential for effects will depend on the exact nature and design of proposals within Safeguarding Areas, which for some will not be known until the planning application stage.</p>
<p>11. To protect conserve and enhance geodiversity in Gloucestershire.</p>	<p>+++?</p>	<p>Policy MS01 should have a significant positive effect with regard to the protection of geodiversity, as safeguarding minerals is likely to protect minerals that may be accessed for extraction, and therefore may be preserved and be accessible for study and enjoyment in the future. However, any effects would be uncertain as the potential for effects will depend on the exact nature and design of proposals within Safeguarding Areas, which will not be known until the planning application stage.</p>
<p>12. To protect conserve and enhance the historic environment, heritage assets and their setting.</p>	<p>+/-?</p>	<p>Policy MS01 may potentially restrict non-mineral developments that would otherwise have a negative effect on the historic environment, heritage assets and their setting. However, the Safeguarding Areas may lead to more mineral extraction activities (e.g. where the mineral needs to be worked before non-mineral development can take place)</p>

SA Objective and Sub Questions	SA Score	Justification
		or the continuation of ancillary mineral facilities that would have a detrimental impact on the historic environment. It must be emphasised, however, that the process of safeguarding does not mean that extraction will be automatically allowed or that non-mineral development cannot take place. Overall, a mixed effect, minor positive/minor negative is likely for this SA objective. However, any effects would be uncertain as the potential for effects will depend on the exact nature and design of proposals within Safeguarding Areas, which for some will not be known until the planning application stage.
13. To prevent flooding, in particular preventing inappropriate development in the floodplain.	0	Flooding is unlikely to be affected by Policy MS01, therefore no effect is expected for this SA objective.
14. To protect and enhance soil / land quality in Gloucestershire.	?	The policy aims to prevent minerals sterilisation. Through minerals safeguarding however, mineral extraction could occur, which depending on the site location, could result in the loss of agricultural land. An uncertain effect is identified as the potential for effects will depend on the exact location and use of the site as well as the nature of proposals which will not be known until the planning application stage.
15. To protect and enhance air quality in Gloucestershire, helping to meet local, national and international objectives for air quality.	0	Air quality is unlikely to be affected by Policy MS01, therefore no effect is expected for this SA objective.
16. To protect and enhance water quality and quantity in Gloucestershire, and to ensure that minerals development does not compromise sustainable sources of water supply.	?	The policy aims to prevent minerals sterilisation. Through minerals safeguarding however, mineral extraction could occur, which depending on the site location, could affect ground and surface water on a potential site. This however, would depend on the type of mineral worked, site design and characteristics, and the geological conditions which will not be known until the planning application stage. As such, an uncertain effect is identified.
17. To reduce the adverse impacts of lorry traffic on the environment and communities through means such as: a) reducing the need to travel b) promoting more sustainable means of transport e.g. by rail or water c) sensitive lorry routing	+/-?	Policy MS01 may potentially restrict non-mineral developments that could otherwise have a negative effect on the environment and communities due to the adverse impacts of lorry traffic. However, the Safeguarding Areas may lead to more mineral extraction activities (e.g. where the mineral needs to be worked before non-mineral development can take place) or the continuation of ancillary mineral facilities that could have a detrimental impact due to the adverse impacts of lorry traffic. It must be emphasised, however, that the process of safeguarding does not mean that extraction will be

SA Objective and Sub Questions	SA Score	Justification
d) the use of sustainable alternative fuels		automatically allowed or that non-mineral development cannot take place. Overall, a mixed effect, minor positive/minor negative is likely for this SA objective. However, any effects would be uncertain as the potential for effects will depend on the exact nature and design of proposals within Safeguarding Areas, which for some will not be known until the planning application stage.
18. To reduce contributions to and to adapt to Climate Change.	0	Climate change is unlikely to be affected by Policy MS01, therefore no effect is expected for this SA objective.

### Policy MS02 Safeguarding mineral infrastructure

SA Objective and Sub Questions	SA Score	Justification
1. To promote sustainable development and sustainable communities and improve the health and wellbeing of people living and working in Gloucestershire as well as visitors to the County.	+/-?	Policy MS02 seeks to restrict non-mineral developments that could otherwise have a negative effect on the health and wellbeing of people and/or conflict with the existing minerals operations. However, the safeguarding areas will ensure that existing minerals infrastructure continues to operate unaffected by incompatible developments, which may therefore prolong any existing impacts on the health and wellbeing of people. It must be emphasised, however, that the process of safeguarding does not mean that that non-mineral development cannot take place. Overall, a mixed minor positive/minor negative effect is likely for this SA objective. However, any effects would be uncertain as the potential for effects will depend on the exact nature and design of minerals infrastructure within Safeguarding Areas.
2. To safeguard the amenity of local communities from the adverse impacts of mineral development.	+/-?	Policy MS02 seeks to restrict non-mineral developments that could otherwise have a negative effect on the amenity of local communities and/or conflict with the existing minerals operations. However, the safeguarding areas will ensure that existing minerals infrastructure continue to operate un-affected by incompatible developments, which may therefore prolong any existing impacts on local amenity. It must be emphasised, however, that the process of safeguarding does not mean that that non-mineral development cannot take place. Overall, a mixed minor positive/minor negative effect is likely for this SA objective. However, any effects would be uncertain as the potential for effects will depend on the exact nature and design of minerals infrastructure within Safeguarding Areas.
3. To promote sustainable economic development in Gloucestershire giving opportunities to people from all social and ethnic backgrounds.	+/-	<p>Minerals are essential to support sustainable economic growth and our quality of life. It is therefore important that there is a sufficient supply of material to provide the infrastructure, buildings, energy and goods that the country needs, including locally for Gloucestershire and beyond the county boundary.</p> <p>Policy MS02 makes provision to help safeguard minerals infrastructure from incompatible development that may hinder future operations and may therefore have a positive effect on economic development related to minerals.</p> <p>However, as non-mineral developments may potentially be restricted within and/or adjoining the safeguarding areas, the policy could also have negative effects on economic development, as safeguarding areas may reduce opportunities for other types of development. It must be emphasised, however, that the process of safeguarding does not mean that extraction will be automatically allowed or that non-mineral</p>

SA Objective and Sub Questions	SA Score	Justification
		development cannot take place. Therefore, overall this policy is likely to have mixed minor positive/minor negative effects on this SA objective.
4. To provide employment opportunities in both rural and urban areas of the County, promoting diversification in the economy.	+/-	Minerals are essential to support sustainable economic growth. It is therefore important that there is a sufficient supply of material to provide the infrastructure, buildings, energy and goods that the country needs, including locally for Gloucestershire. The safeguarding areas within Policy MS02 should help safeguard minerals infrastructure from incompatible development and may therefore have a positive effect on economic development related to minerals, which in turn will have positive effects on employment opportunities associated with economic development. However, as non-mineral developments may potentially be restricted within these safeguarding areas, the policy could also have negative effects on employment opportunities. It must be emphasised, however, that the process of safeguarding does not mean that extraction will be automatically allowed or that non-mineral development cannot take place. Therefore, overall this policy is likely to have mixed minor positive/minor negative effects on this SA objective.
5. To ensure that mineral sites do not compromise the safety of commercial or military aerodromes.	0	Safeguarded minerals infrastructure is unlikely to affect this SA objective.
6. To conserve minerals resources from inappropriate development whilst providing for the supply of aggregates and other minerals sufficient for the needs of society.	++	Policy MS02 is likely to have significant positive effects on this SA objective, as the policy ensures that minerals infrastructure will be safeguarded from incompatible development located on/or adjoining safeguarded minerals infrastructure, and thereby ensures that minerals infrastructure will be adequately and effectively considered in all land-use planning decisions.
7. To protect, conserve and enhance biodiversity in Gloucestershire.	+/-?	Safeguarding areas around minerals infrastructure may have minor positive effects on biodiversity, as the potential prevention of incompatible development that would prejudice mineral workings may prevent development that could harm biodiversity. However, the safeguarding areas will ensure that existing minerals infrastructure continue to operate un-affected by incompatible developments, which may therefore prolong existing impacts on biodiversity. It must be emphasised, however, that the process of safeguarding does not mean that extraction will be automatically allowed or that non-mineral development cannot take place. However, any effects would be uncertain as the potential for effects will depend on the exact nature and design of Minerals Infrastructure within Safeguarding Areas.



SA Objective and Sub Questions	SA Score	Justification
8. To protect, conserve and enhance the landscape in Gloucestershire.	+/-?	Safeguarding areas around minerals infrastructure may have minor positive effects on landscape, as the potential prevention of incompatible development in safeguarding areas that would prejudice mineral workings may prevent development that could negatively impact on the landscape. However, the safeguarding areas will ensure that existing minerals infrastructure continue to operate un-affected by incompatible developments, which may therefore prolong existing impacts on landscape. It must be emphasised, however, that the process of safeguarding does not mean that extraction will be automatically allowed or that non-mineral development cannot take place. Overall, a mixed effect, minor positive/minor negative is likely for this SA objective. However, any effects would be uncertain as the potential for effects will depend on the exact nature and design of minerals infrastructure within safeguarding Areas.
9. To restore mineral sites to a high standard in order to achieve the maximum after use benefits including the conservation and enhancement of biodiversity, and delivery of green infrastructure where possible.	0	Safeguarded minerals infrastructure is unlikely to affect this SA objective.
10. To protect conserve and enhance Gloucestershire's material, cultural and recreational assets.	+/-?	Safeguarding areas around minerals infrastructure may potentially restrict non-mineral developments that could otherwise have a negative effect on Gloucestershire's material, cultural and recreational assets (e.g. Public Rights of Way). However, the safeguarding areas will ensure that existing minerals infrastructure continue to operate un-affected by incompatible developments, which may therefore prolong existing impacts on Gloucestershire's material, cultural and recreational assets. It must be emphasised, however, that the process of safeguarding does not mean that extraction will be automatically allowed or that non-mineral development cannot take place. Overall, a mixed effect, minor positive/minor negative is likely for this SA objective. However, any effects would be uncertain as the potential for effects will depend on the exact nature and design of minerals infrastructure within Safeguarding Areas.
11. To protect conserve and enhance geodiversity in Gloucestershire.	0	Safeguarded minerals infrastructure is unlikely to affect this SA objective.
12. To protect conserve and enhance the historic environment, heritage assets and their setting.	+/-?	Safeguarding areas around minerals infrastructure will potentially restrict non-mineral developments that could otherwise have a negative effect on the historic environment, heritage assets and their setting. However, the safeguarding areas will ensure that existing minerals infrastructure continue to operate un-affected by incompatible developments, which may therefore prolong existing impacts on the historic

SA Objective and Sub Questions	SA Score	Justification
		environment, heritage assets and their setting. It must be emphasised, however, that the process of safeguarding does not mean that extraction will be automatically allowed or that non-mineral development cannot take place. Overall, a mixed effect, minor positive/minor negative is likely for this SA objective. However, any effects would be uncertain as the potential for effects will depend on the exact nature and design of minerals infrastructure within Safeguarding Areas.
13. To prevent flooding, in particular preventing inappropriate development in the floodplain.	+/-?	Policy MS02 may have minor positive effects on flooding as the potential prevention of non-mineral development within safeguarding areas could reduce the risk of flooding either through the stopping of a development that could be more susceptible to flooding or intensified development. However, the continued operations of mineral safeguarding sites may have their own impacts on flooding. Therefore, a mixed minor positive and negative effect is expected..
14. To protect and enhance soil / land quality in Gloucestershire.	0	Soil/land quality is unlikely to be affected by Policy MS02.
15. To protect and enhance air quality in Gloucestershire, helping to meet local, national and international objectives for air quality.	+/-?	Policy MS02 may have minor positive effects on air quality as the potential prevention of non-mineral development within safeguarding areas could reduce the risk of air pollution either through the stopping of a more polluting alternative activity or cumulative impacts associated with intensified development. However, the continued operations of mineral safeguarding sites may have their own impacts on air pollution. Therefore, a mixed minor positive and negative effect is expected.
16. To protect and enhance water quality and quantity in Gloucestershire, and to ensure that minerals development does not compromise sustainable sources of water supply.	+/-?	Policy MS02 may have minor positive effects on water quality and quantity as the potential prevention of non-mineral development within safeguarding areas could reduce impacts either through the stopping of a more polluting alternative activity or cumulative water impacts associated with intensified development. However, the continued operations of mineral safeguarding sites may have their own impacts on water quality and quantity. Therefore, a mixed minor positive and negative effect is expected.
17. To reduce the adverse impacts of lorry traffic on the environment and communities through means such as: a) reducing the need to travel b) promoting more sustainable means of transport e.g. by rail or water c) sensitive lorry routing	+/-?	Safeguarding areas around minerals infrastructure may potentially restrict non-mineral developments that could otherwise have a negative effect on the environment and communities, for example due to the adverse impacts of lorry traffic. However, the safeguarding areas will ensure that existing minerals infrastructure continue to operate un-affected by incompatible developments, which may therefore prolong existing impacts due to lorry traffic. It must be emphasised, however, that the process of safeguarding does not mean that extraction will be automatically allowed or that non-

SA Objective and Sub Questions	SA Score	Justification
d) the use of sustainable alternative fuels		mineral development cannot take place. Overall, a mixed effect, minor positive/minor negative is likely for this SA objective. However, any effects would be uncertain as the potential for effects will depend on the exact nature and design of minerals infrastructure within Safeguarding Areas.
18. To reduce contributions to and to adapt to Climate Change.	+/-?	Policy MS02 may have minor positive effects on climate change as the potential prevention of non-mineral development within safeguarding areas could reduce climate change impacts either through the stopping of more fossil-fuel intensive activities or cumulative impacts associated with intensified development. However, the continued operations of mineral safeguarding sites may have their own climate change impacts. Therefore, a mixed minor positive and negative effect is expected.

### Policy MW01 Aggregate provision

SA Objective and Sub Questions	SA Score	Justification
<p>1. To promote sustainable development and sustainable communities and improve the health and wellbeing of people living and working in Gloucestershire as well as visitors to the County.</p>	+/-?	<p>Policy MW01 may have a negative effect on local communities and the health and wellbeing of those living, working and visiting the county by virtue of facilitating aggregate mineral working, which has the potential for impacts on communities and people's health and wellbeing due to dust from blasting/ drilling and other sources (e.g. haul roads, machinery and stockpiles) – particularly near to proposed sites. Effects however, would be uncertain as the potential for effects will depend on the exact nature and design of the sites, which would not be known until the planning application stage. However, the policy also supports maintaining an adequate and steady supply of aggregate minerals, which is vital for the development and maintenance of public infrastructure (road, services, healthcare etc.), and economic development and growth more generally. These matters have an important role to play in establishing sustainable communities. As a consequence, a mixed minor positive and negative effect is anticipated.</p>
<p>2. To safeguard the amenity of local communities from the adverse impacts of mineral development.</p>	-?	<p>Policy MW01 may have a minor negative impact on the local amenity of communities, as the policy aim supports aggregate operations to ensure an adequate and steady supply of aggregates can meet predicted needs. Therefore, this may continue to give rise to potential impacts on local communities such as dust from blasting/ drilling and other sources (e.g. haul roads, machinery and stockpiles), vibration, noise and traffic congestion. However, the effects would be uncertain as the potential for effects will depend on the exact nature and design of the sites, which would not be known until the planning application stage. Furthermore, research undertaken for the government in 1995<sup>170</sup> excluded any health effects of dust generated by surface mineral operations, and research for the former Department for the Environment, Transport and the Regions (DETR) found that practice on the assessment and control of noise at surface mineral workings had improved; thereby emphasising that effects are unlikely to be greater than minor. Therefore, the policy could have minor negative, uncertain effects on this SA objective.</p>
<p>3. To promote sustainable economic development in Gloucestershire giving opportunities to people from all social and ethnic backgrounds.</p>	+?	<p>Aggregate minerals are important local and national resources essential to supporting sustainable economic growth. They support most sectors of economy either directly and indirectly and are vital to the future provision of public infrastructure. The policy is likely to have a minor positive effect on this SA objective by facilitating support for increased</p>

<sup>170</sup> Office of the Deputy Prime Minister (by Arup Environmental/Ove Arup and Partners). The Environmental Effects of Dust from Surface Minerals Workings, 1995.

SA Objective and Sub Questions	SA Score	Justification
		economic performance which will undoubtedly create job opportunities and also facilitating solutions to mobility demands within workforce including from differing social and ethnic backgrounds. Some degree of uncertainty also exists as full details of future development proposals will not emerge until the planning application stage.
4. To provide employment opportunities in both rural and urban areas of the County, promoting diversification in the economy.	+?	Provision for the working of aggregates is likely to have a positive effect on the diversification of rural employment in the county either directly through jobs in extraction industries, but also supporting businesses related to them. The positive effects may also spread to employment more generally in the economy – such as in urban areas, through the provision of steady and adequate supply of raw materials that underpins economic growth. Some degree of uncertainty also exists as full details of future development proposals will not emerge until the planning application stage.
5. To ensure that mineral sites do not compromise the safety of commercial or military aerodromes.	-?	Policy MW01 could have a negative effect on the safety of aerodromes, simply through increased risk of hazard (e.g. bird strike) resulting from the potential for aggregate mineral working to take place within the sphere of influence of aerodrome facilities. As a consequence, a mixed minor positive and negative effect is anticipated. Some degree of uncertainty also exists as full details of future development proposals (including restoration) will not be known until the planning application stage.
6. To conserve minerals resources from inappropriate development whilst providing for the supply of aggregates and other minerals sufficient for the needs of society.	+	Policy MW01 could have a minor positive effect in terms of providing for the supply of aggregates sufficient for the needs of society, as the core aim of the policy is to facilitate steady and adequate supplies.
7. To protect, conserve and enhance biodiversity in Gloucestershire.	+/-?	Policy MW01 could potentially lead to negative effects for biodiversity, as proposals for primary aggregate minerals could have potential impacts on designated sites, protected species or habitats. However, many sites may have the potential to achieve net gains for biodiversity during working or restoration via biodiversity enhancement opportunities that may exist. Therefore, this policy is likely to have mixed, minor positive and minor negative effects on this SA objective. However, the effects would be uncertain as the potential for effects will depend on the exact nature and design of the sites, which would not be known until the planning application stage.
8. To protect, conserve and enhance the landscape in Gloucestershire.	+/-?	Policy MW01 could potentially lead to negative effects on landscape quality through facilitating intrusive mineral working activities. This is, especially the case where sites could be located either within or near to the Cotswolds or Wye Valley AONBs (e.g. for

SA Objective and Sub Questions	SA Score	Justification
		the working of crushed rock limestone) <sup>171</sup> . However, the policy aim could also lead to some positive effects, as a result of landscape improvements created through sympathetic restoration of sites following the cessation of working. Overall the policy is anticipated to have mixed, minor positive and minor negative effects on this SA objective. Some degree of uncertainty also exists as full details of future development proposals will not be known until the planning application stage.
9. To restore mineral sites to a high standard in order to achieve the maximum after use benefits including the conservation and enhancement of biodiversity, and delivery of green infrastructure where possible.	+?	In most cases proposals for the extraction of minerals, including aggregates, will have the potential to be restored to a high standard, achieving maximum after use benefits and enhancing the landscape. Therefore, the policy is likely to have minor positive effects on this SA objective. However, the effects would be uncertain as the potential for effects will depend on the exact nature and design of the sites, which would not be known until the planning application stage.
10. To protect conserve and enhance Gloucestershire's material, cultural and recreational assets.	+/-?	Policy MW01 could have a minor negative effect on this SA Objective, as primary aggregate proposals could have impacts on access to and enjoyment of nearby material, cultural or recreation assets. However, the policy could support sites which could have potential minor positive effects on enhancing recreational facilities (e.g. Public Rights of Way) through diversion of PRoWs and restoration proposals. However, these would be uncertain as they would not be known until the planning application stage, and where there is the potential for effects upon recreation they will be temporary.
11. To protect conserve and enhance geo-diversity in Gloucestershire.	+/-?	The policy may lead to minor negative effects as the continued extraction of primary aggregate may uncover and harm geological interests. However, these sites can also potentially contribute to geodiversity by preserving and conserving geological features or making them visible and available for learning opportunities. However, the effects would be uncertain as the potential for effects will depend on the exact nature and design, and location of sites, which would not be known until the planning application stage. Therefore, the policy is likely to have uncertain, mixed minor positive and minor negative effects on this SA objective.
12. To protect conserve and enhance the historic environment, heritage assets and their setting.	+/-?	The policy is likely to have minor negative effects on this SA objective, as some aggregate sites (particularly crushed rock) are intensive and could therefore negatively affect the historic environment (e.g. archaeology), heritage assets and their setting as a result of blasting. However, some sites may not be as intensive and be able to preserve

<sup>171</sup> See paragraphs 39-43 of the Minerals Local Plan for Gloucestershire Publication Plan (2018-2032)

SA Objective and Sub Questions	SA Score	Justification
		findings and therefore benefit our understanding of the local archaeology or contribute towards the local vernacular. The effects would be uncertain as the potential for effects will depend on the exact nature and design, and location of sites, which would not be known until the planning application stage. Therefore, the policy is likely to have uncertain, mixed minor positive/minor negative effects on this SA objective.
13. To prevent flooding, in particular preventing inappropriate development in the floodplain.	-?	This policy is expected to have an uncertain, minor negative effect on flood risk areas, as it supports aggregate operations within the ten Allocations, and the Atkins hydrogeological reports have identified potentially significant effects on flood risk for all of the ten Allocations, due mainly to backfilling during restoration using low permeability material. However, the effects would be uncertain as the potential for effects will depend on the exact nature and design of the proposals that come forward within the allocations, which will not be known until the planning application stage. In addition, the Atkins hydrogeological reports note that mitigation measures implemented during operations can reduce the significance of any negative residual impacts.
14. To protect and enhance soil / land quality in Gloucestershire.	-?	Sites which come forward and are supported by this policy are likely to range from small to medium scale (i.e. less than 20ha) to large (i.e. over 20ha). However, the exact land take and location according to agricultural land quality (i.e. Grades 1 – 5), and whether improvements to soil quality through site restoration are possible; will not be known until the planning application stage, therefore effects on this SA Objective are likely to be minor negative uncertain.
15. To protect and enhance air quality in Gloucestershire, helping to meet local, national and international objectives for air quality.	-?	The policy may have a minor negative impact on this SA objective, as it supports aggregate operations to ensure an adequate and steady supply of aggregates can meet predicted needs. Therefore, primary aggregate proposals will involve activities (e.g. lorry traffic) that may negatively affect air quality, for example, due to the proximity of sensitive receptors and the distance mineral related traffic has to travel before reaching the strategic highway network. Also, the effects would be uncertain as the potential for effects will depend on the exact nature and design of the sites, which would not be known until the planning application stage. Therefore, the policy aim could have minor negative, uncertain effects on this SA objective.
16. To protect and enhance water quality and quantity in Gloucestershire, and to ensure that minerals development does not compromise sustainable sources of water supply.	-?	This policy is expected to have an uncertain, minor negative effect on water quality and quantity, as it supports aggregate operations within the ten Allocations, and the Atkins hydrogeological reports have identified potentially low, moderate and significant effects on water quality and quantity for all of the ten Allocations, due mainly to dewatering and

SA Objective and Sub Questions	SA Score	Justification
		diversion of groundwater, and increases in suspended solids or discharges of polluted water. However, the effects would be uncertain as the potential for effects will depend on the exact nature and design of the proposals that come forward within the allocations, which will not be known until the planning application stage. In addition, the Atkins hydrogeological reports note that mitigation measures implemented during operations can reduce the significance of any negative residual impacts.
<p>17. To reduce the adverse impacts of lorry traffic on the environment and communities through means such as:</p> <ul style="list-style-type: none"> <li>a) reducing the need to travel</li> <li>b) promoting more sustainable means of transport e.g. by rail or water</li> <li>c) sensitive lorry routing</li> <li>d) the use of sustainable alternative fuels</li> </ul>	-?	This policy is likely to have minor negative effects on this SA objective, as it supports aggregate operations to ensure an adequate and steady supply of aggregates can meet predicted needs. Therefore, primary aggregate proposals will involve lorry traffic movements, which as some sites may comprise multiple movements per day. The exact location of proposals, traffic levels, lorry routing and access arrangements will not be known until the planning application stage, therefore these effects are uncertain.
18. To reduce contributions to and to adapt to Climate Change.	+/-?	Policy MW01 will likely to have a negative effect upon efforts to tackle climate change by virtue of facilitating aggregate working. This activity is energy intensive and uses fossils fuels. Nevertheless, the policy advocates the making use of local provision, which should diminish the need to import aggregates from distance that carries a larger carbon footprint. Consequently, overall a mixed minor positive and negative effect is anticipated. Some degree of uncertainty also exists as full details of future development proposals will not emerge until the planning application stage.



### Policy MW02 Natural building stone

SA Objective and Sub Questions	SA Score	Justification
1. To promote sustainable development and sustainable communities and improve the health and wellbeing of people living and working in Gloucestershire as well as visitors to the County.	0/-?	Building stone sites are typically small scale operations and are less intensive than aggregates quarries. Therefore, impacts associated with these operations (e.g. dust, noise, and traffic levels) are less likely, and where they do occur they will be less intensive, meaning effects on the health and wellbeing of people living and working in Gloucestershire are likely to be minor. Therefore, this policy is likely to have minor negative effects on this SA objective, however, in some cases there will be negligible or no effects due to the small scale and rural location of building stone workings. The effects would be uncertain as the potential for effects will depend on the exact nature and design of the building stone workings, which would not be known until the planning application stage.
2. To safeguard the amenity of local communities from the adverse impacts of mineral development.	0/-?	Building stone sites are typically small scale operations and are less intensive than aggregates quarries. Therefore, impacts associated with these operations (e.g. dust, noise, vibration and traffic levels) are less likely, and where they do occur they will be less intensive, meaning effects on the amenity of local communities are likely to be minor. Therefore, this policy is likely to have minor negative effects on this SA objective, however, in some cases there will be negligible or no effects due to the small scale and rural location of building stone workings. The effects would be uncertain as the potential for effects will depend on the exact nature and design of the building stone workings, which would not be known until the planning application stage.
3. To promote sustainable economic development in Gloucestershire giving opportunities to people from all social and ethnic backgrounds.	+?	Policy MW02 may have a positive effect on sustainable economic development, including for all social and ethnic backgrounds by virtue of facilitating building stone working which is a local employer. There is also the potential for indirect employment opportunities through the transportation of materials and / their subsequent application in different end-use products (i.e. manufacturing, marketing and sales). However, the policy is only likely to have a minor positive effect on the SA objective on the grounds that the scale of impact is unlikely to significant at the county-level. Some degree of uncertainty also exists as full details of future development proposals will not emerge until the planning application stage.
4. To provide employment opportunities in both rural and urban areas of the County, promoting diversification in the economy.	+?	Policy MW02 may have a positive effect on employment by virtue of facilitating building stone working, which is a local employer. There is also the potential for indirect employment opportunities through secondary processing, transportation of materials and / their subsequent application in different end-use products (i.e. manufacturing,

SA Objective and Sub Questions	SA Score	Justification
		marketing and sales). Collectively the impact on employment may occur both in rural and urban areas. However, the policy is only likely to have a minor positive effect on the SA objective on the grounds that the scale of impact is unlikely to significant at the county-level. Some degree of uncertainty also exists as full details of future development proposals will not emerge until the planning application stage.
5. To ensure that mineral sites do not compromise the safety of commercial or military aerodromes.	0	Policy MW02 is unlikely to affect this SA objective, as the county's building stone resources are not located in areas where they are likely to have an influence upon aerodrome safety <sup>172</sup> .
6. To conserve minerals resources from inappropriate development whilst providing for the supply of aggregates and other minerals sufficient for the needs of society.	+	Policy MW02 could have a minor positive effect in terms of the conservation of mineral (building stone) resources from inappropriate development. The core aim of the policy is to facilitate sufficient supplies of mineral that will meet local need, including maintenance of the historic built environment.
7. To protect, conserve and enhance biodiversity in Gloucestershire.	+/-?	Policy MW02 could potentially lead to negative effects for biodiversity, as proposals for the winning and working of building and roofing stones could have potential impacts on designated sites, protected species or habitats. However, the policy could also lead to positive effects, as building stone sites may have the potential to achieve net gains for biodiversity during working or restoration via biodiversity enhancement opportunities that may exist. Therefore, this policy is likely to have mixed, minor positive and minor negative effects on this SA objective. Although, the effects would be uncertain as the potential for effects will depend on the exact nature and design of the building stone workings, which would not be known until the planning application stage.
8. To protect, conserve and enhance the landscape in Gloucestershire.	+/-?	Policy MW02 could potentially lead to negative effects for landscape designations and landscape character due to the impacts of building stone quarries. This is especially the case where sites are located either within or nearby to the Cotswolds or Wye Valley AONBs <sup>173</sup> . The provision of natural building stone material supports the maintenance of historic built assets and promotes high quality design – elements that support existing and enhanced landscape character, especially within the county's AONB designations <sup>174</sup> . However, the policy could also lead to positive effects, as building stone sites are small scale and less likely to have a visual impact on the landscape, and

<sup>172</sup> See paragraphs 39-43, 48-49 and 405 of the Minerals Local Plan for Gloucestershire: Publication Plan (2018-2032)

<sup>173</sup> See paragraphs 39-43 and 159 of the Minerals Local Plan for Gloucestershire: Publication Plan (2018-2032)

<sup>174</sup> See paragraph 170 of the Minerals Local Plan for Gloucestershire: Publication Plan (2018-2032)

SA Objective and Sub Questions	SA Score	Justification
		<p>the use of natural local stones will be protect and enhance the local landscape and setting of designations. Furthermore, the policy may lead sympathetic restoration of sites which could have positive effects on landscape character.</p> <p>Therefore, this policy is likely to have mixed, minor positive and minor negative effects on this SA objective. However, the effects would be uncertain as the potential for effects will depend on the exact nature and design of the building stone workings, which would not be known until the planning application stage.</p>
<p>9. To restore mineral sites to a high standard in order to achieve the maximum after use benefits including the conservation and enhancement of biodiversity, and delivery of green infrastructure where possible.</p>	<p>+?</p>	<p>In most cases proposals for the winning and working of natural building and roofing stones will have the potential to be restored to a high standard, achieving maximum after use benefits and enhancing the landscape. Therefore, Policy MW02 is likely to have minor positive effects on this SA objective. However, the effects would be uncertain as the potential for effects will depend on the exact nature and design of the building stone workings, which would not be known until the planning application stage.</p>
<p>10. To protect conserve and enhance Gloucestershire's material, cultural and recreational assets.</p>	<p>+/-?</p>	<p>This policy will help to conserve and maintain the local distinctiveness of Gloucestershire and support the use of traditional, local building stones, thereby conserving and enhancing Gloucestershire's material, cultural and recreational assets. However, the policy may permit sites which could have potential effects on the access to and the enjoyment of recreational facilities (e.g. Public Rights of Way), although these would be uncertain as they would not be known until the planning application stage, and where there is the potential for effects upon recreation they will be temporary. Therefore, this policy is likely to have mixed minor positive/minor negative, uncertain effects on this SA objective.</p>
<p>11. To protect conserve and enhance geodiversity in Gloucestershire.</p>	<p>+/-?</p>	<p>Policy MW02 may lead to minor negative effects as the working and winning of building and roofing stone may uncover and harm geological interests. However, these sites can also potentially contribute to geodiversity by preserving and conserving geological features, which is more likely to occur at less intensive mineral sites such as building and roofing stone. However, the effects would be uncertain as the potential for effects will depend on the exact nature and design, and location of the building stone workings, which would not be known until the planning application stage. Therefore, the policy is likely to have uncertain, mixed minor positive and minor negative effects on this SA objective.</p>

SA Objective and Sub Questions	SA Score	Justification
12. To protect conserve and enhance the historic environment, heritage assets and their setting.	+ + / - ?	Policy MW02 will help to conserve the historic environment in Gloucestershire and maintain its local distinctiveness, in some cases conserving buildings using similar, local building stones, thereby conserving and enhancing Gloucestershire's historic environment, heritage assets and their setting. Sites permitted by the policy may also be able to preserve findings and therefore benefit our understanding of the local archaeology. However, this policy may also have minor negative effects on this SA objective, as some sites may involve activities that could negatively affect the historic environment (e.g. archaeology), heritage assets and their setting due to transport, noise or vibration, or extraction methods. Also, the effects would be uncertain as the potential for effects will depend on the exact nature and design, and location of sites, which will not be known until the planning application stage. Therefore, the policy is likely to have uncertain, mixed significant positive/minor negative effects on this SA objective.
13. To prevent flooding, in particular preventing inappropriate development in the floodplain.	- ?	Policy MW02 may have a negative effect upon the risk of flooding by virtue of facilitating building stone working, which has the potential to be disruptive to existing hydrological systems – particularly at / or near to proposed working sites. Some degree of uncertainty also exists as full details of future development proposals will not emerge until the planning application stage.
14. To protect and enhance soil / land quality in Gloucestershire.	- ?	This policy is likely to permit small to medium scale (i.e. less than 20ha) building and roofing stone sites. However, the exact land take and location according to agricultural land quality (i.e. Grades 1 – 5), and whether improvements to soil quality through site restoration are possible; will not be known until the planning application stage, therefore effects on this SA Objective are likely to be minor negative uncertain.
15. To protect and enhance air quality in Gloucestershire, helping to meet local, national and international objectives for air quality.	- ?	Policy MW02 is likely to have minor negative effects on this SA objective. This is because building and roofing stone sites are predominantly located in the AONBs within Gloucestershire, which are rural locations, and in most cases are not located on the primary road network, thereby increasing the mileage of associated traffic movements and their associated emissions. However, the levels of traffic associated with building and roofing stone sites is less than other mineral workings due to the lower annual tonnages worked, thereby reducing the level of emissions. In addition, the exact location of proposals and levels of emissions will not be known until the planning application stage, therefore these effects are uncertain.
16. To protect and enhance water quality and quantity in Gloucestershire, and to ensure that minerals	?	While this policy may affect the water quality and quantity in Gloucestershire, at this stage in the planning process it is not possible to determine the impacts of policies such

SA Objective and Sub Questions	SA Score	Justification
development does not compromise sustainable sources of water supply.		as this on water quality (surface or groundwater) or water use and efficiency as it will very much depend on the building and roofing stone proposal (location, design, method of working etc.), which would be assessed at the planning application stage.
<p>17. To reduce the adverse impacts of lorry traffic on the environment and communities through means such as:</p> <ul style="list-style-type: none"> <li>a) reducing the need to travel</li> <li>b) promoting more sustainable means of transport e.g. by rail or water</li> <li>c) sensitive lorry routing</li> <li>d) the use of sustainable alternative fuels</li> </ul>	-?	This policy is likely to have minor negative effects on this SA objective. This is because building and roofing stone sites are predominantly located in the AONBs within Gloucestershire, which are rural locations, and in most cases are not located on the primary road network, thereby increasing the mileage of associated lorry traffic movements. However, the levels of lorry traffic associated with building and roofing stone sites is less than other mineral workings due to the lower annual tonnages worked. In addition, the exact location of proposals, traffic levels, lorry routing and access arrangements will not be known until the planning application stage, therefore these effects are uncertain.
18. To reduce contributions to and to adapt to Climate Change.	+/-?	Policy MW02 will likely to have a negative effect upon efforts to tackle climate change by virtue of facilitating building stone working. This activity is energy intensive and uses fossils fuels. Nevertheless, the policy specifically advocates a localism approach in the sourcing of material for the built environment (both for new-built and building restoration / maintenance purposes), which may otherwise be obtained from mineral working further afield that will more likely generate a larger carbon footprint. Consequently, overall a mixed minor positive and negative effect is anticipated. Some degree of uncertainty also exists as full details of future development proposals will not be known until the planning application stage.

### Policy MW03 Clay for Civil Engineering Purposes

SA Objective and Sub Questions	SA Score	Justification
1. To promote sustainable development and sustainable communities and improve the health and wellbeing of people living and working in Gloucestershire as well as visitors to the County.	0?	Clay sites, due to their methods of extraction, and low outputs are typically less intensive than other minerals worked in Gloucestershire. Therefore, generally the effects on the health and wellbeing of people living and working in Gloucestershire are likely to be negligible. However, the effects would be uncertain as the potential for effects will depend on the exact nature and design of the sites, which would not be known until the planning application stage.
2. To safeguard the amenity of local communities from the adverse impacts of mineral development.	0?	Clay sites, due to their methods of extraction, and low outputs are typically less intensive than other minerals worked in Gloucestershire. Therefore, generally, the effects on the amenity of local communities in Gloucestershire are likely to be negligible. However, the effects would be uncertain as the potential for effects will depend on the exact nature and design of the sites, which would not be known until the planning application stage.
3. To promote sustainable economic development in Gloucestershire giving opportunities to people from all social and ethnic backgrounds.	+?	Policy MW03 may have a positive effect on employment by virtue of facilitating clay working, which is a local employer and thereby contributes to sustaining and growing local economies. There is also the potential for indirect employment opportunities through the transportation of materials and / their subsequent application in different end-use products (i.e. civil engineering projects). The positive impact is likely to be reflected across all social and ethnic groups. However, the policy is only likely to have a minor positive effect on the SA objective on the grounds that the scale of impact is unlikely to significant at the county-level. Some degree of uncertainty also exists as full details of future development proposals will not emerge until the planning application stage.
4. To provide employment opportunities in both rural and urban areas of the County, promoting diversification in the economy.	+?	Policy MW03 may have a positive effect on employment by virtue of facilitating clay working, which is a local employer and thereby contributes to sustaining and growing local economies. There is also the potential for indirect employment opportunities through the transportation of materials and / their subsequent application in different end-use products (i.e. civil engineering projects). The positive impacts likely to be felt in both rural and urban areas. However, the policy is only likely to have a minor positive effect on the SA objective on the grounds that the scale of impact is unlikely to significant at the county-level. Some degree of uncertainty also exists as full details of future development proposals will not emerge until the planning application stage.
5. To ensure that mineral sites do not compromise the safety of commercial	?	It is difficult to determine whether policy MW03 is likely to affect this SA objective, as

SA Objective and Sub Questions	SA Score	Justification
or military aerodromes.		the county's clay resources are widespread and occur within and outside of the influence of local aerodromes <sup>175</sup> . Uncertainty exists as full details of future development proposals will not be known until the planning application stage.
6. To conserve minerals resources from inappropriate development whilst providing for the supply of aggregates and other minerals sufficient for the needs of society.	0	This policy is unlikely to affect this SA Objective, as the extraction of clay for engineering purposes under this policy will not be classed as inappropriate development, as they are contributing to the extraction of mineral resources, not limiting the ability to extract resources.
7. To protect, conserve and enhance biodiversity in Gloucestershire.	+/-?	Although Policy MW03 will only permit development that is 'environmentally acceptable', the Policy could potentially lead to negative effects for biodiversity, as proposals for the extraction of clay for engineering purposes could have potential impacts on designated sites, protected species or habitats. However, the policy could also lead to positive effects, as sites may have the potential to achieve net gains for biodiversity during working or restoration via biodiversity enhancement opportunities that may exist. Therefore, this policy is likely to have mixed, minor positive and minor negative effects on this SA objective. Although, the effects would be uncertain as the potential for effects will depend on the exact nature and design of the sites, which would not be known until the planning application stage.
8. To protect, conserve and enhance the landscape in Gloucestershire.	+/-?	Although Policy MW03 will only permit development that is 'environmentally acceptable', the Policy could potentially lead to negative effects for landscape and landscape character. However, the policy could also lead to positive effects, as it may lead to the sympathetic restoration of sites which could have positive effects on landscape character, especially as the policy requires applications to meet specific restoration requirements, such as phased restoration of sites within an acceptable timeframe. Therefore, this policy is likely to have mixed, minor positive and minor negative effects on this SA objective. Although, the effects would be uncertain as the potential for effects will depend on the exact nature and design of the sites, which would not be known until the planning application stage.
9. To restore mineral sites to a high standard in order to achieve the maximum after use benefits including the conservation and enhancement of biodiversity, and delivery of green infrastructure where possible.	0	Policy MW03 advocates clay working for civil engineering purposes but only where it will be viable, environmentally acceptable, no more sustainable sources can be obtained and it will contribute to local economies and cultural heritage. The policy offers no specific provisions relating to achievement of certain standards of mineral restoration or support for the conservation and / or enhancement of certain post-extraction activity or land-uses.

<sup>175</sup> See paragraphs 50, 51 and 405 of the Minerals Local Plan for Gloucestershire: Publication Plan (2018-2032)

SA Objective and Sub Questions	SA Score	Justification
10. To protect conserve and enhance Gloucestershire's material, cultural and recreational assets.	+/-?	This policy will permit the working of clay for civil engineering purposes if the development is environmentally acceptable and will support Gloucestershire's cultural heritage assets. However, the policy could permit sites which could have potential effects on the access to and the enjoyment of recreational facilities (e.g. Public Rights of Way), however these would be uncertain as they would not be known until the planning application stage, and where there is the potential for effects upon recreation they will be temporary. Therefore, this policy is likely to have mixed, minor positive and minor negative effects on this SA objective. Although, the effects would be uncertain as the potential for effects will depend on the exact nature and design of the sites, which would not be known until the planning application stage.
11. To protect conserve and enhance geo-diversity in Gloucestershire.	+/-?	Policy MW03 may lead to minor negative effects as the extraction of clay may uncover and harm geological interests. However, these sites can also potentially contribute to geodiversity by preserving and conserving geological features, which is more likely to occur at less intensive mineral sites such as clay. However, the effects would be uncertain as the potential for effects will depend on the exact nature and design, and location of the clay sites, which would not be known until the planning application stage. Therefore, the policy is likely to have uncertain, mixed minor positive and minor negative effects on this SA objective.
12. To protect conserve and enhance the historic environment, heritage assets and their setting.	+?	This policy will permit the working of clay for civil engineering purposes if the development is environmentally acceptable and will support Gloucestershire's cultural heritage assets. As clay sites are less intensive than other minerals worked in Gloucestershire, a minor positive effect is identified on this SA objective. However, the effects would be uncertain as the potential for effects will depend on the exact nature and design, and location of the clay sites, which would not be known until the planning application stage.
13. To prevent flooding, in particular preventing inappropriate development in the floodplain.	+?	The policy is not expected to have an effect on flood risk areas, as minerals working and processing (except sand and gravel working) are classed as less vulnerable, which means they are potentially compatible with all flood zones except for Flood Zone 3b, which sites for clay for engineering purposes are unlikely to be located in. However, the supporting text to the policy notes that there are a number of emerging local infrastructure-related projects that could generate increased local demand for engineering clay (including flood defence works) <sup>176</sup> , therefore, the policy may contribute

<sup>176</sup> See paragraph 185 of the Minerals Local Plan for Gloucestershire: Publication Plan (2018-2032)



SA Objective and Sub Questions	SA Score	Justification
		to reducing flooding in some areas and could have a minor positive effect on this SA objective. The effects would be uncertain as the potential for effects will depend on the exact nature and design, and location of the clay sites, which would not be known until the planning application stage.
14. To protect and enhance soil / land quality in Gloucestershire.	-?	This policy is likely to permit small to medium scale (i.e. less than 20ha) clay sites. However, the exact land take and location according to agricultural land quality (i.e. Grades 1 – 5), and whether improvements to soil quality through site restoration are possible; will not be known until the planning application stage, therefore effects on this SA Objective are likely to be minor negative uncertain.
15. To protect and enhance air quality in Gloucestershire, helping to meet local, national and international objectives for air quality.	0?	This policy is likely to have negligible effects on this SA objective as clay sites have low outputs thereby generating minimal traffic, which in turn will have a negligible impact on air quality. However, the exact location of proposals and levels of emissions will not be known until the planning application stage, therefore these effects are uncertain.
16. To protect and enhance water quality and quantity in Gloucestershire, and to ensure that minerals development does not compromise sustainable sources of water supply.	?	While Policy MW03 will only permitted developments can demonstrate that they are 'environmentally acceptable', it may affect the water quality and quantity in Gloucestershire. At this stage in the planning process it is not possible to determine the impacts of policies such as this on water quality (surface or groundwater) or water use and efficiency as it will very much depend on the engineering clay proposal (location, design, method of working etc.), which would be assessed at the planning application stage.
17. To reduce the adverse impacts of lorry traffic on the environment and communities through means such as: a) reducing the need to travel b) promoting more sustainable means of transport e.g. by rail or water c) sensitive lorry routing d) the use of sustainable alternative fuels	0?	This policy is likely to have negligible effects on this SA objective, as the levels of lorry traffic associated with clay sites are low, due to the lower outputs. In addition, the clay sites tend to be located relatively nearby to their intended use. However, the exact location of proposals, traffic levels, lorry routing and access arrangements will not be known until the planning application stage, therefore these effects are uncertain.
18. To reduce contributions to and to adapt to Climate Change.	+/-?	Policy MW03 is likely to have a minor negative effect upon efforts to tackle climate change by virtue of facilitating clay working. This activity is energy intensive and uses fossils fuels. Nevertheless, the policy does seek to curb uncontrolled working and requires it to be a justified activity. Furthermore, it advocates sustainable sourcing of

SA Objective and Sub Questions	SA Score	Justification
		<p>clay as a preference, which should avoid the occurrence of clay travelling excessive distances, which is more likely generate a larger carbon footprint. Overall a mixed minor positive and negative effect is anticipated. Although some degree of uncertainty also exists as full details of future development proposals will not emerge until the planning application stage.</p>

### Policy MW04 Brick clay

SA Objective and Sub Questions	SA Score	Justification
1. To promote sustainable development and sustainable communities and improve the health and wellbeing of people living and working in Gloucestershire as well as visitors to the County.	0/-?	Policy MW04 advocates the future working of brick clay with limited controls that cover the ability to maintain sufficient available provision of at least 25 years. Clay sites and the associated works where clay is used to make brick, may be visually intrusive and the operation of the plant and the distribution of the finished products can cause noise and traffic. However, clay sites, due to their methods of extraction, and low outputs are typically less intensive than other minerals worked in Gloucestershire. Therefore, overall the effects on the health and wellbeing of people living and working in Gloucestershire are likely to be minor, however, in some cases there will be negligible or no effects due to the small scale and low intensity associated with brick clay workings. The effects would be uncertain as the potential for effects will depend on the exact nature and design of the sites, which would not be known until the planning application stage.
2. To safeguard the amenity of local communities from the adverse impacts of mineral development.	0/-?	As noted above, brick clay sites are typically less intensive than other minerals sites, therefore the effects on the amenity of people living and working in Gloucestershire are likely to be minor, despite Policy MW04 advocating the future working of brick clay with limited controls that cover the ability to maintain sufficient available provision of at least 25 years. However, in some cases there will be negligible or no effects due to the small scale and low intensity associated with brick clay workings. The effects would be uncertain as the potential for effects will depend on the exact nature and design of the sites, which would not be known until the planning application stage. However, the potential for effects will depend on the exact nature and design of the sites, which would not be known until the planning application stage.
3. To promote sustainable economic development in Gloucestershire giving opportunities to people from all social and ethnic backgrounds.	+?	Policy MW04 may have a positive effect on sustainable economic development, including for all social and ethnic backgrounds by virtue of facilitating brick clay working, which is a local employer, and thereby contributing to sustaining and growing local economies. There is also the potential for indirect employment opportunities through the transportation of materials and / their subsequent application in different end-use products. This may be particularly valuable to the construction industry. However, the policy is only likely to have a minor positive effect on the SA objective on the grounds that the scale of impact is unlikely to significant at the county-level. Some degree of uncertainty also exists as full details of future development proposals will not emerge until the planning application stage.
4. To provide employment opportunities in both rural and urban areas of the County, promoting diversification in the economy.	+?	Policy MW04 may have a positive effect on employment opportunities by virtue of facilitating brick clay working, which is a local rural employer, and thereby contributing to sustaining and growing local economies. There is also the potential for indirect employment opportunities both rurally and in urban settings through processing activities (e.g. brick making), transportation and their subsequent application in different

SA Objective and Sub Questions	SA Score	Justification
		end-use products. This may be particularly valuable to the construction industry. However, the policy is only likely to have a minor positive effect on the SA objective on the grounds that the scale of impact is unlikely to be significant at the county-level. Some degree of uncertainty also exists as full details of future development proposals will not emerge until the planning application stage.
5. To ensure that mineral sites do not compromise the safety of commercial or military aerodromes.	0	Policy MW04 is unlikely to affect this SA objective, as the county's potentially workable brick clay resources are not located where they might influence aerodrome safety <sup>177</sup> .
6. To conserve minerals resources from inappropriate development whilst providing for the supply of aggregates and other minerals sufficient for the needs of society.	0	Policy MW04 is unlikely to affect this SA Objective, as the working of brick clay resources is not likely to be classed as an inappropriate development. There is no evidence that it will hamper accessibility and / or sterilise other valuable mineral resources.
7. To protect, conserve and enhance biodiversity in Gloucestershire.	+/-?	Policy MW04 potentially lead to negative effects for biodiversity, as proposals for the extraction of brick clay could have potential impacts on designated sites, protected species or habitats. However, the policy could also lead to positive effects, as brick clay sites may have the potential to achieve net gains for biodiversity during working or restoration via biodiversity enhancement opportunities that may exist. Therefore, this policy is likely to have mixed, minor positive and minor negative effects on this SA objective. However, the effects would be uncertain as the potential for effects will depend on the exact nature and design of the brick clay sites, which would not be known until the planning application stage.
8. To protect, conserve and enhance the landscape in Gloucestershire.	+/-?	Policy MW04 could potentially lead to negative effects for landscape and landscape character, as associated works where clay is used to make brick, may be visually intrusive. However, the policy could also lead to positive effects, as it may lead to the sympathetic restoration of sites which could have positive effects on landscape character. Therefore, this policy is likely to have mixed, minor positive and minor negative effects on this SA objective. However, the effects would be uncertain as the potential for effects will depend on the exact nature and design of the brick clay sites, which would not be known until the planning application stage.
9. To restore mineral sites to a high standard in order to achieve the maximum after use benefits including the conservation and enhancement of biodiversity, and delivery of green	0	Policy MW04 advocates the future working of brick clay with limited controls that cover the ability to maintain sufficient available provision of at least 25 years. It has no specific provisions relating to achievement of certain standards of mineral restoration or support for the conservation and / or enhancement of certain post-extraction activity or land-uses.

<sup>177</sup> See paragraphs 50 and 405 of the Minerals Local Plan for Gloucestershire: Publication Plan (2018-2032)

SA Objective and Sub Questions	SA Score	Justification
infrastructure where possible.		
10. To protect conserve and enhance Gloucestershire's material, cultural and recreational assets.	+/-?	<p>Policy MW04 is unlikely to meaningfully protect, conserve or enhance Gloucestershire's material, cultural or recreational assets. However, the policy could permit sites which could have potential minor negative effects on the access to and the enjoyment of recreational facilities (e.g. Public Rights of Way), however these would be uncertain as they would not be known until the planning application stage, and where there is the potential for effects upon recreation they will be temporary. In addition, post-working restoration, could offer opportunities to enhance such assets. Therefore, this policy is likely to have mixed minor negative and positive effects on this SA objective. Some degree of uncertainty also exists as full details of future development proposals will not emerge until the planning application stage.</p>
11. To protect conserve and enhance geo-diversity in Gloucestershire.	+/-?	<p>This policy may lead to minor negative effects as the extraction of clay may uncover and harm geological interests. However, these sites can also potentially contribute to geodiversity by preserving and conserving geological features, which is more likely to occur at less intensive mineral sites such as clay. The effects would be uncertain as the potential for effects will depend on the exact nature and design, and location of the brick clay sites, which would not be known until the planning application stage. Therefore, the policy is likely to have uncertain, mixed minor positive and minor negative effects on this SA objective.</p>
12. To protect conserve and enhance the historic environment, heritage assets and their setting.	+/-?	<p>Policy MW04 advocates the future working of brick clay with limited controls that only really cover the ability to maintain sufficient available provision of at least 25 years. When this is considered alongside the overall plan period – 15 years, it is difficult to claim that the policy offers much restriction on the future working of brick clay and thus much avoidance of risk from adverse impacts on the historic environment or heritage assets. However, allowing for brick clay working will support a supply of materials needed in the maintenance and enhancement of historic built assets. In addition, working could also expose (and make accessible) features of archaeological interest for analysis and / or for their removal and protection. Overall a mixed positive (of potential high significance) and minor negative effect is anticipated. Some degree of uncertainty also exists as full details of future development proposals will not emerge until the planning application stage.</p> <p>Local brick clay is used to protect historic building assets and contributes to the historic environment of Gloucestershire by reinforcing local character and distinctiveness when utilised in new developments. In addition, working could also expose (and make</p>

SA Objective and Sub Questions	SA Score	Justification
		<p>accessible) features of archaeological interest for analysis and / or for their removal and protection. However, the associated works where clay is used to make brick may be visually intrusive and the operation of the plant and the distribution of the finished products can cause noise and traffic, and therefore the policy could have a minor negative effect as well on heritage assets and their setting.</p> <p>However, the effects would be uncertain as the potential for effects will depend on the exact nature and design, and location of the brick clay sites, which would not be known until the planning application stage. In addition, clay sites are less intensive than other minerals worked in Gloucestershire and on a county scale the industry is very small when compared to other minerals currently worked, hence the minor effects identified.</p>
13. To prevent flooding, in particular preventing inappropriate development in the floodplain.	0?	Policy MW04 is not expected to have an effect on flood risk areas, as minerals working and processing (except sand and gravel working) are classed as less vulnerable, which means they are potentially compatible with all flood zones except for Flood Zone 3b, which brick clay sites are unlikely to be located in. However, the effects would be uncertain as the potential for effects will depend on the exact nature and design, and location of the clay sites, which would not be known until the planning application stage.
14. To protect and enhance soil / land quality in Gloucestershire.	-?	This policy is likely to permit small to medium scale (i.e. less than 20ha) clay sites. However, the exact land take and location according to agricultural land quality (i.e. Grades 1 – 5), and whether improvements to soil quality through site restoration are possible; will not be known until the planning application stage, therefore effects on this SA Objective are likely to be minor negative uncertain.
15. To protect and enhance air quality in Gloucestershire, helping to meet local, national and international objectives for air quality.	-?	Policy MW04 is likely to have minor negative effects on this SA objective. This is because brick clay sites are predominantly located in the rural areas of Gloucestershire, thereby increasing the mileage of traffic movements and their associated emissions. However, the levels of traffic associated with brick clay sites is less than other mineral workings due to the lower annual tonnages worked, thereby reducing the level of emissions. In addition, the exact location of proposals and levels of emissions will not be known until the planning application stage, therefore these effects are uncertain.
16. To protect and enhance water quality and quantity in Gloucestershire, and to ensure that minerals development does not compromise sustainable sources of water supply.	?	While this policy may affect the water quality and quantity in Gloucestershire. At this stage in the planning process it is not possible to determine the impacts of policies such as this on water quality (surface or groundwater) or water use and efficiency as it will very much depend on the brick clay proposal (location, design, method of working etc.), which would be assessed at the planning application stage.

SA Objective and Sub Questions	SA Score	Justification
<p>17. To reduce the adverse impacts of lorry traffic on the environment and communities through means such as:</p> <ul style="list-style-type: none"> <li>a) reducing the need to travel</li> <li>b) promoting more sustainable means of transport e.g. by rail or water</li> <li>c) sensitive lorry routing</li> <li>d) the use of sustainable alternative fuels</li> </ul>	-?	<p>Policy MW04 is likely to have minor negative effects on this SA objective. This is because brick clay sites are predominantly located in the rural areas of Gloucestershire, thereby increasing the mileage of traffic movements on local roads. However, the levels of traffic associated with brick clay sites is less than other mineral workings due to the lower annual tonnages worked, therefore there will be reduced lorry movements compared to other mineral operations in the County. In addition, the exact location of proposals and levels of traffic will not be known until the planning application stage, therefore these effects are uncertain.</p>
<p>18. To reduce contributions to and to adapt to Climate Change.</p>	+/-	<p>Policy MW04 is likely to have a negative effect upon efforts to tackle climate change by virtue of facilitating brick clay working. This activity is energy intensive and uses fossils fuels. Nevertheless, the policy endorses the concept of local supplies, which reduces the prospect of brick clay having to be imported from further afield. This would therefore generate a larger carbon footprint. Consequently, overall a mixed minor positive and negative effect is anticipated. Some degree of uncertainty also exists as full details of future development proposals will not emerge until the planning application stage.</p>

## Policy MW05 Coal

SA Objective and Sub Questions	SA Score	Justification
<p>1. To promote sustainable development and sustainable communities and improve the health and wellbeing of people living and working in Gloucestershire as well as visitors to the County.</p>	+/-?	<p>Policy MW05 permits working of coal where it can be demonstrated that the development can be environmentally acceptable or it provides national, local community benefits to the communities within the Forest of Dean that clearly outweigh impacts likely to arise as a result of their working. This represents a strong approach to controlling proposed new development could therefore have a minor positive effect with respect to protecting health and wellbeing of local communities, particularly for those nearby to potentially extractable resources. However, the potential for some coal working to be allowed to take place, particularly where 'other' matters beyond environmental acceptability are taken into account means that there may still be some potential effects on health and wellbeing. Overall the effects on the health and wellbeing of people living and working in Gloucestershire are likely to be minor. However, the effects would be uncertain as the potential for effects will depend on the exact nature and design of the sites, which would not be known until the planning application stage.</p>
<p>2. To safeguard the amenity of local communities from the adverse impacts of mineral development.</p>	+/-?	<p>Policy MW05 permits working of coal only where it can be demonstrated that the development is environmentally acceptable or provides national, local community benefits to the communities within the Forest of Dean that clearly outweigh impacts likely to arise as a result of their working. This represents a strong approach to controlling proposed new development within the MLP Publication Plan and could therefore have a minor positive effect with respect to safeguarding the amenity of local communities, particularly for those nearby to potentially extractable resources. However, the potential for some coal working to be allowed to take place, particularly where 'other' matters beyond environmental acceptability are taken into account means that there may still be some potential effects on amenity. Overall the effects on amenity of people living and working in Gloucestershire are likely to be minor. However, the effects would be uncertain as the potential for effects will depend on the exact nature and design of the sites, which would not be known until the planning application stage.</p>
<p>3. To promote sustainable economic development in Gloucestershire giving opportunities to people from all social and ethnic backgrounds.</p>	+/-?	<p>Policy MW05 permits working of coal only where it can be demonstrated that the development can show benefits beyond environmental acceptability. This represents a strong approach to controlling proposed new development within the MLP Publication Plan. From an economic / employment perspective this could have a minor negative effect. However, the potential within the policy to allow for some coal working, under demonstrable circumstances that might include an economic / local employment</p>



SA Objective and Sub Questions	SA Score	Justification
		justification, could have a minor positive effect <sup>178</sup> . Accordingly, a mixed positive and negative effect is anticipated. Some degree of uncertainty also exists as full details of future development proposals will not emerge until the planning application stage.
4. To provide employment opportunities in both rural and urban areas of the County, promoting diversification in the economy.	+/-?	Policy MW05 permits working of coal only where it can be demonstrated that the development can show benefits beyond environmental acceptability can be demonstrated. This represents a strong approach to controlling proposed new development within the MLP Publication Plan. From an economic / employment perspective this could have a minor negative effect. However, the potential within the policy to allow for some coal working, under demonstrable circumstances that might include an economic / employment justification, may result in a minor positive effect <sup>179</sup> . Accordingly, a mixed positive and negative effect is anticipated. Some degree of uncertainty also exists as full details of future development proposals will not emerge until the planning application stage.
5. To ensure that mineral sites do not compromise the safety of commercial or military aerodromes.	0	Policy MW05 is unlikely to affect this SA objective, as the county's workable coal resource area (Forest of Dean) is not located where it is likely to have an influence upon aerodrome safety <sup>180</sup> .
6. To conserve minerals resources from inappropriate development whilst providing for the supply of aggregates and other minerals sufficient for the needs of society.	0	Policy MW05 is unlikely to affect this SA Objective, as the working of coal resources is not likely to be classed as an inappropriate development. There is no evidence that it will hamper accessibility and / or sterilise other valuable mineral resources.
7. To protect, conserve and enhance biodiversity in Gloucestershire.	+/-?	Policy MW05 offers a presumption against future working of coal unless environmental acceptability can be shown or benefits beyond environmental acceptability can be demonstrated. This represents a strong approach to controlling proposed new development within the MLP Publication Plan and could therefore have a minor positive effect with respect to protecting biodiversity. However, the potential for some coal working to be allowed to take place, particularly where 'other' matters beyond environmental acceptability (including matters linked to biodiversity) are taken into account may result in a minor negative effect. Nevertheless, some degree of uncertainty also exists as full details of future development proposals will not emerge until the

<sup>178</sup> See paragraph 213 of the Minerals Local Plan for Gloucestershire: Publication Plan (2018-2032)

<sup>179</sup> See paragraph 213 of the Minerals Local Plan for Gloucestershire: Publication Plan (2018-2032)

<sup>180</sup> See paragraphs 52-54 and 405 of the Minerals Local Plan for Gloucestershire: Publication Plan (2018-2032)

SA Objective and Sub Questions	SA Score	Justification
		planning application stage.
8. To protect, conserve and enhance the landscape in Gloucestershire.	+/-?	Policy MW05 permits working of coal only where it can be demonstrated that the development can show benefits beyond environmental acceptability can be demonstrated. This represents a strong approach to controlling proposed new development within the MLP Publication Plan and could therefore have a minor positive effect with respect to protecting landscape quality. However, the potential for some coal working to be allowed to take place, particularly where 'other' matters beyond environmental acceptability (including matters linked to landscape quality) are taken into account may result in a minor negative effect. Nevertheless, some degree of uncertainty also exists as full details of future development proposals will not emerge until the planning application stage.
9. To restore mineral sites to a high standard in order to achieve the maximum after use benefits including the conservation and enhancement of biodiversity, and delivery of green infrastructure where possible.	0	Policy MW05 permits working of coal only where it can be demonstrated that the development can show benefits beyond environmental acceptability. This represents a strong approach to controlling proposed new development within the MLP Publication Plan. The policy offers no specific provisions relating to achievement of certain standards of mineral restoration or support for the conservation and / or enhancement of certain post-extraction activity or land-uses.
10. To protect conserve and enhance Gloucestershire's material, cultural and recreational assets.	+/-?	Policy MW05 permits working of coal where it can be demonstrated that the development can show benefits beyond environmental acceptability. This represents a strong approach to controlling proposed new development within the MLP Publication Plan and could therefore have a minor positive effect with respect to protecting material, cultural and recreational assets. However, the potential for some coal working to be allowed to take place, particularly where 'other' matters beyond environmental acceptability (including matters linked to material, cultural and recreational assets) are taken into account may result in a minor negative effect. Nevertheless, some degree of uncertainty also exists as full details of future development proposals will not emerge until the planning application stage.
11. To protect conserve and enhance geo-diversity in Gloucestershire.	+/-?	Policy MW05 permits working of coal where it can be demonstrated that the development can show benefits beyond environmental acceptability. This represents a strong approach to controlling proposed new development within the MLP Publication Plan and could therefore have a minor positive effect with respect to protecting geo-diversity. However, the potential for some coal working to be allowed to take place, particularly where 'other' matters beyond environmental acceptability (including matters

SA Objective and Sub Questions	SA Score	Justification
		linked to geo-diversity) are taken into account may result in a minor negative effect. Nevertheless, some degree of uncertainty also exists as full details of future development proposals will not emerge until the planning application stage.
12. To protect conserve and enhance the historic environment, heritage assets and their setting.	+/-?	Policy MW05 permits working of coal where it can be demonstrated that the development can show benefits beyond environmental acceptability. This represents a strong approach to controlling proposed new development within the MLP Publication Plan and could therefore have a minor positive effect with respect to protecting the historic environment and heritage assets. However, the potential for some coal working to be allowed to take place, particularly where 'other' matters beyond environmental acceptability (including matters linked to the historic environment and heritage assets) are taken into account may result in a minor negative effect. Nevertheless, some degree of uncertainty also exists as full details of future development proposals will not emerge until the planning application stage.
13. To prevent flooding, in particular preventing inappropriate development in the floodplain.	+/-?	Policy MW05 permits working of coal where it can be demonstrated that the development can show benefits beyond environmental acceptability. This represents a strong approach to controlling proposed new development within the MLP Publication Plan and could therefore have a minor positive effect with respect to preventing flooding. However, the potential for some coal working to be allowed to take place, particularly where 'other' matters beyond environmental acceptability (including matters linked to flood risk) are taken into account, may result in a minor negative effect. Nevertheless, some degree of uncertainty also exists as full details of future development proposals will not emerge until the planning application stage.
14. To protect and enhance soil / land quality in Gloucestershire.	+/-?	Policy MW05 permits working of coal where it can be demonstrated that the development can show benefits beyond environmental acceptability. This represents a strong approach to controlling proposed new development within the MLP Publication Plan and could therefore have a minor positive effect with respect to preserving soil/land quality. However, the potential for some coal working to be allowed to take place, particularly where 'other' matters beyond environmental acceptability (including matters linked to soil / land quality) are taken into account may result in a minor negative effect. Nevertheless, some degree of uncertainty also exists as full details of future development proposals will not emerge until the planning application stage.
15. To protect and enhance air quality in Gloucestershire, helping to meet local, national and international	+/-?	Policy MW05 permits working of coal where it can be demonstrated that the development can show benefits beyond environmental acceptability. This represents a

SA Objective and Sub Questions	SA Score	Justification
objectives for air quality.		strong approach to controlling proposed new development within the MLP Publication Plan and could therefore have a minor positive effect with respect to preserving air quality. However, the potential for some coal working to be allowed to take place, particularly where 'other' matters beyond environmental acceptability (including matters linked to air quality) are taken into account may result in a minor negative effect. Nevertheless, some degree of uncertainty also exists as full details of future development proposals will not emerge until the planning application stage.
16. To protect and enhance water quality and quantity in Gloucestershire, and to ensure that minerals development does not compromise sustainable sources of water supply.	+/-?	Policy MW05 permits working of coal where it can be demonstrated that the development can show benefits beyond environmental acceptability. This represents a strong approach to controlling proposed new development within the MLP Publication Plan and could therefore have a minor positive effect with respect to preserving the water environment - both quality and quantity. However, the potential for some coal working to be allowed to take place, particularly where 'other' matters beyond environmental acceptability (including matters linked to the water environment) are taken into account may result in a minor negative effect. Nevertheless, some degree of uncertainty also exists as full details of future development proposals will not emerge until the planning application stage.
17. To reduce the adverse impacts of lorry traffic on the environment and communities through means such as: a) reducing the need to travel b) promoting more sustainable means of transport e.g. by rail or water c) sensitive lorry routing d) the use of sustainable alternative fuels	+/-?	Policy MW05 permits working of coal where it can be demonstrated that the development can show benefits beyond environmental acceptability. This represents a strong approach to controlling proposed new development within the MLP Publication Plan and could therefore have a minor positive effect with respect to avoiding new and/or worsening lorry traffic. However, the potential for some coal working to be allowed to take place, particularly where 'other' matters beyond environmental acceptability (which could include highways related matters) are taken into account may result in a minor negative effect. Nevertheless, some degree of uncertainty also exists as full details of future development proposals will not emerge until the planning application stage.
18. To reduce contributions to and to adapt to Climate Change.	+/-?	Policy MW05 permits working of coal where it can be demonstrated that the development can show benefits beyond environmental acceptability. This represents a strong approach to controlling proposed new development within the MLP Publication Plan and could therefore have a minor positive effect with respect to the objective aim of reducing contributions on climate change. However, the potential for some coal working to be allowed to take place under certain circumstances may have a minor negative effect. The activity is energy intensive and is a source of fossil fuels a key contributor to

SA Objective and Sub Questions	SA Score	Justification
		greenhouse gas emissions. Some degree of uncertainty also exists as full details of future development proposals will not emerge until the planning application stage.

### Policy MW06 Ancillary minerals development

SA Objective and Sub Questions	SA Score	Justification
1. To promote sustainable development and sustainable communities and improve the health and wellbeing of people living and working in Gloucestershire as well as visitors to the County.	-?	The provision of ancillary development through this policy is likely to have a minor negative effect as these sorts of activities could lead to minor negative effects on the health and wellbeing of people living and working in Gloucestershire. However, the effects are uncertain as they will depend on the type, scale and location of the ancillary development, which will not be known until the planning application stage.
2. To safeguard the amenity of local communities from the adverse impacts of mineral development.	-?	The provision of ancillary development through this policy is likely to have a minor negative effect as these sorts of activities could lead to minor negative effects on the amenity of local communities in Gloucestershire. However, the effects are uncertain as they will depend on the type, scale and location of the ancillary development, which will not be known until the planning application stage.
3. To promote sustainable economic development in Gloucestershire giving opportunities to people from all social and ethnic backgrounds.	+	Policy MW06 permits ancillary development within minerals sites if it will contribute positively to sustaining or growing the local economy. As such, a minor positive effect is likely for this SA objective.
4. To provide employment opportunities in both rural and urban areas of the County, promoting diversification in the economy.	+	Policy MW06 permits ancillary development within minerals sites if it will contribute positively to sustaining or growing the local economy. As such, a minor positive effect is likely for this SA objective.
5. To ensure that mineral sites do not compromise the safety of commercial or military aerodromes.	0	The restrictions on ancillary development included within this policy are unlikely to affect the safety of aerodromes and no effect is therefore expected on SA objective 5.
6. To conserve minerals resources from inappropriate development whilst providing for the supply of aggregates and other minerals sufficient for the needs of society.	0	The restrictions on ancillary development included within this policy are unlikely to affect the safeguarding of mineral resources from sterilisation, as ancillary development is not considered inappropriate development. No effect is therefore expected on SA objective 6.
7. To protect, conserve and enhance biodiversity in Gloucestershire.	+/-?	<p>The provision of ancillary development via Policy MW06 is likely to have adverse impacts on biodiversity, including natural habitats and protected species. However, these are likely to be minor as the policy requires proposals to demonstrate that the proposed operations are linked to the existing mineral operations on site, therefore not a new site.</p> <p>Policy MW06 also requires ancillary development to be able to achieve previously approved or acceptable in principle plans for future site restoration which could result in biodiversity net gains. Overall therefore, mixed minor positive and minor negative effects are likely. These effects are uncertain as they will depend on the type, scale and</p>

SA Objective and Sub Questions	SA Score	Justification
		location of the ancillary development, which will not be known until the planning application stage.
8. To protect, conserve and enhance the landscape in Gloucestershire.	+/-?	<p>The provision of ancillary development via Policy MW06 is likely to have adverse impacts on Gloucestershire's landscape as fixed building structures are often required. However, these are likely to be minor as the policy requires proposals to demonstrate that the proposed operations are linked to the existing mineral operations on site, therefore not a new site.</p> <p>Policy MW06 also requires all operations to be of a temporary nature and able to achieve previously approved or acceptable in principle plans for future site restoration. Overall therefore, mixed minor positive and minor negative effects are likely. These effects are uncertain as they will depend on the type, scale and location of the ancillary development, which will not be known until the planning application stage.</p>
9. To restore mineral sites to a high standard in order to achieve the maximum after use benefits including the conservation and enhancement of biodiversity, and delivery of green infrastructure where possible.	+	This policy requires the life of ancillary developments within existing mineral sites to be limited to that of the mineral working and the removal of all built structures as soon as is practicably possible once mineral working has ceased. In addition, proposals are to be able to achieve previously approved or acceptable in principle plans for future site restoration. As such, the policy is likely to have a positive effect on the restoration of mineral sites by requiring that ancillary developments are included within restoration works.
10. To protect conserve and enhance Gloucestershire's material, cultural and recreational assets.	0	The restrictions on ancillary development included within this policy are unlikely to affect cultural or recreational assets and no effect is therefore expected on SA objective 10.
11. To protect conserve and enhance geodiversity in Gloucestershire.	0	The restrictions on ancillary development included within this policy are unlikely to affect geodiversity and no effect is therefore expected on SA objective 11.
12. To protect conserve and enhance the historic environment, heritage assets and their setting.	+	Policy MW06 requires minerals development ancillary minerals development to uphold cultural heritage. As this could help protect and conserve the historic environment from encroaching industrial development, a minor positive effect is identified on this SA objective.
13. To prevent flooding, in particular preventing inappropriate development in the floodplain.	0	The restrictions on ancillary development included within this policy are unlikely to affect the likelihood of flooding and no effect is therefore expected on SA objective 13.
14. To protect and enhance soil / land quality in Gloucestershire.	0	The restrictions on ancillary development included within this policy are unlikely to affect soil quality and no effect is therefore expected on SA objective 14.
15. To protect and enhance air quality in Gloucestershire, helping to meet local, national and international objectives for air quality.	0	The restrictions on ancillary development included within this policy are unlikely to affect air quality and no effect is therefore expected on SA objective 15.

SA Objective and Sub Questions	SA Score	Justification
16. To protect and enhance water quality and quantity in Gloucestershire, and to ensure that minerals development does not compromise sustainable sources of water supply.	0	The restrictions on ancillary development included within this policy are unlikely to affect water quality and no effect is therefore expected on SA objective 16.
17. To reduce the adverse impacts of lorry traffic on the environment and communities through means such as: a) reducing the need to travel b) promoting more sustainable means of transport e.g. by rail or water c) sensitive lorry routing d) the use of sustainable alternative fuels	+?	Policy MW06 requires ancillary developments to contribute to achieving the best use of minerals sourced within the boundary of the site in which they are to be located. In addition, this policy requires any importation of minerals to be sourced from the most sustainable location. As both these requirements could reduce the transportation of minerals, a minor positive effect is likely. These effects however are uncertain as they will depend on the type, scale and location of the ancillary development, which will not be known until the planning application stage.
18. To reduce contributions to and to adapt to Climate Change.	+?	Policy MW06 requires ancillary developments to contribute to achieving the best use of minerals sourced within the boundary of the site in which they are to be located. In addition, this policy requires any importation of minerals to be sourced from the most sustainable location. As ancillary developments are expected to include processes that the minerals would otherwise undergo elsewhere, these requirements could reduce the transportation of minerals and therefore reduce climate change contribution, a minor positive effect is likely. These effects however are uncertain as they will depend on the type, scale and location of the ancillary development, which will not be known until the planning application stage.



### Policy MA01 Aggregate working within allocations

SA Objective and Sub Questions	SA Score	Justification
1. To promote sustainable development and sustainable communities and improve the health and wellbeing of people living and working in Gloucestershire as well as visitors to the County.	-?	The policy may have a minor negative impact on communities and the health and wellbeing of people living and working in Gloucestershire. The policy supports aggregate operations within the Specific Sites and the site extension listed in the seven Allocations. Therefore, this may continue to subject communities and people's health and wellbeing to impacts such as dust from blasting/ drilling and other sources (e.g. haul roads, machinery and stockpiles). However, the policy will only permit operations where need to maintain the landbank is demonstrated and where the detailed development requirements in Appendix 4 of the plan are satisfied. Also, any effects would be uncertain as the potential for effects will depend on the exact nature and design of proposals that come forward within the allocations, which will not be known until the planning application stage.
2. To safeguard the amenity of local communities from the adverse impacts of mineral development.	-?	Policy MA01 may have a minor negative impact on the local amenity of communities, as the policy supports aggregate operations within the Specific Sites and the site extension listed in the seven Allocations. Therefore, this may continue to subject local communities to impacts such as dust from blasting/ drilling and other sources (e.g. haul roads, machinery and stockpiles), vibration, noise and traffic congestion. However, the policy will only permit operations where need to maintain the landbank is demonstrated and where the detailed development requirements in Appendix 6 of the plan are satisfied. Also, any effects would be uncertain as the potential for effects will depend on the exact nature and design of proposals that come forward within the allocations, which will not be known until the planning application stage.
3. To promote sustainable economic development in Gloucestershire giving opportunities to people from all social and ethnic backgrounds.	+	Aggregates are important local and national resources and are essential to support sustainable economic growth. They support a wide range of end uses and industries and it is therefore important that there is a sufficient supply of material to supply construction and to provide the infrastructure, buildings, energy and goods that Gloucestershire and the country need. Policy MA01 is likely to have a minor positive effect on this SA objective, as it supports aggregate operations in seven Allocations, which will therefore support economic prosperity and make a positive contribution to the local and national economy.
4. To provide employment opportunities in both rural and urban areas of the County, promoting diversification in the economy.	+	Aggregates are important local and national resources and support a wide range of end uses and industries. Policy MA01 supports the supply of aggregates, which will have a minor positive effect on increasing employment levels.
5. To ensure that mineral sites do not compromise the safety of commercial or military aerodromes.	-?	The policy supports aggregate operations within the Specific Sites and site extension listed in the seven Allocations. This includes Allocations for sand and gravel extracted in the Cotswolds Water Park, which is located within and in close proximity to the safeguarding zone for RAF Fairford. Therefore, this policy could have minor negative

SA Objective and Sub Questions	SA Score	Justification
		effects on the safety of commercial or military aerodromes due to the potential for birds to provide a hazard to aircraft, especially as proposals to meet Gloucestershire's needs may be restored to a form of open water use as they may be located close to the Cotswold Water Park. However, the policy will only permit proposals where it is demonstrated that the proposals are required to maintain the landbank requirements. The effects would also be uncertain as it is dependent on the type of restoration proposed and eventually developed on a site within the allocations. Any effects would be uncertain as the potential for effects will depend on the exact nature and design of proposals that come forward within the allocations, which will not be known until the planning application stage. Therefore, the policy could have minor negative, uncertain effects on this SA objective.
6. To conserve minerals resources from inappropriate development whilst providing for the supply of aggregates and other minerals sufficient for the needs of society.	0	This policy is unlikely to affect this SA Objective, as aggregate sites permitted under this policy will not be classed as inappropriate development, as they are contributing to the extraction of mineral resources, not limiting the ability to extract resources.
7. To protect, conserve and enhance biodiversity in Gloucestershire.	+/-?	Policy MA01 could potentially lead to negative effects for biodiversity, as proposals within the allocations could have potential impacts on designated sites, protected species or habitats (see separate appraisal matrices for the allocations). However, the policy requires proposals to meet the detailed development requirements in Appendix 4 of the plan, which require exploration of the potential to achieve net gains for biodiversity during restoration via biodiversity enhancement opportunities that may exist. Therefore, this policy is likely to have mixed, minor positive and minor negative effects on this SA objective. However, any effects would be uncertain as the potential for effects will depend on the exact nature and design of the proposals that may come forward within the Specific Sites or site extension, which will not be known until the planning application stage.
8. To protect, conserve and enhance the landscape in Gloucestershire.	+/-?	Policy MA01 could potentially lead to negative effects for landscape and landscape character, especially as some of the allocations (for crushed rock) are located within the Cotswolds and Wye Valley AONBs. However, the policy could also lead to positive effects, as it requires proposals within the allocations to meet the detailed development requirements in Appendix 4 of the plan, which may lead to the sympathetic restoration of sites which could have positive effects on landscape character. Also, the policy will only permit proposals where exiting permitted reserves are inadequate or limited. Therefore, this policy is likely to have mixed, minor positive and minor negative effects on this SA objective. However, any effects would be uncertain as the potential for effects will depend on the exact nature and design of the proposals that may come forward within the Specific Sites or site extension, which will not be known until the planning application stage.
9. To restore mineral sites to a high standard in order to achieve the	+?	In most cases proposals for the extraction of minerals within the allocations, including aggregates, will have the potential to be restored to a high standard, achieving

SA Objective and Sub Questions	SA Score	Justification
<p>maximum after use benefits including the conservation and enhancement of biodiversity, and delivery of green infrastructure where possible.</p>		<p>maximum after use benefits and enhancing the landscape. Exploration of restoration potential is required for all of the allocations in the detailed development requirements in Appendix 4 of the plan. Therefore, the policy is likely to have minor positive effects on this SA objective, especially as the policy will only permit proposals where landbanks are inadequate or limited. Although, any effects would be uncertain as the potential for effects will depend on the exact nature and design of the sites. While sites within these areas have been assessed as part of this Sustainability Appraisal, it is still not known what sites may come forward and what the exact proposals will include, this will not be known until the planning application stage.</p>
<p>10. To protect conserve and enhance Gloucestershire's material, cultural and recreational assets.</p>	+/-?	<p>Policy MA01 could potentially lead to negative effects on material, cultural or recreational assets as mineral extraction sites could have potential effects on the access to and the enjoyment of recreational facilities (e.g. Public Rights of Way), however these would be uncertain as the potential for effects will depend on the exact nature and design of the proposals that may come forward within the Specific Sites or site extension, which will not be known until the planning application stage. Where there is the potential for effects upon recreation they will be temporary, and the detailed development requirements in Appendix 4 of the plan require an assessment of the PRoW network to be undertaken and advice should be sought from the Local Highways Authority regarding any proposals to temporarily divert or permanent re-route the potentially affected path. Therefore, there may be opportunities for enhancement of PRoWs in the longer term, and this policy is likely to have mixed minor positive and negative but uncertain effects on this SA objective.</p>
<p>11. To protect conserve and enhance geodiversity in Gloucestershire.</p>	+/-?	<p>Policy MA01 may lead to minor negative effects as the continued extraction and/or processing of primary aggregate may uncover and harm geological interests. However, these sites can also potentially contribute to geodiversity by preserving and conserving geological features or making them visible and available for learning opportunities. However, the effects would be uncertain as the potential for effects will depend on the exact nature and design of the proposals that may come forward within the Specific Sites or the site extension, which will not be known until the planning application stage. Therefore, the policy is likely to have uncertain, mixed minor positive and minor negative effects on this SA objective.</p>
<p>12. To protect conserve and enhance the historic environment, heritage assets and their setting.</p>	+/-?	<p>Policy MA01 is likely to have minor negative effects on this SA objective, as some aggregate sites (particularly crushed rock) within the Specific Sites or the extension will be intensive and could therefore negatively affect the historic environment (e.g. archaeology), heritage assets and their setting as a result of blasting. However, some sites may not be as an intensive and be able to preserve findings and therefore benefit our understanding of the local archaeology or contribute towards the local vernacular. Also, any effects would be uncertain as the potential for effects will depend on the exact nature and design of the sites within Allocations, which will not be known until the planning application stage. Therefore, the policy is likely to have uncertain, mixed minor positive/minor negative effects on this SA objective.</p>

SA Objective and Sub Questions	SA Score	Justification
13. To prevent flooding, in particular preventing inappropriate development in the floodplain.	-?	This policy is expected to have an uncertain, minor negative effect on flood risk areas, as the Atkins hydrogeological reports have identified potentially significant effects on flood risk for all of the ten Allocations, due mainly to backfilling during restoration using low permeability material. However, the effects would be uncertain as the potential for effects will depend on the exact nature and design of the proposals that come forward within the allocations, which will not be known until the planning application stage. In addition, the Atkins hydrogeological reports note that mitigation measures implemented during operations can reduce the significance of any negative residual impacts.
14. To protect and enhance soil / land quality in Gloucestershire.	-?	Sites which come forward and are supported by this policy are likely to range from small to medium scale (i.e. less than 20ha) to large (i.e. over 20ha). However, the exact land take and location according to agricultural land quality (i.e. Grades 1 – 5), and whether improvements to soil quality through site restoration are possible; will not be known until the planning application stage. Therefore, effects on this SA Objective are likely to be minor negative uncertain.
15. To protect and enhance air quality in Gloucestershire, helping to meet local, national and international objectives for air quality.	-?	This policy may have a minor negative impact on this SA objective, as the policy supports aggregate operations within the Specific Sites or the site extension listed in the seven Allocations. Therefore, proposals will involve activities (e.g. lorry traffic) that may negatively affect air quality, for example, due to the proximity of sensitive receptors and the distance mineral related traffic has to travel before reaching the proposed highway network. Any effects however would be uncertain as the potential for effects will depend on the exact nature and design of the proposals that come forward within the allocations, which will not be known until the planning application stage. Therefore, the policy could have minor negative, uncertain effects on this SA objective.
16. To protect and enhance water quality and quantity in Gloucestershire, and to ensure that minerals development does not compromise sustainable sources of water supply.	-?	This policy is expected to have an uncertain, minor negative effect on water quality and quantity, as the Atkins hydrogeological reports have identified potentially low, moderate and significant effects on water quality and quantity for all of the seven Allocations, due mainly to dewatering and diversion of groundwater, and increases in suspended solids or discharges of polluted water. However, the effects would be uncertain as the potential for effects will depend on the exact nature and design of the proposals that come forward within the allocations, which will not be known until the planning application stage. In addition, the Atkins hydrogeological reports note that mitigation measures implemented during operations can reduce the significance of any negative residual impacts.
17. To reduce the adverse impacts of lorry traffic on the environment and communities through means such as:	-?	This policy is likely to have minor negative effects on this SA objective, as the policy supports aggregate operations within the seven Allocations. Therefore, aggregate proposals will involve lorry traffic movements, which at some sites may comprise multiple movements per day. The exact location of proposals, traffic levels, lorry routing

SA Objective and Sub Questions	SA Score	Justification
a) reducing the need to travel b) promoting more sustainable means of transport e.g. by rail or water c) sensitive lorry routing d) the use of sustainable alternative fuels		and access arrangement will not be known until the planning application stage, therefore any effects would also be uncertain as the potential for effects will depend on the exact nature and design of proposals within the allocations.
18. To reduce contributions to and to adapt to Climate Change.	?	At this stage in the planning process it is not possible to determine the impacts of this policy on their ability to help reduce contributions to and to adapt to climate change as it will depend on the proposals they are used to determine and how successfully they are implemented, which would not be known until the planning application stage.

### Policy MA02 Aggregate working outside of allocations

SA Objective and Sub Questions	SA Score	Justification
1. To promote sustainable development and sustainable communities and improve the health and wellbeing of people living and working in Gloucestershire as well as visitors to the County.	-?	The policy may have a minor negative impact on communities and the health and wellbeing of people living and working in Gloucestershire. The policy supports aggregate operations outside of the Specific Sites and the site extension listed in the seven Allocations. Therefore, this may continue to subject communities and people's health and wellbeing to impacts such as dust from blasting/ drilling and other sources (e.g. haul roads, machinery and stockpiles). However, the policy will only permit proposals where among other things it can be demonstrated that the allocations are not able to contribute towards maintaining minimum landbank levels; and/or the proposed operations will result in the achievement of beneficial after-uses, therefore proposals on unallocated sites are less certain to be developed. Also, any effects would be uncertain as the potential for effects will depend on the exact nature and design of the sites, which will not be known until the planning application stage.
2. To safeguard the amenity of local communities from the adverse impacts of mineral development.	-?	The policy may have a minor negative impact on the local amenity of communities, as the policy supports aggregate operations outside of the Specific Sites and the site extension listed in the seven Allocations. Therefore, this may continue to subject local communities to impacts such as dust from blasting/ drilling and other sources (e.g. haul roads, machinery and stockpiles), vibration, noise and traffic congestion. However, the policy will only permit proposals where among other things: it can be demonstrated that the allocations are not able to contribute towards maintaining minimum landbank levels; and/or the proposed operations will result in overriding the achievement of beneficial after-uses, therefore proposals on unallocated sites are less certain to be developed. Also, any effects would be uncertain as the potential for effects will depend on the exact nature and design of the sites, which will not be known until the planning application stage.
3. To promote sustainable economic development in Gloucestershire giving opportunities to people from all social and ethnic backgrounds.	+	Aggregates are important local and national resources and are essential to support sustainable economic growth. They support a wide range of end uses and industries and it is therefore important that there is a sufficient supply of material to supply construction and to provide the infrastructure, buildings, energy and goods that Gloucestershire and the country need. This policy therefore is likely to have a minor positive effect on this SA objective, as it supports aggregate operations outside of the ten Allocations, which will therefore support economic prosperity and make a positive contribution to the local and national economy.
4. To provide employment opportunities in both rural and urban areas of the County, promoting diversification in the economy.	+	Aggregates are important local and national resources and support a wide range of end uses and industries. This policy supports the supply of aggregates, which will have a minor positive effect on increasing employment levels.

SA Objective and Sub Questions	SA Score	Justification
5. To ensure that mineral sites do not compromise the safety of commercial or military aerodromes.	-?	Policy MAO2 supports aggregate operations outside of the Specific Sites and the site extension listed in the seven Allocations. This could therefore include operations for sand and gravel extracted in the Cotswolds Water Park which is located within and in close proximity to the safeguarding zone for RAF Fairford. Therefore, the policy could have minor negative effects on the safety of commercial or military aerodromes due to the potential for birds to provide a hazard to aircraft, especially as proposals to meet Gloucestershire's needs may be restored to a form of open water use as they may be located close to the Cotswold Water Park. The effects would also be uncertain as it is dependent on the type of restoration proposed and eventually developed on a site outside of the seven Allocations, which will not be known until the planning application stage.
6. To conserve minerals resources from inappropriate development whilst providing for the supply of aggregates and other minerals sufficient for the needs of society.	0	This policy is unlikely to affect this SA Objective, as aggregate sites permitted under this policy will not be classed as inappropriate development, as they are contributing to the extraction of mineral resources, not limiting the ability to extract resources.
7. To protect, conserve and enhance biodiversity in Gloucestershire.	+/-?	Policy MAO2 could potentially lead to negative effects for biodiversity, as proposals could have potential impacts on designated sites, protected species or habitats. Sites may however have the potential to achieve net gains for biodiversity as the policy requires proposals to facilitate existing approved plans for mineral site restoration. Therefore, this policy is likely to have mixed, minor positive and minor negative effects on this SA objective. Although, the effects would be uncertain as the potential for effects will depend on the exact nature and design of the sites, which will not be known until the planning application stage.
8. To protect, conserve and enhance the landscape in Gloucestershire.	+/-?	This policy could potentially lead to negative effects for landscape and landscape character, especially as sites (e.g. crushed rock) may be proposed within designated landscapes (e.g. the Cotswolds or Wye Valley AONBs). However, the policy could also lead to positive effects, as it may lead to the sympathetic restoration of sites which could have positive effects on landscape character, as the policy requires proposals to facilitate existing approved plans for mineral site restoration. Therefore, this policy is likely to have mixed, minor positive and minor negative effects on this SA objective. Although, the effects would be uncertain as the potential for effects will depend on the exact nature and design of sites, which will not be known until the planning application stage.
9. To restore mineral sites to a high standard in order to achieve the maximum after use benefits including the conservation and enhancement of	+?	In most cases proposals for the extraction of minerals, including aggregates, will have the potential to be restored to a high standard, achieving maximum after use benefits and enhancing the landscape. The policy also requires proposals to facilitate existing approved plans for mineral site restoration. Therefore, the policy is likely to have minor

SA Objective and Sub Questions	SA Score	Justification
biodiversity, and delivery of green infrastructure where possible.		positive effects on this SA objective. Although, the effects would be uncertain as the potential for effects will depend on the exact nature and design of the sites, which will not be known until the planning application stage.
10. To protect conserve and enhance Gloucestershire's material, cultural and recreational assets.	+/-?	This policy could have a minor negative effect on this SA Objective, as aggregate workings could impact on nearby material, cultural or recreational assets. However, the policy requires mineral development proposals to facilitate enhancements for mineral restoration that will achieve beneficial after-uses such as enhancing the access to and the enjoyment of recreational facilities (e.g. Public Rights of Way). These however would be uncertain as they would not be known until the planning application stage, and where there is the potential for effects upon recreation they will be temporary.
11. To protect conserve and enhance geodiversity in Gloucestershire.	+/-?	Policy MAO2 may lead to minor negative effects as the continued extraction and/or processing of primary aggregate may uncover and harm geological interests. However, potential sites can also contribute to geodiversity by preserving and conserving geological features or making them visible and available for learning opportunities. The policy will only permit proposals where among other things it can be demonstrated that the allocations are not able to contribute towards maintaining minimum landbank levels, therefore proposals on unallocated sites are less certain to be developed. However, the effects would be uncertain as the potential for effects will depend on the exact nature and design, which will not be known until the planning application stage. Therefore, the policy is likely to have uncertain, mixed minor positive and minor negative effects on this SA objective.
12. To protect conserve and enhance the historic environment, heritage assets and their setting.	+/-?	This policy is likely to have minor negative effects on this SA objective, as some aggregate sites (particularly crushed rock) will be intensive and could therefore negatively affect the historic environment (e.g. archaeology), heritage assets and their setting as a result of blasting. However, some sites may not be as an intensive and be able to preserve findings and therefore benefit our understanding of the local archaeology or contribute towards the local vernacular. Also, the effects would be uncertain as the potential for effects will depend on the exact nature and design, and location of sites, which will not be known until the planning application stage. Therefore, the policy is likely to have uncertain, mixed minor positive/minor negative effects on this SA objective.
13. To prevent flooding, in particular preventing inappropriate development in the floodplain.	-?	This policy is expected to have an uncertain, minor negative effect on flood risk areas, as the Atkins hydrogeological reports identified potentially significant effects on flood risk for all of the ten Allocations, due mainly to backfilling during restoration using low



SA Objective and Sub Questions	SA Score	Justification
		permeability material. Therefore, other extraction proposals on sites outside of the allocations could have similar effects on flooding. However, the effects would be uncertain as the potential for effects will depend on the exact nature and design of the proposals that come forward, which will not be known until the planning application stage. In addition, the Atkins hydrogeological reports note that mitigation measures implemented during operations can reduce the significance of any negative residual impacts.
14. To protect and enhance soil / land quality in Gloucestershire.	-?	Sites which come forward and are supported by this policy are likely to range from small to medium scale (i.e. less than 20ha) to large (i.e. over 20ha). However, the exact land take and location according to agricultural land quality (i.e. Grades 1 – 5), and whether improvements to soil quality through site restoration are possible; will not be known until the planning application stage. Therefore, effects on this SA Objective are likely to be minor negative uncertain.
15. To protect and enhance air quality in Gloucestershire, helping to meet local, national and international objectives for air quality.	-?	The policy may have a minor negative impact on this SA objective, as the policy supports aggregate operations outside of the seven Allocations. Therefore, proposals will involve activities (e.g. lorry traffic) that may negatively affect air quality, for example, due to the proximity of sensitive receptors and the distance mineral related traffic has to travel before reaching the proposed highway network. The policy will only permit proposals where among other things it can be demonstrated that the allocations are not able to contribute towards maintaining minimum landbank levels, therefore proposals on unallocated sites are less certain to be developed. Also, the effects would be uncertain as the potential for effects will depend on the exact nature and design of the sites, which will not be known until the planning application stage. Therefore, the policy could have minor negative, uncertain effects on this SA objective.
16. To protect and enhance water quality and quantity in Gloucestershire, and to ensure that minerals development does not compromise sustainable sources of water supply.	-?	This policy is expected to have an uncertain, minor negative effect on water quality and quantity, as the Atkins hydrogeological reports identified potentially low, moderate and significant effects on water quality and quantity for all of the seven Allocations (due mainly to dewatering and diversion of groundwater, and increases in suspended solids or discharges of polluted water). These same effects could occur on extraction sites that come forward outside of the allocations as well. However, the effects would be uncertain as the potential for effects will depend on the exact nature and design of the proposals that come forward, which will not be known until the planning application stage. In addition, the Atkins hydrogeological reports note that mitigation measures implemented during operations can reduce the significance of any negative residual impacts.
17. To reduce the adverse impacts of lorry traffic on the environment and	-?	This policy is likely to have minor negative effects on this SA objective, as the policy supports aggregate operations outside of the seven Allocations, which will involve lorry

SA Objective and Sub Questions	SA Score	Justification
communities through means such as: a) reducing the need to travel b) promoting more sustainable means of transport e.g. by rail or water c) sensitive lorry routing d) the use of sustainable alternative fuels		traffic movements, which at some sites may comprise multiple movements per day. The policy will only permit proposals where among other things it can be demonstrated that the allocations are not able to contribute towards maintaining minimum landbank levels, therefore proposals on unallocated sites are less certain to be developed. Also, the, traffic levels, lorry routing and access arrangements will not be known until the planning application stage therefore these effects are uncertain.
18. To reduce contributions to and to adapt to Climate Change.	?	At this stage in the planning process it is not possible to determine the impacts of this policy on their ability to help reduce contributions to and to adapt to climate change as it will depend on the proposals they are used to determine and how successfully they are implemented, which would not be known until the planning application stage.

### Policy DM01: Amenity

SA Objective and Sub Questions	SA Score	Justification
1. To promote sustainable development and sustainable communities and improve the health and wellbeing of people living and working in Gloucestershire as well as visitors to the County.	+	The policy states that minerals development will only be permitted where it can be demonstrated that adverse impacts on local communities in terms of noise, vibration, air pollution and visual intrusion can be avoided or mitigated. These forms of pollution can otherwise have adverse effects on the health and wellbeing of residents and communities, and so the policy is likely to have a minor positive effect on this SA objective.
2. To safeguard the amenity of local communities from the adverse impacts of mineral development.	++	The policy will have a direct significant positive effect on this SA objective as its purpose is to ensure that mineral developments avoid or mitigate adverse impacts on the amenity of local communities in Gloucestershire and neighbouring areas by means of noise, vibration, air pollution and visual intrusion.
3. To promote sustainable economic development in Gloucestershire giving opportunities to people from all social and ethnic backgrounds.	0	The policy will not have a direct effect on this SA objective.
4. To provide employment opportunities in both rural and urban areas of the County, promoting diversification in the economy.	0	The policy will not have a direct effect on this SA objective.
5. To ensure that mineral sites do not compromise the safety of commercial or military aerodromes.	0	The policy will not have a direct effect on this SA objective.
6. To conserve minerals resources from inappropriate development whilst providing for the supply of aggregates and other minerals sufficient for the needs of society.	0	The policy will not have a direct effect on this SA objective.
7. To protect, conserve and enhance biodiversity in Gloucestershire.	0	The policy will not have a direct effect on this SA objective.
8. To protect, conserve and enhance the landscape in Gloucestershire.	0	The policy will not have a direct effect on this SA objective.
9. To restore mineral sites to a high standard in order to achieve the maximum after use benefits including the conservation and enhancement of biodiversity, and delivery of green infrastructure where possible.	0	The policy will not have a direct effect on this SA objective.
10. To protect conserve and enhance Gloucestershire's material, cultural and recreational assets.	0	The policy will not have a direct effect on this SA objective.

SA Objective and Sub Questions	SA Score	Justification
11. To protect conserve and enhance geodiversity in Gloucestershire.	0	The policy will not have a direct effect on this SA objective.
12. To protect conserve and enhance the historic environment, heritage assets and their setting.	0	The policy will not have a direct effect on this SA objective.
13. To prevent flooding, in particular preventing inappropriate development in the floodplain.	0	The policy will not have a direct effect on this SA objective.
14. To protect and enhance soil / land quality in Gloucestershire.	0	The policy will not have a direct effect on this SA objective.
15. To protect and enhance air quality in Gloucestershire, helping to meet local, national and international objectives for air quality.	0	The policy will not have a direct effect on this SA objective.
16. To protect and enhance water quality and quantity in Gloucestershire, and to ensure that minerals development does not compromise sustainable sources of water supply.	0	The policy will not have a direct effect on this SA objective.
17. To reduce the adverse impacts of lorry traffic on the environment and communities through means such as: a) reducing the need to travel b) promoting more sustainable means of transport e.g. by rail or water c) sensitive lorry routing d) the use of sustainable alternative fuels	0	The policy will not have a direct effect on this SA objective.
18. To reduce contributions to and to adapt to Climate Change.	0	The policy will not have a direct effect on this SA objective.

## Policy DM02: Cumulative Impact

SA Objective and Sub Questions	SA Score	Justification
1. To promote sustainable development and sustainable communities and improve the health and wellbeing of people living and working in Gloucestershire as well as visitors to the County.	+?	This policy states that minerals development will be permitted where it can be demonstrated that unacceptable cumulative impacts will not be generated or the benefits of development will clearly outweigh unacceptable cumulative adverse impacts. Although this is assumed to include impacts on health, the policy does not specifically mention this, and as such an uncertain positive effect is expected on SA objective 1.
2. To safeguard the amenity of local communities from the adverse impacts of mineral development.	+?	This policy states that minerals development will be permitted where it can be demonstrated that unacceptable cumulative impacts will not be generated or the benefits of development will clearly outweigh unacceptable cumulative adverse impacts. Although this is assumed to include impacts on local amenity, the policy does not make specific mention of this, so an uncertain minor positive effect is likely on SA objective 2.
3. To promote sustainable economic development in Gloucestershire giving opportunities to people from all social and ethnic backgrounds.	+?	This policy states that minerals development will be permitted where it can be demonstrated that unacceptable cumulative impacts will not be generated or the benefits of development will clearly outweigh unacceptable cumulative adverse impacts. Whilst this is likely to include effects on the economy of Gloucestershire, the policy does not specifically mention this, and as such, an uncertain minor positive effect is expected on SA objective 3.
4. To provide employment opportunities in both rural and urban areas of the County, promoting diversification in the economy.	+?	This policy states that minerals development will be permitted where it can be demonstrated that unacceptable cumulative impacts will not be generated or the benefits of development will clearly outweigh unacceptable cumulative adverse impacts. This could include consideration of employment opportunities, but as this is not specifically mentioned in the policy, any positive effect on this SA objective is currently uncertain.
5. To ensure that mineral sites do not compromise the safety of commercial or military aerodromes.	0	Consideration of cumulative effects of minerals development is unlikely to affect the safety of aerodromes, and no effect is expected on this SA objective.
6. To conserve minerals resources from inappropriate development whilst providing for the supply of aggregates and other minerals sufficient for the needs of society.	0	Consideration of cumulative effects of minerals development is unlikely to affect the safeguarding of mineral resources from sterilisation from inappropriate development. No effect is therefore expected on SA objective 6.
7. To protect, conserve and enhance biodiversity in Gloucestershire.	+?	This policy states that minerals development will be permitted where it can be demonstrated that unacceptable cumulative impacts will not be generated or the benefits of development will clearly outweigh unacceptable cumulative adverse impacts. This could cover impacts on biodiversity, although the policy does not specifically mention this. An uncertain minor positive effect is therefore likely on SA objective 7.

SA Objective and Sub Questions	SA Score	Justification
8. To protect, conserve and enhance the landscape in Gloucestershire.	+?	This policy states that minerals development will be permitted where it can be demonstrated that unacceptable cumulative impacts will not be generated or the benefits of development will clearly outweigh unacceptable cumulative adverse impacts. This could cover impacts on landscape, although the policy does not specifically mention this. An uncertain minor positive effect is therefore likely on SA objective 8.
9. To restore mineral sites to a high standard in order to achieve the maximum after use benefits including the conservation and enhancement of biodiversity, and delivery of green infrastructure where possible.	0	Consideration of cumulative effects of minerals development is unlikely to affect the restoration of minerals sites, and no effect is expected on this SA objective.
10. To protect conserve and enhance Gloucestershire's material, cultural and recreational assets.	+?	This policy states that minerals development will be permitted where it can be demonstrated that unacceptable cumulative impacts will not be generated or the benefits of development will clearly outweigh unacceptable cumulative adverse impacts. This could cover impacts on cultural and recreational assets in Gloucestershire, although the policy does not specifically mention this. An uncertain minor positive effect is therefore likely.
11. To protect conserve and enhance geodiversity in Gloucestershire.	+?	This policy states that minerals development will be permitted where it can be demonstrated that unacceptable cumulative impacts will not be generated or the benefits of development will clearly outweigh unacceptable cumulative adverse impacts. This could cover impacts on geodiversity and environmental quality in Gloucestershire, although the policy does not specifically mention this. An uncertain minor positive effect is therefore likely for this objective.
12. To protect conserve and enhance the historic environment, heritage assets and their setting.	+?	This policy states that minerals development will be permitted where it can be demonstrated that unacceptable cumulative impacts will not be generated or the benefits of development will clearly outweigh unacceptable cumulative adverse impacts. This could include consideration of the historic environment, but as this is not specifically mentioned in the policy, any positive effect on this SA objective is currently uncertain.
13. To prevent flooding, in particular preventing inappropriate development in the floodplain.	+?	This policy states that minerals development will be permitted where it can be demonstrated that unacceptable cumulative impacts will not be generated or the benefits of development will clearly outweigh unacceptable cumulative adverse impacts. This could include consideration of flooding issues, but as this is not specifically mentioned in the policy, any positive effect on this SA objective is currently uncertain.
14. To protect and enhance soil / land quality in Gloucestershire.	+?	This policy states that minerals development will be permitted where it can be demonstrated that unacceptable cumulative impacts will not be generated or the benefits of development will clearly outweigh unacceptable cumulative adverse impacts. This could include consideration of soil quality, but as this is not specifically mentioned in the policy, any positive effect on this SA objective is currently uncertain.

SA Objective and Sub Questions	SA Score	Justification
15. To protect and enhance air quality in Gloucestershire, helping to meet local, national and international objectives for air quality.	+?	This policy states that minerals development will be permitted where it can be demonstrated that unacceptable cumulative impacts will not be generated or the benefits of development will clearly outweigh unacceptable cumulative adverse impacts. This could cover impacts such as traffic and transport and air quality in Gloucestershire, although the policy does not specifically mention this. An uncertain minor positive effect is therefore likely on SA objective 15.
16. To protect and enhance water quality and quantity in Gloucestershire, and to ensure that minerals development does not compromise sustainable sources of water supply.	+?	This policy states that minerals development will be permitted where it can be demonstrated that unacceptable cumulative impacts will not be generated or the benefits of development will clearly outweigh unacceptable cumulative adverse impacts. This could cover impacts on water quality, although the policy does not specifically mention this. An uncertain minor positive effect is therefore likely for this objective.
17. To reduce the adverse impacts of lorry traffic on the environment and communities through means such as: a) reducing the need to travel b) promoting more sustainable means of transport e.g. by rail or water c) sensitive lorry routing d) the use of sustainable alternative fuels	+?	This policy states that minerals development will be permitted where it can be demonstrated that unacceptable cumulative impacts will not be generated. This could cover impacts on traffic and transport, although the policy does not specifically mention this. An uncertain minor positive effect is therefore likely for this objective.
18. To reduce contributions to and to adapt to Climate Change.	+?	This policy states that minerals development will be permitted where it can be demonstrated that unacceptable cumulative impacts will not be generated or the benefits of development will clearly outweigh unacceptable cumulative adverse impacts. This could cover impacts on air quality and traffic and transport, although the policy does not specifically mention this. An uncertain minor positive effect is therefore likely for this objective.

### Policy DM03: Transport

SA Objective and Sub Questions	SA Score	Justification
1. To promote sustainable development and sustainable communities and improve the health and wellbeing of people living and working in Gloucestershire as well as visitors to the County.	+?	Transport is a major issue when considering proposals for mineral development as the generation of significant amounts of road traffic can and does have negative impacts on local communities. The policy may have minor positive effects on this SA objective as it encourages alternative modes of non-road transport to serve mineral developments which could have benefits in terms of reducing emissions from road traffic which could improve local air quality. The policy states that development will be permitted where unacceptable impacts on public safety will be avoided which would also have benefits for health and safety. Public Rights of Way, open access land and National Trails are also protected from being adversely affected by minerals development in this policy, and this would help to maintain opportunities for walking, cycling and informal leisure. However, any effects would be uncertain as the potential for effects will depend on the exact nature, location and design of proposals, which will not be known until the planning application stage.
2. To safeguard the amenity of local communities from the adverse impacts of mineral development.	+?	Transport is a major issue when considering proposals for mineral development as the generation of significant amounts of road traffic can and does have negative impacts on local communities. The policy may have minor positive effects on this SA objective as it encourages new mineral developments to be served by non-road modes of transport which should help to reduce road traffic which in turn would reduce noise and other forms of pollution. The policy also requires that Public Rights of Way and open access land should be retained and unacceptable impacts on such avoided which would help to ensure the continued enjoyment and safety of such routes. However, any effects would be uncertain as the potential for effects will depend on the exact nature, location and design of proposals, which will not be known until the planning application stage.
3. To promote sustainable economic development in Gloucestershire giving opportunities to people from all social and ethnic backgrounds.	0	This policy is unlikely to have a direct effect on this SA objective.
4. To provide employment opportunities in both rural and urban areas of the County, promoting diversification in the economy.	0	This policy is unlikely to have a direct effect on this SA objective.
5. To ensure that mineral sites do not compromise the safety of commercial or military aerodromes.	0	This policy is unlikely to have a direct effect on this SA objective.



SA Objective and Sub Questions	SA Score	Justification
6. To conserve minerals resources from inappropriate development whilst providing for the supply of aggregates and other minerals sufficient for the needs of society.	0	This policy is unlikely to have a direct effect on this SA objective.
7. To protect, conserve and enhance biodiversity in Gloucestershire.	+?	Transport is a major issue when considering proposals for mineral development as the generation of significant amounts of road traffic can and does have negative impacts on the environment. The policy may have minor positive effects on this SA objective as it encourages new minerals developments to be served by more sustainable, alternative modes of non-road transport, which could have positive effects on biodiversity through reducing disturbance associated with traffic (e.g. noise). However, any effects would be uncertain as the potential for effects will depend on the exact nature, location and design of proposals, which will not be known until the planning application stage.
8. To protect, conserve and enhance the landscape in Gloucestershire.	+?	Transport is a major issue when considering proposals for mineral development as the generation of significant amounts of road traffic can and does have negative impacts on the environment. The policy may have minor positive effects on this SA objective as it encourages new mineral developments to be served by alternative modes of non-road transport, which could have benefits on the setting of landscapes if noise, vibration and traffic congestion is reduced. However, any effects would be uncertain as the potential for effects will depend on the exact nature, location and design of proposals, which will not be known until the planning application stage.
9. To restore mineral sites to a high standard in order to achieve the maximum after use benefits including the conservation and enhancement of biodiversity, and delivery of green infrastructure where possible.	0	This policy is unlikely to have a direct effect on this SA objective.
10. To protect conserve and enhance Gloucestershire's material, cultural and recreational assets.	+	The transport policy requires minerals development proposals to demonstrate that Public Rights of Way (PRoWs) and open access land will be retained, and/or that temporary or permanent diversion of PRoW routes are justified and/or that the formal closure of PRoW routes represents a very exceptional circumstance, and that unacceptable adverse impacts will be avoided or satisfactorily mitigated (e.g. on the safety, integrity and enjoyment of affected routes). Therefore, it is likely to have a positive effect on conserving and enhancing some of Gloucestershire's recreational assets (i.e. the PRoW network).

SA Objective and Sub Questions	SA Score	Justification
11. To protect conserve and enhance geodiversity in Gloucestershire.	0	This policy is unlikely to have a direct effect on this SA objective.
12. To protect conserve and enhance the historic environment, heritage assets and their setting.	+?	Vibration and emissions from increased road traffic associated with mineral developments can have adverse impacts on the setting, fabric and structure of the historic environment and heritage assets. As the policy seeks to minimise road traffic derived from mineral works activity, a minor positive effect is likely on this SA objective. Any effects however, would be uncertain as the potential for effects will depend on the exact nature and design of proposals, which will not be known until the planning application stage.
13. To prevent flooding, in particular preventing inappropriate development in the floodplain.	0	This policy is unlikely to have a direct effect on this SA objective.
14. To protect and enhance soil / land quality in Gloucestershire.	0	This policy is unlikely to have a direct effect on this SA objective.
15. To protect and enhance air quality in Gloucestershire, helping to meet local, national and international objectives for air quality.	++?	Transport is a major issue when considering proposals for mineral development as the generation of significant amounts of road traffic can and does have negative impacts on the environment. The policy may have significant positive effects on reducing air pollution arising from minerals related traffic, as it encourages new mineral developments to be served by more sustainable, alternative modes of non-road transport and requires that new developments should not have adverse effects on the capacity of the highway network which should help to reduce traffic and congestion. However, any effects would be uncertain as the potential for effects will depend on the exact nature and design of proposals, which will not be known until the planning application stage.
16. To protect and enhance water quality and quantity in Gloucestershire, and to ensure that minerals development does not compromise sustainable sources of water supply.	0	This policy is unlikely to have a direct effect on this SA objective.
17. To reduce the adverse impacts of lorry traffic on the environment and communities through means such as: a) reducing the need to travel b) promoting more sustainable means of transport e.g. by rail or water	++?	Transport is a major issue when considering proposals for mineral development as the generation of significant amounts of road traffic can and does have negative impacts on the environment. The policy may have significant positive effects on this SA objective as it encourages mineral developments to be served by more sustainable, alternative modes of non-road transport which would have direct benefits for reducing the impacts of large vehicles on the environment. However, any effects would be uncertain as the

SA Objective and Sub Questions	SA Score	Justification
c) sensitive lorry routing d) the use of sustainable alternative fuels		potential for effects will depend on the exact nature and design of proposals, which will not be known until the planning application stage.
18. To reduce contributions to and to adapt to Climate Change.	+?	Transport is a major issue when considering proposals for mineral development as the generation of significant amounts of road traffic can and does have negative impacts on the environment. The policy may have minor positive effects on this SA objective as it encourages more sustainable, alternative modes of non-road transport, which would help to reduce local CO2 emissions from road traffic and reduce local contributions to Climate Change. However, any effects would be uncertain as the potential for effects will depend on the exact nature and design of proposals, which will not be known until the planning application stage.

### Policy DM04: Flood Risk

SA Objective and Sub Questions	SA Score	Justification
1. To promote sustainable development and sustainable communities and improve the health and wellbeing of people living and working in Gloucestershire as well as visitors to the County.	+	Flooding can endanger lives, damage settlements and can also adversely affect the health of people. This is evident in Gloucestershire as the major rivers in Gloucestershire frequently flood. The policy requires mineral development proposals to deliver flood risk betterment initiatives where appropriate and mineral developments will be permitted in Flood Zone 3b if the development delivers wider sustainability benefits to the community,. Therefore, the policy may have a minor positive effect on this SA objective, as it supports the reduction in the likelihood and impact that minerals development could have on flooding by ensuring minerals developments are located within appropriate Flood Zones, and a Flood Risk Assessment is included in mineral development proposals.
2. To safeguard the amenity of local communities from the adverse impacts of mineral development.	+	Flooding can endanger lives, damage settlements and the amenity of communities. This is evident in Gloucestershire as the major rivers in Gloucestershire frequently flood. The policy requires mineral development proposals to deliver flood risk betterment initiatives where appropriate. Therefore, the policy may have a minor positive effect on this SA objective, as it supports the reduction in the likelihood and impact that minerals development could have on flooding whilst ensuring minerals developments are located within appropriate Flood Zones and a Flood Risk Assessment is included in minerals development proposals.
3. To promote sustainable economic development in Gloucestershire giving opportunities to people from all social and ethnic backgrounds.	0	The policy will not have a direct effect on this SA objective.
4. To provide employment opportunities in both rural and urban areas of the County, promoting diversification in the economy.	0	The policy will not have a direct effect on this SA objective.
5. To ensure that mineral sites do not compromise the safety of commercial or military aerodromes.	0	The policy will not have a direct effect on this SA objective.
6. To conserve minerals resources from inappropriate development whilst providing for the supply of aggregates and other minerals sufficient for the needs of society.	0	The policy will not have a direct effect on this SA objective.

SA Objective and Sub Questions	SA Score	Justification
7. To protect, conserve and enhance biodiversity in Gloucestershire.	+	Flooding can adversely affect habitats, which is evident in Gloucestershire as a result of the major rivers in Gloucestershire frequently flooding. The policy requires mineral development proposals to deliver flood risk betterment initiatives where appropriate. Therefore, the policy may have a minor positive effect on this SA objective, as it supports the reduction in the likelihood and impact that minerals development could have on flooding whilst ensuring minerals developments are located within appropriate Flood Zones and a Flood Risk Assessment is included in minerals development proposals.
8. To protect, conserve and enhance the landscape in Gloucestershire.	+	Flooding can damage buildings and settlements and also adversely affect the characteristics of landscapes. This is evident in Gloucestershire as the major rivers in Gloucestershire frequently flood. Therefore, the policy may have minor positive effects on this SA objective, as it supports the reduction in the likelihood and impact that minerals development could have on flooding whilst ensuring minerals developments are located within appropriate Flood Zones and a Flood Risk Assessment is included in minerals development proposals.
9. To restore mineral sites to a high standard in order to achieve the maximum after use benefits including the conservation and enhancement of biodiversity, and delivery of green infrastructure where possible.	+?	The policy could have minor positive effects on this SA objective as 'water compatible' development, i.e. sand and gravel workings, can possibly assist in adding to flood capacity where the restoration is water based and does not lead to a net loss in flood plain storage. Water based restoration may provide a range of benefits both to the conservation and enhancement of biodiversity, and/or for recreational purposes. However, effects would be uncertain as it is dependent on the type of restoration proposed and eventually developed on a site, which will not be known until proposals come forward.
10. To protect conserve and enhance Gloucestershire's material, cultural and recreational assets.	0	The policy will not have a direct effect on this SA objective.
11. To protect conserve and enhance geodiversity in Gloucestershire.	0	The policy will not have a direct effect on this SA objective.
12. To protect conserve and enhance the historic environment, heritage assets and their setting.	+	Flooding can damage buildings, historic structures and archaeology, and adversely affect the characteristics of landscapes. This is evident in Gloucestershire as the major rivers in Gloucestershire frequently flood. The policy seeks to ensure that minerals development is located in appropriate flood zones, and does not result in an increase in the risk of flooding elsewhere. Therefore, the policy may have a minor positive effect on this SA objective.

SA Objective and Sub Questions	SA Score	Justification
13. To prevent flooding, in particular preventing inappropriate development in the floodplain.	++	The policy is likely to have a direct significant positive effect on this SA objective as it supports the reduction in the likelihood and impact that minerals development has on flooding by ensuring developments are located within appropriate Flood Zones. In addition, the policy requires a Flood Risk Assessment to accompany mineral development proposals and this is to include current and future sources of flood, which is to consider climate change. Furthermore, the lifetime of the minerals proposal is also to be considered, including restoration and aftercare.
14. To protect and enhance soil / land quality in Gloucestershire.	0	The policy will not have a direct effect on this SA objective.
15. To protect and enhance air quality in Gloucestershire, helping to meet local, national and international objectives for air quality.	0	The policy will not have a direct effect on this SA objective.
16. To protect and enhance water quality and quantity in Gloucestershire, and to ensure that minerals development does not compromise sustainable sources of water supply.	0	The policy will not have a direct effect on this SA objective.
17. To reduce the adverse impacts of lorry traffic on the environment and communities through means such as: a) reducing the need to travel b) promoting more sustainable means of transport e.g. by rail or water c) sensitive lorry routing d) the use of sustainable alternative fuels	0	The policy will not have a direct effect on this SA objective.
18. To reduce contributions to and to adapt to Climate Change.	+	As the climate changes flooding is an increasing threat in Gloucestershire and the issues are increasingly complex. Therefore, reducing the likelihood and impact that minerals development could have on flooding is likely to have a minor positive impact on this SA objective.

### Policy DM05: Water resources

SA Objective and Sub Questions	SA Score	Justification
1. To promote sustainable development and sustainable communities and improve the health and wellbeing of people living and working in Gloucestershire as well as visitors to the County.	+	The policy is likely have a minor positive effect on this SA objective, as it seeks to protect the water environment by ensuring that minerals development proposals demonstrate that there will be no deterioration in water quality or prejudice water quantity within water bodies. This will help ensure the protection of major aquifers, Groundwater Source Protection Zones and Drinking Water Safeguarding Zones that minerals sites may be within or in close proximity to, thereby protecting public drinking water supplies, which will prevent any effects on the health and wellbeing of local communities and visitors to Gloucestershire.
2. To safeguard the amenity of local communities from the adverse impacts of mineral development.	0	The policy will not have a direct effect on this SA objective.
3. To promote sustainable economic development in Gloucestershire giving opportunities to people from all social and ethnic backgrounds.	0	The policy will not have a direct effect on this SA objective.
4. To provide employment opportunities in both rural and urban areas of the County, promoting diversification in the economy.	0	The policy will not have a direct effect on this SA objective.
5. To ensure that mineral sites do not compromise the safety of commercial or military aerodromes.	0	The policy will not have a direct effect on this SA objective.
6. To conserve minerals resources from inappropriate development whilst providing for the supply of aggregates and other minerals sufficient for the needs of society.	0	The policy will not have a direct effect on this SA objective.
7. To protect, conserve and enhance biodiversity in Gloucestershire.	+	The policy will have a minor positive effect on this SA objective as it requires mineral development proposals to adhere to the actions and objectives of the Severn and / or Thames River Basin Management Plan (RBMP) and maintain water quality and quantity, which will help protect aquatic ecosystems and the ecological condition of waters.
8. To protect, conserve and enhance the landscape in Gloucestershire.	0	The policy will not have a direct effect on this SA objective.
9. To restore mineral sites to a high standard in order to achieve the	0	The policy will not have a direct effect on this SA objective.

SA Objective and Sub Questions	SA Score	Justification
maximum after use benefits including the conservation and enhancement of biodiversity, and delivery of green infrastructure where possible.		
10. To protect conserve and enhance Gloucestershire's material, cultural and recreational assets.	0	The policy will not have a direct effect on this SA objective.
11. To protect conserve and enhance geodiversity in Gloucestershire.	0	The policy will not have a direct effect on this SA objective.
12. To protect conserve and enhance the historic environment, heritage assets and their setting.	0	The policy will not have a direct effect on this SA objective.
13. To prevent flooding, in particular preventing inappropriate development in the floodplain.	0	The policy will not have a direct effect on this SA objective.
14. To protect and enhance soil / land quality in Gloucestershire.	0	The policy will not have a direct effect on this SA objective.
15. To protect and enhance air quality in Gloucestershire, helping to meet local, national and international objectives for air quality.	0	The policy will not have a direct effect on this SA objective.
16. To protect and enhance water quality and quantity in Gloucestershire, and to ensure that minerals development does not compromise sustainable sources of water supply.	++	The policy is likely to have a direct significant positive effect on this SA objective as it seeks to protect the water environment by ensuring that minerals development avoid or mitigate adverse impacts on the quality and quantity of water resources. The policy requires mineral development proposals to adhere to the actions and objectives of the Severn and / or Thames River Basin Management Plan (RBMP), which will help prevent the deterioration in the status of aquatic ecosystems. Furthermore, the policy promotes the efficient use of water and minerals development proposals demonstrate that there will be no deterioration in water quality or prejudice water quantity within water bodies.
17. To reduce the adverse impacts of lorry traffic on the environment and communities through means such as: a) reducing the need to travel b) promoting more sustainable means of transport e.g. by rail or water c) sensitive lorry routing	0	The policy will not have a direct effect on this SA objective.



SA Objective and Sub Questions	SA Score	Justification
d) the use of sustainable alternative fuels		
18. To reduce contributions to and to adapt to Climate Change.	0	The policy will not have a direct effect on this SA objective.

### Policy DM06: Biodiversity and geodiversity

SA Objective and Sub Questions	SA Score	Justification
1. To promote sustainable development and sustainable communities and improve the health and wellbeing of people living and working in Gloucestershire as well as visitors to the County.	0	The policy will not have a direct effect on this SA objective.
2. To safeguard the amenity of local communities from the adverse impacts of mineral development.	0	The policy will not have a direct effect on this SA objective.
3. To promote sustainable economic development in Gloucestershire giving opportunities to people from all social and ethnic backgrounds.	0	The policy will not have a direct effect on this SA objective.
4. To provide employment opportunities in both rural and urban areas of the County, promoting diversification in the economy.	0	The policy will not have a direct effect on this SA objective.
5. To ensure that mineral sites do not compromise the safety of commercial or military aerodromes.	0	The policy will not have a direct effect on this SA objective.
6. To conserve minerals resources from inappropriate development whilst providing for the supply of aggregates and other minerals sufficient for the needs of society.	0	The policy will not have a direct effect on this SA objective.
7. To protect, conserve and enhance biodiversity in Gloucestershire.	++	The policy is likely to have a direct significant positive effect on this SA objective as it requires that all minerals development should follow the biodiversity net gains principle and seeks to avoid adverse effects on designated nature conservation sites. However, if this cannot be achieved, then compensatory measures including the use of biodiversity and offsets will be considered as a means to provide an overall net gain. Where minerals developments proposals are considered to have significant adverse effects on internationally designated sites, Appropriate Assessment is required. Proposals that would have an adverse effect on the integrity of one or more internationally designated sites (IROPI) can be demonstrated. Similarly, the policy requires mineral development proposals located within a Special Scientific Interest (SSSI), National Nature Reserve (NNR) or where it could have an impact on these to demonstrate that there will be no conflict with the conservation, management and enhancement of a biodiversity or geodiversity designation, adverse effects can be mitigated and there are no wider

SA Objective and Sub Questions	SA Score	Justification
		indirect and/or cumulative impact on the national network of SSSIs. The policy also recognises that adverse effects should be avoided or satisfactorily mitigated if a minerals development is to be located within Local Nature Reserves (LNR), Gloucestershire Key Wildlife Sites (KWS) and Regionally Important Geological Sites (RIGS).
8. To protect, conserve and enhance the landscape in Gloucestershire.	+	Important habitats and biodiversity have a strong relationship with many of the important landscapes in the county such as the Areas of Outstanding Natural Beauty. The conservation and enhancement of biodiversity via the policy, including adopting the biodiversity net gain principle, will therefore have minor positive effects on this SA objective, as it will also protect and contribute towards the important landscapes within Gloucestershire.
9. To restore mineral sites to a high standard in order to achieve the maximum after use benefits including the conservation and enhancement of biodiversity, and delivery of green infrastructure where possible.	0	The policy will not have a direct effect on this SA objective.
10. To protect conserve and enhance Gloucestershire's material, cultural and recreational assets.	0	The policy will not have a direct effect on this SA objective.
11. To protect conserve and enhance geodiversity in Gloucestershire.	++	The policy is likely to have a significant positive effect on this SA objective as it requires all minerals development proposals to avoid adverse impacts on geodiversity, and states that developments should conserve geodiversity.
12. To protect conserve and enhance the historic environment, heritage assets and their setting.	0	The policy will not have a direct effect on this SA objective.
13. To prevent flooding, in particular preventing inappropriate development in the floodplain.	0	The policy will not have a direct effect on this SA objective.
14. To protect and enhance soil / land quality in Gloucestershire.	0	The policy will not have a direct effect on this SA objective.
15. To protect and enhance air quality in Gloucestershire, helping to meet local, national and international objectives for air quality.	0	The policy will not have a direct effect on this SA objective.
16. To protect and enhance water quality and quantity in Gloucestershire,	0	The policy will not have a direct effect on this SA objective.

SA Objective and Sub Questions	SA Score	Justification
and to ensure that minerals development does not compromise sustainable sources of water supply.		
<p>17. To reduce the adverse impacts of lorry traffic on the environment and communities through means such as:</p> <ul style="list-style-type: none"> <li>a) reducing the need to travel</li> <li>b) promoting more sustainable means of transport e.g. by rail or water</li> <li>c) sensitive lorry routing</li> <li>d) the use of sustainable alternative fuels</li> </ul>	0	The policy will not have a direct effect on this SA objective.
18. To reduce contributions to and to adapt to Climate Change.	0	The policy will not have a direct effect on this SA objective

### Policy DM07: Soil resources

SA Objective and Sub Questions	SA Score	Justification
1. To promote sustainable development and sustainable communities and improve the health and wellbeing of people living and working in Gloucestershire as well as visitors to the County.	0	The policy will not have a direct effect on this SA objective.
2. To safeguard the amenity of local communities from the adverse impacts of mineral development.	0	The policy will not have a direct effect on this SA objective.
3. To promote sustainable economic development in Gloucestershire giving opportunities to people from all social and ethnic backgrounds.	0	The policy will not have a direct effect on this SA objective.
4. To provide employment opportunities in both rural and urban areas of the County, promoting diversification in the economy.	+?	The policy seeks to ensure that minerals development does not have unacceptable adverse impacts including disturbance and/ or contamination on soil resources and high grade agricultural land. This would help to maintain employment opportunities in the traditional agricultural sector of Gloucestershire. Any positive effect is currently uncertain as the policy allows for the benefits of minerals development to outweigh adverse impacts on the quality of soil resources.
5. To ensure that mineral sites do not compromise the safety of commercial or military aerodromes.	0	The policy will not have a direct effect on this SA objective.
6. To conserve minerals resources from inappropriate development whilst providing for the supply of aggregates and other minerals sufficient for the needs of society.	0	The policy will not have a direct effect on this SA objective.
7. To protect, conserve and enhance biodiversity in Gloucestershire.	0	The policy will not have a direct effect on this SA objective.
8. To protect, conserve and enhance the landscape in Gloucestershire.	0	The policy will not have a direct effect on this SA objective.
9. To restore mineral sites to a high standard in order to achieve the maximum after use benefits including the conservation and enhancement of biodiversity, and delivery of green infrastructure where possible.	0	The policy will not have a direct effect on this SA objective.
10. To protect conserve and enhance	0	The policy will not have a direct effect on this SA objective.

SA Objective and Sub Questions	SA Score	Justification
Gloucestershire's material, cultural and recreational assets.		
11. To protect conserve and enhance geodiversity in Gloucestershire.	0	The policy will not have a direct effect on this SA objective.
12. To protect conserve and enhance the historic environment, heritage assets and their setting.	0	The policy will not have a direct effect on this SA objective.
13. To prevent flooding, in particular preventing inappropriate development in the floodplain.	0	The policy will not have a direct effect on this SA objective.
14. To protect and enhance soil / land quality in Gloucestershire.	++	As this policy protects the quality of soil resources and agricultural land of higher grade, a significant positive effect is expected on SA objective 14 as the policy directly relates to soil quality in Gloucestershire. The policy also requires that opportunities for soil quality restoration and/or enhancement to be facilitated.
15. To protect and enhance air quality in Gloucestershire, helping to meet local, national and international objectives for air quality.	0	The policy will not have a direct effect on this SA objective.
16. To protect and enhance water quality and quantity in Gloucestershire, and to ensure that minerals development does not compromise sustainable sources of water supply.	0	The policy will not have a direct effect on this SA objective.
17. To reduce the adverse impacts of lorry traffic on the environment and communities through means such as: a) reducing the need to travel b) promoting more sustainable means of transport e.g. by rail or water c) sensitive lorry routing d) the use of sustainable alternative fuels	0	The policy will not have a direct effect on this SA objective.
18. To reduce contributions to and to adapt to Climate Change.	+	Policy DM07 promotes the protection of soil resources from minerals development as the policy requires proposals to demonstrate that disturbance to soil will be minimised and opportunities for soil restoration. This is likely to have a positive effect on this SA objective as preserving and restoring soils can help the function of soil as a carbon sink.

### Policy DM08: Historic environment

SA Objective and Sub Questions	SA Score	Justification
1. To promote sustainable development and sustainable communities and improve the health and wellbeing of people living and working in Gloucestershire as well as visitors to the County.	0	The policy will not have a direct effect on this SA objective.
2. To safeguard the amenity of local communities from the adverse impacts of mineral development.	0	The policy will not have a direct effect on this SA objective.
3. To promote sustainable economic development in Gloucestershire giving opportunities to people from all social and ethnic backgrounds.	0	The policy will not have a direct effect on this SA objective.
4. To provide employment opportunities in both rural and urban areas of the County, promoting diversification in the economy.	0	The policy will not have a direct effect on this SA objective.
5. To ensure that mineral sites do not compromise the safety of commercial or military aerodromes.	0	The policy will not have a direct effect on this SA objective.
6. To conserve minerals resources from inappropriate development whilst providing for the supply of aggregates and other minerals sufficient for the needs of society.	0	The policy will not have a direct effect on this SA objective.
7. To protect, conserve and enhance biodiversity in Gloucestershire.	0	The policy will not have a direct effect on this SA objective.
8. To protect, conserve and enhance the landscape in Gloucestershire.	+	The policy is likely to have a minor positive effect on this SA objective, as the policy aims to protect and conserve the historic environment, including the character and setting of designated and non-designated heritage assets, which includes historic landscapes, Conservation Areas and Listed Buildings, which are located within these landscapes. This is important as minerals development can have a serious impact on the historic environment, although this can vary depending on the nature of the minerals development and associated works, and the nature of the historic environment within which it is located. The policy also recognises the need for the mitigation of the impact of minerals development on the historic environment.
9. To restore mineral sites to a high standard in order to achieve the maximum after use benefits including	0	The policy will not have a direct effect on this SA objective.

SA Objective and Sub Questions	SA Score	Justification
the conservation and enhancement of biodiversity, and delivery of green infrastructure where possible.		
10. To protect conserve and enhance Gloucestershire's material, cultural and recreational assets.	0	The policy will not have a direct effect on this SA objective.
11. To protect conserve and enhance geodiversity in Gloucestershire.	0	The policy will not have a direct effect on this SA objective.
12. To protect conserve and enhance the historic environment, heritage assets and their setting.	++	The policy is likely to have a direct significant positive effect on this SA objective, as the policy aims to protect and conserve the historic environment, including designated heritage assets and their integrity, character and setting, and of those non-designated heritage assets with archaeological interest. This is important as minerals development can have a serious impact on archaeological sites or other elements of the historic environment, although this can vary depending on the nature of the minerals development and associated works, and the nature of the historic environment within which it is sited. The policy also recognises the need for the mitigation of the impact of minerals development on archaeology and the historic environment and identifies the Gloucestershire Historic Environment Record as a resource to inform consideration of future development, including potential conservation and enhancement measures.
13. To prevent flooding, in particular preventing inappropriate development in the floodplain.	0	The policy will not have a direct effect on this SA objective.
14. To protect and enhance soil / land quality in Gloucestershire.	0	The policy will not have a direct effect on this SA objective.
15. To protect and enhance air quality in Gloucestershire, helping to meet local, national and international objectives for air quality.	0	The policy will not have a direct effect on this SA objective.
16. To protect and enhance water quality and quantity in Gloucestershire, and to ensure that minerals development does not compromise sustainable sources of water supply.	0	The policy will not have a direct effect on this SA objective.
17. To reduce the adverse impacts of lorry traffic on the environment and communities through means such as: a) reducing the need to travel b) promoting more sustainable means	0	The policy will not have a direct effect on this SA objective.



SA Objective and Sub Questions	SA Score	Justification
of transport e.g. by rail or water c) sensitive lorry routing d) the use of sustainable alternative fuels		
18. To reduce contributions to and to adapt to Climate Change.	0	The policy will not have a direct effect on this SA objective.

### Policy DM09: Landscape

SA Objective and Sub Questions	SA Score	Justification
1. To promote sustainable development and sustainable communities and improve the health and wellbeing of people living and working in Gloucestershire as well as visitors to the County.	0	The policy will not have a direct effect on this SA objective.
2. To safeguard the amenity of local communities from the adverse impacts of mineral development.	+	Preventing adverse effects of minerals development on the local landscape and ensuring Areas of Outstanding Natural Beauty are safeguarded from adverse effects, and appropriately considered and enhanced via restoration in the longer term is likely to ensure that the visual amenity of residents and visitors to Gloucestershire is protected to some extent. A minor positive effect is therefore likely for this SA objective.
3. To promote sustainable economic development in Gloucestershire giving opportunities to people from all social and ethnic backgrounds.	+?	The policy might have an indirect minor positive effect on economic development as it requires minerals development proposals within the Cotswolds, Wye Valley and Malvern Hills AONBs to demonstrate that the local economy will not be subject to unacceptable adverse impacts.
4. To provide employment opportunities in both rural and urban areas of the County, promoting diversification in the economy.	0	The policy will not have a direct effect on this SA objective.
5. To ensure that mineral sites do not compromise the safety of commercial or military aerodromes.	0	The policy will not have a direct effect on this SA objective.
6. To conserve minerals resources from inappropriate development whilst providing for the supply of aggregates and other minerals sufficient for the needs of society.	0	The policy will not have a direct effect on this SA objective.
7. To protect, conserve and enhance biodiversity in Gloucestershire.	0	The policy will not have a direct effect on this SA objective.
8. To protect, conserve and enhance the landscape in Gloucestershire.	++	The policy is likely to have a significant positive effect on this SA objective, as it aims to ensure that AONBs are protected and enhanced by minerals development, including their special qualities, both within their boundaries and by developments that affect their settings. The policy also specifies that undesignated valued landscapes or other designations, development should not have any adverse effects on their defining character, features and qualities unless it can be satisfactorily mitigated.

SA Objective and Sub Questions	SA Score	Justification
9. To restore mineral sites to a high standard in order to achieve the maximum after use benefits including the conservation and enhancement of biodiversity, and delivery of green infrastructure where possible.	+?	The policy could have minor positive effects on this SA objective as minerals development within or affecting the setting of the AONBs will only be permitted where it can be demonstrated that mineral development proposals are sympathetic to the character, features and qualities of the landscape. These requirements are likely to conserve and enhance biodiversity and support the green infrastructure network, although these benefits are yet unknown.
10. To protect conserve and enhance Gloucestershire's material, cultural and recreational assets.	0	The policy will not have a direct effect on this SA objective.
11. To protect conserve and enhance geodiversity in Gloucestershire.	0	The policy will not have a direct effect on this SA objective.
12. To protect conserve and enhance the historic environment, heritage assets and their setting.	+?	Preventing adverse effects on the undesignated, valued landscapes and ensuring Areas of Outstanding Natural Beauty and other landscape designations are protected from adverse effects, could have a minor positive effect on the historic environment through the protection and enhancement of heritage assets and their setting. The effect is uncertain however depending on the location of such assets.
13. To prevent flooding, in particular preventing inappropriate development in the floodplain.	0	The policy will not have a direct effect on this SA objective.
14. To protect and enhance soil / land quality in Gloucestershire.	0	The policy will not have a direct effect on this SA objective.
15. To protect and enhance air quality in Gloucestershire, helping to meet local, national and international objectives for air quality.	0	The policy will not have a direct effect on this SA objective.
16. To protect and enhance water quality and quantity in Gloucestershire, and to ensure that minerals development does not compromise sustainable sources of water supply.	0	The policy will not have a direct effect on this SA objective.
17. To reduce the adverse impacts of lorry traffic on the environment and communities through means such as: a) reducing the need to travel b) promoting more sustainable means of transport e.g. by rail or water c) sensitive lorry routing	0	The policy will not have a direct effect on this SA objective.

SA Objective and Sub Questions	SA Score	Justification
d) the use of sustainable alternative fuels		
18. To reduce contributions to and to adapt to Climate Change.	0	The policy will not have a direct effect on this SA objective.

### Policy DM10: Gloucester-Cheltenham Green Belt

SA Objective and Sub Questions	SA Score	Justification
1. To promote sustainable development and sustainable communities and improve the health and wellbeing of people living and working in Gloucestershire as well as visitors to the County.	+	The policy seeks to ensure that minerals development within the Green Belt preserve its openness which should help to maintain the extent of open space in the countryside which might be used by residents for recreational activities thus promoting healthier lifestyles. A minor positive effect is therefore likely.
2. To safeguard the amenity of local communities from the adverse impacts of mineral development.	+	The policy seeks to ensure that minerals development within the Green Belt preserves its openness. This is likely to help protect the visual amenity of residents and visitors alike, and a minor positive effect is likely.
3. To promote sustainable economic development in Gloucestershire giving opportunities to people from all social and ethnic backgrounds.	0	The policy will not have a direct effect on this SA objective.
4. To provide employment opportunities in both rural and urban areas of the County, promoting diversification in the economy.	0	The policy will not have a direct effect on this SA objective.
5. To ensure that mineral sites do not compromise the safety of commercial or military aerodromes.	0	The policy will not have a direct effect on this SA objective.
6. To conserve minerals resources from inappropriate development whilst providing for the supply of aggregates and other minerals sufficient for the needs of society.	0	The policy will not have a direct effect on this SA objective.
7. To protect, conserve and enhance biodiversity in Gloucestershire.	+	The policy could have a minor positive effect on this SA objective, as it requires that mineral developments in the Green Belt preserve its openness. Green Belt land can be important for biodiversity and so this will help to protect and conserve biodiversity within the Green Belt.
8. To protect, conserve and enhance the landscape in Gloucestershire.	+	The policy could have a minor positive effect on this SA objective, as it seeks to ensure that minerals development in the Green Belt preserve its openness. This should help to protect the character and quality of the countryside and help to retain settlement identity and sense of place.
9. To restore mineral sites to a high standard in order to achieve the maximum after use benefits including the conservation and enhancement of	0	The policy will not have a direct effect on this SA objective.

SA Objective and Sub Questions	SA Score	Justification
biodiversity, and delivery of green infrastructure where possible.		
10. To protect conserve and enhance Gloucestershire's material, cultural and recreational assets.	0	The policy will not have a direct effect on this SA objective.
11. To protect conserve and enhance geodiversity in Gloucestershire.	0	The policy will not have a direct effect on this SA objective.
12. To protect conserve and enhance the historic environment, heritage assets and their setting.	0	The policy will not have a direct effect on this SA objective.
13. To prevent flooding, in particular preventing inappropriate development in the floodplain.	0	The policy will not have a direct effect on this SA objective.
14. To protect and enhance soil / land quality in Gloucestershire.	0	The policy will not have a direct effect on this SA objective.
15. To protect and enhance air quality in Gloucestershire, helping to meet local, national and international objectives for air quality.	0	The policy will not have a direct effect on this SA objective.
16. To protect and enhance water quality and quantity in Gloucestershire, and to ensure that minerals development does not compromise sustainable sources of water supply.	0	The policy will not have a direct effect on this SA objective.
17. To reduce the adverse impacts of lorry traffic on the environment and communities through means such as: a) reducing the need to travel b) promoting more sustainable means of transport e.g. by rail or water c) sensitive lorry routing d) the use of sustainable alternative fuels	0	The policy will not have a direct effect on this SA objective.
18. To reduce contributions to and to adapt to Climate Change.	0	The policy will not have a direct effect on this SA objective.

### Policy DM11: Aerodrome Safeguarding and Aviation Safety

SA Objective and Sub Questions	SA Score	Justification
1. To promote sustainable development and sustainable communities and improve the health and wellbeing of people living and working in Gloucestershire as well as visitors to the County.	0	The policy will not have a direct effect on this SA objective.
2. To safeguard the amenity of local communities from the adverse impacts of mineral development.	0	The policy will not have a direct effect on this SA objective.
3. To promote sustainable economic development in Gloucestershire giving opportunities to people from all social and ethnic backgrounds.	0	The policy will not have a direct effect on this SA objective.
4. To provide employment opportunities in both rural and urban areas of the County, promoting diversification in the economy.	0	The policy will not have a direct effect on this SA objective.
5. To ensure that mineral sites do not compromise the safety of commercial or military aerodromes.	++	The policy states that minerals developments will only be permitted whereby it is demonstrated that unacceptable impacts on aviation safety can be avoided or mitigated. As the policy directly addresses SA objective 5, a significant positive effect is expected.
6. To conserve minerals resources from inappropriate development whilst providing for the supply of aggregates and other minerals sufficient for the needs of society.	0	The policy will not have a direct effect on this SA objective.
7. To protect, conserve and enhance biodiversity in Gloucestershire.	0	The policy will not have a direct effect on this SA objective.
8. To protect, conserve and enhance the landscape in Gloucestershire.	0	The policy will not have a direct effect on this SA objective.
9. To restore mineral sites to a high standard in order to achieve the maximum after use benefits including the conservation and enhancement of biodiversity, and delivery of green infrastructure where possible.	0	The policy will not have a direct effect on this SA objective.
10. To protect conserve and enhance Gloucestershire's material, cultural and recreational assets.	0	The policy will not have a direct effect on this SA objective.

SA Objective and Sub Questions	SA Score	Justification
11. To protect conserve and enhance geodiversity in Gloucestershire.	0	The policy will not have a direct effect on this SA objective.
12. To protect conserve and enhance the historic environment, heritage assets and their setting.	0	The policy will not have a direct effect on this SA objective.
13. To prevent flooding, in particular preventing inappropriate development in the floodplain.	0	The policy will not have a direct effect on this SA objective.
14. To protect and enhance soil / land quality in Gloucestershire.	0	The policy will not have a direct effect on this SA objective.
15. To protect and enhance air quality in Gloucestershire, helping to meet local, national and international objectives for air quality.	0	The policy will not have a direct effect on this SA objective.
16. To protect and enhance water quality and quantity in Gloucestershire, and to ensure that minerals development does not compromise sustainable sources of water supply.	0	The policy will not have a direct effect on this SA objective.
17. To reduce the adverse impacts of lorry traffic on the environment and communities through means such as: a) reducing the need to travel b) promoting more sustainable means of transport e.g. by rail or water c) sensitive lorry routing d) the use of sustainable alternative fuels	0	The policy will not have a direct effect on this SA objective.
18. To reduce contributions to and to adapt to Climate Change.	0	The policy will not have a direct effect on this SA objective.



### Policy MR01 Restoration, aftercare and facilitating beneficial after-uses

SA Objective and Sub Questions	SA Score	Justification
1. To promote sustainable development and sustainable communities and improve the health and wellbeing of people living and working in Gloucestershire as well as visitors to the County.	+?	Policy MR01 requires mineral development proposals to positively contribute towards high environmental standards. The supporting text states that this could include improvements to biodiversity, the natural environment, supporting the delivery of important items of infrastructure aimed at improving quality of life and well-being. In addition, the supporting text also explains that the term 'aftercare' includes ensuring land is maintained to benefit after users. However the MR01 only identifies 'benefits to after users' and does not identify the health and wellbeing of local communities in the policy wording itself, and so a minor positive effect is likely on this SA objective. However, effects would be uncertain as it is dependent on the type of restoration proposed and eventually developed on a site, which will not be known until the planning application stage.
2. To safeguard the amenity of local communities from the adverse impacts of mineral development.	+?	Policy MR01 requires mineral development proposals to positively contribute towards high environmental standards. The supporting text states that this could include improvements to biodiversity, the natural environment, supporting the delivery of important items of infrastructure aimed at improving quality of life and well-being. In addition, the supporting text also explains that the term 'aftercare' includes ensuring land is maintained to benefit after users. However the MR01 does not identify the health and wellbeing of local communities in the policy wording itself, and so a negligible effect is likely on this SA objective. However, effects would be uncertain as it is dependent on the type of restoration proposed and eventually developed on a site, which will not be known until the planning application stage.
3. To promote sustainable economic development in Gloucestershire giving opportunities to people from all social and ethnic backgrounds.	0	The policy will not have a direct effect on this SA objective.
4. To provide employment opportunities in both rural and urban areas of the County, promoting diversification in the economy.	0	The policy will not have a direct effect on this SA objective.
5. To ensure that mineral sites do not compromise the safety of commercial or military aerodromes.	0	The policy will not have a direct effect on this SA objective.
6. To conserve minerals resources from inappropriate development whilst providing for the supply of aggregates and other minerals sufficient for the needs of society.	0	The policy will not have a direct effect on this SA objective.

SA Objective and Sub Questions	SA Score	Justification
7. To protect, conserve and enhance biodiversity in Gloucestershire.	+?	Policy MR01 requires mineral workings to be delivered to a high environmental standard at the earliest opportunity. The supporting text states that this could include improvements to the natural environment, which would have a positive effect on biodiversity. However, effects would be uncertain as it is dependent on the type of restoration proposed and eventually developed on a site, which will not be known until the planning application stage.
8. To protect, conserve and enhance the landscape in Gloucestershire.	+?	Policy MR01 requires mineral workings to be delivered to a high environmental standard at the earliest opportunity. The supporting text states that the restoration strategy should be supported by a number of evidence based documents including a landscape strategy, which may have a positive effect on landscape character. However, effects would be uncertain as it is dependent on the type of restoration proposed and eventually developed on a site, which will not be known until the planning application stage.
9. To restore mineral sites to a high standard in order to achieve the maximum after use benefits including the conservation and enhancement of biodiversity, and delivery of green infrastructure where possible.	++	This policy is expected to have a significant positive effect on SA objective 9 as it directly relates the restoration of mineral sites, and requires reclamation of mineral workings to take place at the earliest opportunity, and to a high environmental standard.
10. To protect conserve and enhance Gloucestershire's material, cultural and recreational assets.	+?	Policy MR01 requires mineral workings to be reclaimed to a high environmental standard at the earliest opportunity. As this could include enhancing or creating of cultural and recreational assets such as open spaces or Public Rights of Way, a minor positive effect is expected on this SA objective. However, effects would be uncertain as it is dependent on the type of restoration proposed and eventually developed on a site, which will not be known until the planning application stage.
11. To protect conserve and enhance geodiversity in Gloucestershire.	+?	Policy MR01 requires mineral workings to be reclaimed to a high environmental standard at the earliest opportunity. Reclamation proposals may include geological conservation, which would have a positive effect on geodiversity. However, effects would be uncertain as it is dependent on the type of restoration proposed and eventually developed on a site, which will not be known until the planning application stage.
12. To protect conserve and enhance the historic environment, heritage assets and their setting.	+?	Policy MR01 requires mineral workings to be reclaimed to a high environmental standard at the earliest opportunity. As this could include the conservation or enhancement of the historic environment, a minor positive effect is expected on this SA objective. However, effects would be uncertain as it is dependent on the type of restoration proposed and eventually developed on a site, which will not be known until the planning application stage.
13. To prevent flooding, in particular preventing inappropriate development in the floodplain.	+?	Policy MR01 requires mineral workings to be reclaimed to a high environmental standard at the earliest opportunity. Reclamation proposals may include open water for flood alleviation, which would have a positive effect on preventing flooding. However, effects

SA Objective and Sub Questions	SA Score	Justification
		would be uncertain as it is dependent on the type of restoration proposed and eventually developed on a site, which will not be known until the planning application stage.
14. To protect and enhance soil / land quality in Gloucestershire.	+?	Policy MR01 requires mineral workings to be reclaimed a high environmental standard at the earliest opportunity. Reclamation proposals may be to agriculture, which would have a positive effect on soil quality. However, effects would be uncertain as it is dependent on the type of restoration proposed and eventually developed on a site, which will not be known until the planning application stage.
15. To protect and enhance air quality in Gloucestershire, helping to meet local, national and international objectives for air quality.	+?	Policy MR01 requires mineral workings to be reclaimed to a high environmental standard at the earliest opportunity. As this could include the protection or enhancement of air quality, a minor positive effect is expected on this SA objective. However, effects would be uncertain as it is dependent on the type of restoration proposed and eventually developed on a site, which will not be known until the planning application stage.
16. To protect and enhance water quality and quantity in Gloucestershire, and to ensure that minerals development does not compromise sustainable sources of water supply.	+?	Policy MR01 requires mineral workings to be reclaimed to a high environmental standard at the earliest opportunity. Reclamation proposals may include open water for water storage, which may have a positive effect on water quantity in Gloucestershire. However, effects would be uncertain as it is dependent on the type of restoration proposed and eventually developed on a site, which will not be known until the planning application stage.
17. To reduce the adverse impacts of lorry traffic on the environment and communities through means such as: a) reducing the need to travel b) promoting more sustainable means of transport e.g. by rail or water c) sensitive lorry routing d) the use of sustainable alternative fuels	0	The requirement for mineral workings to be reclaimed to a high environmental standard is unlikely to affect mineral related traffic movements, and no effect is expected on SA objective 17.
18. To reduce contributions to and to adapt to Climate Change.	+?	Policy MR01 requires mineral workings to be reclaimed to a high environmental standard at the earliest opportunity. Reclamation proposed may include open water for flood alleviation, which would have a positive effect on adaptation to extreme weather events as a result of climate change. However, effects would be uncertain as it is dependent on the type of restoration proposed and eventually developed on a site, which will not be known until the planning application stage.

# Appendix 6

## Site appraisal matrices

### Allocation 01: Land east of Stowe Hill Quarry

SA Objective and Sub Questions	SA Score	Justification
<p>1. To promote sustainable development and sustainable communities and improve the health and wellbeing of people living and working in Gloucestershire as well as visitors to the County.</p>	<p>-/+?</p>	<p>Longley Farm is located within the site boundary and many residential properties are adjacent to the site boundary, including Trowgreen Farm and Yew Tree Cottage (adjacent to the western boundary of the site) and Shop House Farm (adjacent to the northern boundary). The nearest settlement is Stowe, located less than 500m to the west of the site. Therefore, the site could have a minor negative effect on health due to the potential for dust (PM10) to have a negative effect on the health of local residents, communities and visitors to the site. However, this effect is uncertain, as the extent to which dust affects the nearby residents and settlement will depend on local circumstances such as the topography, nature of the landscape and the respective location of the site, Longley Farm, Trowgreen Farm, Yew Tree Cottage and Stowe in relation to the prevailing wind direction.</p> <p>The detailed development requirements for Allocation 01 in Appendix 4 of the MLP requires Health Impact Assessment screening and commitments to avoid and/or mitigate adverse amenity impacts and to maximise positive effects on health and wellbeing. In addition, it is assumed that mineral extraction at any of the potential sites will be well operated and that dust avoidance and suppression measures implemented by the operators should be sufficient to avoid any potential health effects. As such, mixed minor positive and negative effects are expected for this objective.</p>
<p>2. To safeguard the amenity of local communities from the adverse impacts of mineral development.</p>	<p>-</p>	<p>Longley Farm is located within the site boundary and many residential properties are adjacent to the site boundary, including Trowgreen Farm and Yew Tree Cottage (adjacent to the western boundary of the site) and Shop House Farm (adjacent to the northern boundary). The nearest settlement is Stowe, located less than 500m to the west of the site. Therefore, the site could have a minor negative effect on amenity for the nearby residents and settlement due to the potential noise and vibration associated with the mineral extraction operations. Noise and vibration effects may be more likely as the site would work crushed rock which would require blasting prior to excavation. However, the extent of these effects is very dependent on the scale of the operations and type of activities undertaken within the site as well as any potential mitigation measures proposed, which would be assessed at the planning application stage. While there may be some unavoidable short term effects due to noisy activities, it is assumed that mineral extraction at any of the potential sites will be well operated and that mitigation measures implemented should be sufficient to avoid any potential long term amenity effects.</p>

SA Objective and Sub Questions	SA Score	Justification
		<p>The site is not within 100m of any areas allocated for new residential development in the Forest of Dean District Council Adopted Core Strategy or Submitted Allocations Plan, therefore there should not be any land use conflict.</p> <p>The site is within 1km of the settlements Stowe, Clearwell and Trow Green and is proposed as an extension area to the existing Clearwell/Stowe Hill Quarries, therefore, continuing crushed rock extraction activity in this area could have a cumulative effect on the amenity of the local community.</p> <p>The GCC assessment notes that the site has the potential to be worked by either existing or replacement plant/access. A new access route could provide benefits to the local amenity of the residents in Stowe Green by reducing lorry traffic on existing local roads. Therefore, if the site were to be allocated for mineral extraction, the GCC assessment notes that planning permission for use of the site would require conditions to enforce the use of the new access, which could mitigate the potential negative effects of lorry traffic. However, in the short term, there could be additional noise and vibration impacts during construction of the new access route.</p> <p>The detailed development requirements for Allocation 01 in Appendix 4 of the MLP specifies the need for an analysis of potential amenity impacts, with consideration given to residential properties, farms and commercial enterprises located close to the allocation and those that comprise the local hamlets of Stowe, Stowe Green, Trow Green, Mork and Lower Cross and the villages of Clearwell, Sling and St. Briavels. The MLP also requires consideration of the impact of proposed freight routes and highlights the likely need for a Transport Assessment. These measures should help provide mitigation for the potential negative effects identified.</p>
3. To promote sustainable economic development in Gloucestershire giving opportunities to people from all social and ethnic backgrounds.	0	No effect is likely as mineral sites are unlikely to present opportunities for spin off employment or other opportunities due to sites being self-served by the operators that own them. It is noted that the detailed development requirements for Allocation 01 in Appendix 4 of the MLP require an Economic Impact Assessment to be undertaken.
4. To provide employment opportunities in both rural and urban areas of the County, promoting diversification in the economy.	+	All potential mineral sites regardless of their location are likely to have a minor positive effect on increasing employment levels. This is because all of the sites could have a direct and indirect positive effect on increasing employment levels during site preparation, operation and restoration, which could result in a small amount of job creation for local people in both rural and urban areas. However, job creation from new mineral extraction sites is not expected to be significant within the Gloucestershire economy; and given that the overall number of mineral sites likely to be developed in

SA Objective and Sub Questions	SA Score	Justification
		the County will not be a large number each year, the total numbers of new employment opportunities likely to be provided within the County is not considered to be significant.
5. To ensure that mineral sites do not compromise the safety of commercial or military aerodromes.	0	The site is not within an aerodrome safeguarding area and is therefore not expected to have an effect on this objective.
6. To conserve minerals resources from inappropriate development whilst providing for the supply of aggregates and other minerals sufficient for the needs of society.	0	New potential mineral sites would not be inappropriate development as they are contributing to extraction of mineral resources, not limiting the ability to extract resources, and would therefore have no effect on this objective, which primarily relates to areas being designated as Mineral Safeguarding and Consultation areas to safeguard from sterilisation by <u>non-mineral</u> development.
7. To protect, conserve and enhance biodiversity in Gloucestershire.	-/+?	<p>The site is assessed as having a potential negative impact on biodiversity as the northern boundary is within 700m of Tudor Farm Bank SSSI, Old Bow and Old Ham Mines SSSI and Wye Valley &amp; Forest of Dean Bat Sites SAC. Additionally, the site is within 1km of many Key Wildlife Sites, one of which (Orles Wood KWS) is adjacent to the south boundary of the site. The hydrogeological report by Atkins (May 2016) identified a possible negative effect on water quality for local wildlife and sensitive vegetation. However, the report concluded this was of 'low significance'. If the site is enhanced then it could make a contribution to Wye Woods Strategic Nature Area (SNA), as the site overlaps this SNA and the Forest of Dean Nature Improvement Area (NIA). Therefore, the site has been assessed as having the potential to have a mixed minor negative and positive effect on this objective. However, these effects would be uncertain as the potential for effects will depend on the exact nature and design of the site, which would not be known until the planning application stage.</p> <p>The 2016 HRA Report<sup>181</sup> concluded after screening, that this was the only Allocation site that might have minor residual effects alone (only in relation to the area previously referred to as Parcel B, which now forms the majority of Allocation 01), and taking a precautionary approach some uncertainty remained, and therefore a consideration of in combination effects alongside other plans and projects was needed<sup>182</sup>. The minor residual effects identified were in relation to potential impacts on bat habitat and flyways at Allocation 01 (previously referred to as CRFD1) which could be important to the well-being of the Wye Valley &amp; Forest of Dean Bat Sites SAC (Old Bow &amp; Old Ham Mines) which is at its nearest point about 750 metres away to the north east, and another component part of the SAC (Devil's Chapel Scowles) 2.8km to the south east,</p>

<sup>181</sup> HRA Main Report for Gloucestershire MLP (Vers. 1.2 at Pre-Publication Stage), Gloucestershire County Council, 2016.

<sup>182</sup> The HRA baseline and evidence report was updated in 2017, but it does not assess site allocations. The Report can be found here: Gloucestershire County Council (2017) HRA Baseline / Evidence Report for Minerals Local Plan Update Version 6. Available at: [https://www.gloucestershire.gov.uk/media/19486/hra\\_baseline\\_report\\_for\\_mlp\\_update\\_6.pdf](https://www.gloucestershire.gov.uk/media/19486/hra_baseline_report_for_mlp_update_6.pdf)

SA Objective and Sub Questions	SA Score	Justification
		<p>plus the Wye Valley Woodlands SAC which is 1.8km away to the south west at its closest point. The main issue is whether horseshoe bats from or associated with the Wye Valley Woodlands or the Forest of Dean Bat Sites SAC may depend on what remains of a much degraded hedgerow network within Allocation 1. Following the review of other plans and projects, the 2016 HRA Report concludes that there is not likely to be a significant effect on the SACs in combination with the other relevant plans and projects, and therefore the Appropriate Assessment stage is not required.</p> <p>The detailed development requirements for Allocation 01 in Appendix 4 of the MLP specify the need for an analysis of potential impacts on the natural environment with particular regards to Wye Valley &amp; Forest of Dean Bat Sites SAC, Wye Valley Woodlands SAC, River Wye SAC, Old Bow &amp; Old Ham Mines SSSI, Devil's Chapel Scowles SSSI, Tudor Farm Bank SSSI, River Wye SSSI and the Slade Brook SSSI. The analysis will also need to investigate impacts on priority habitats and species which have been recorded adjacent or near to the site. The detailed development requirements also specify that restoration plans should be explored, including agriculture and woodland after-uses, along with opportunities to achieve biodiversity enhancements. This should help provide mitigation for the potential negative effects identified. In contrast with the 2016 HRA, the detailed development requirements for Allocation 01 in Appendix 4 of the Publication Plan MLP specifies that <i>"an analysis of whether any significant effects are likely to arise on the Wye Valley and Forest of Dean Bat Sites SAC, the Wye Valley Woodlands Sites SAC and / or the River Wye SAC either alone or in combination with other plans or projects, must be carried out through a formal screening process to establish the requirement for an Appropriate Assessment."</i></p> <p>The detailed development requirements also encourage restoration of the site to consider potential for biodiversity enhancements.</p>
8. To protect, conserve and enhance the landscape in Gloucestershire.	--?	<p>The site is 150m to the east of the Wye Valley AONB. The landscape assessment carried out by Atkins (June 2015) judged that there would be a significant Moderate Adverse impact on the regional Landscape Character Area. Therefore, a significant negative effect is identified for this objective. However, uncertainty is attached, as a more detailed assessment would be required once specific proposals and mitigation measures are known.</p> <p>Although not impacting on the wider landscape and therefore this objective, it is noted that the Atkins report also judged that there would be significant Major Adverse visual impacts on Longley Farm which is located within the centre of the Site and Shop House Farm, Trowgreen Farm and property just north of Trowgreen Farm. It would not be possible to avoid these significant impacts due to the proximity and clarity of the view</p>



SA Objective and Sub Questions	SA Score	Justification
		<p>from these receptors. It would also result in significant Moderate Adverse visual impacts on farmland, public footpaths RNE67, RNE66, RNE61 and RNE70 and transport receptors B4231 / Bream Avenue and B4228. The mitigation measures outlined in the November 2014 LVIA would reduce the scale of impacts on the transport receptors to some degree through mounding and planting along the boundary of Parcel A.</p> <p>The detailed development requirement for Allocation 01 in Appendix 4 of the MLP specifies the need for a Landscape &amp; Visual Impact Assessment, which will analyse the sensitivity of national landscape character NCA 105 (Forest of Dean and Lower Wye) and the regional / local level classification – The Limestone Plateau landscape character type and the Tidenham Chase landscape character area, which are both described in the Forest of Dean Landscape Character Assessment. The LVIA would also be required to provide details concerning measures to avoid, reduce, remedy and/or compensate any unacceptable negative effects.</p>
<p>9. To restore mineral sites to a high standard in order to achieve the maximum after use benefits including the conservation and enhancement of biodiversity, and delivery of green infrastructure where possible.</p>	<p>+?</p>	<p>The restoration of minerals sites is increasingly adopting innovative practice and therefore, any minerals site could have positive effects on landscape character, biodiversity, amenity and recreation in the longer term, once restored. However, this would be very dependent on the exact nature and proposed design of the restoration of the minerals site, which would not be known until the planning application stage.</p>
<p>10. To protect conserve and enhance Gloucestershire's material, cultural and recreational assets.</p>	<p>-</p>	<p>The PRoW footpath RNE/66/2 runs through the site west to east, and footpath RNE/66/1 runs along the north western boundary of the site. Additionally, RNE/67/1 and FSB/138/1 run along the western edge of the site. The GCC PRoW Team has identified that a diversion would be required for footpath FSB/138/1. Therefore, the site could have minor negative effects on recreation activities as the PRoW might be out of use while diverted, and minerals extraction at the site could make nearby recreational assets less attractive for users.</p> <p>The detailed development requirements for Allocation 01 in Appendix 4 of the MLP specifies that an assessment of the PRoW network should be undertaken with particular attention given to paths RNE 66/1, RNE 67/1 and FSB 138/1. Advice should be sought from the Local Highways Authority regarding any proposals to temporarily divert or permanently re-route any of the potentially affected paths.</p>
<p>11. To protect conserve and enhance geodiversity in Gloucestershire.</p>	<p>-?</p>	<p>The working of and restoration of minerals sites is increasingly adopting innovative practice and there may be opportunities to incorporate and preserve important geological features within the site. However, this would be very dependent on the</p>

SA Objective and Sub Questions	SA Score	Justification
		<p>exact nature, working and proposed design of the restoration of the minerals site, which would not be known until the planning application stage.</p> <p>The site is within 1km but greater than 500m from the Slade Brook geological SSSI and two Regionally Important Geological Sites: Stock Wood (north of the site); and Bearse Farm Quarry (south of the site) and is not considered likely to affect geodiversity. The western boundary of the site is within 400m of Stowe Green Quarry which is designated as a Regionally Important Geological Site<sup>183</sup>.</p> <p>The GCC assessment notes there may be potential for impacts on the tufa stream feature of the Slade Brook SSSI. Therefore, the site could have a minor negative effect on this objective. However, this would be very dependent on the exact nature, working and proposed design of the restoration of the site, and therefore will need detailed assessment at the planning application stage.</p> <p>The MLP also specifies that, in the event of the existing Stowe Green / Clearwell Quarries RIGS may be affected, there is need for an assessment of potential impacts on Stowe Green / Clearwell Quarries RIGS no. 236 should be carried out which incorporates possible mitigation measures, if required.</p>
<p>12. To protect conserve and enhance the historic environment, heritage assets and their setting.</p>	<p>--?</p>	<p>The north boundary of the site is within 250m of Clearwell Castle Registered Park and Garden, and within 450m of Clearwell Conservation Area and the listed buildings located within it and adjacent to it. The western boundary of the site is within 500m of Camp NE of Stowe Scheduled Monument and a cluster of listed buildings, the closest being the Chapel of St Margaret at Longley Farm (Grade II). The eastern boundary of the site is within 100m of Toll House Listed Building (Grade II). The Atkins landscape report (June 2015) concluded that the proposed development would result in a localised and significant Major Adverse impact on the setting of this Grade II Listed Building to the east of Parcel B. The mitigation measures outlined in the November 2014 LVIA would reduce the scale of impacts on this receptor but would still result in an enclosure of the setting. Therefore, the site could have a significant negative effect on the setting of the Toll House Grade II Listed Building. However, the effects would be uncertain as a more detailed assessment would be required once proposals are known. Furthermore the GCC assessment notes that the archaeological interest in the site is as yet uncertain, therefore assessment and evaluation will be required to establish the extent and significance of any heritage assets present within the site. However, the GCC assessment notes that there would be no historic environment implications from any</p>

<sup>183</sup> While the government has proposed to change the name of Regionally Important Geological Sites (RIGS) to Local Geological Sites; in Gloucestershire they are still referred to as RIGS.

SA Objective and Sub Questions	SA Score	Justification
		<p>depth increase in the existing quarry.</p> <p>The detailed development requirements in Appendix 4 of the MLP specifies the need for assessment comprehensive Heritage Statement, including an evaluation of the presence and significance of heritage assets and mitigation requirements, which may introduce restraints to future mineral working in order to preserve key heritage assets and their settings.</p>
<p>13. To prevent flooding, in particular preventing inappropriate development in the floodplain.</p>	<p>-?</p>	<p>A hydrogeological assessment carried out by Atkins found that there could be a significant impact on the potential for an increase in the risk of flooding from surface water and groundwater. During operation, dewatering is likely to be required, and discharge of water may give rise to increased flood risk if the capacity of the receiving stream is exceeded. Stockpiling of materials in areas that are susceptible to flooding may increase flooding off site due to reduction in flood plain storage. After restoration, it is likely that surface pooling on site will increase if impermeable material is used. With the use of lower permeability materials, the migration of groundwater through the site is likely to be blocked, allowing water levels to rise upgradient of the site. This could give rise to an increased risk of groundwater flooding locally. The Atkins report concluded that subject to appropriate design, especially with regard to storage and stockpiles, and the inclusion of appropriate mitigation measures it is likely that any impacts can be reduced to acceptable levels. A minor negative effect is therefore likely on this SA objective. However this effect is uncertain as it will depend on the specific proposals that come forward and mitigation measures proposed.</p> <p>The detailed development requirement for Allocation 01 in Appendix 4 of the MLP specifies the need for a flood risk assessment, which affords attention to the possibility of elevated risks associated with groundwater flooding and increased surface water run-off. Potential sensitive receptors surrounding the site should be investigated.</p>
<p>14. To protect and enhance soil / land quality in Gloucestershire.</p>	<p>-?</p>	<p>The site covers a large area (54ha) and is within grade 3 agricultural land and could therefore have a minor negative effect on protecting or enhancing soil/land quality. However, this effect is uncertain as there may be opportunities to restore agricultural soils during restoration.</p> <p>The detailed development requirements for Allocation 01 in Appendix 4 of the MLP specify the need for a Soil Survey and Agricultural Land Classification Report, which identifies potential impacts and possible mitigation, if required, particularly in light of the potential presence of agricultural land of BMVAL quality grade 3a.</p>

SA Objective and Sub Questions	SA Score	Justification
15. To protect and enhance air quality in Gloucestershire, helping to meet local, national and international objectives for air quality.	-	The site is not within 1km of an AQMA but is more than 1km from the strategic highway network. Traffic associated with the site is therefore likely to travel further along local roads. The site is therefore expected to have a minor negative impact on protecting air quality, although this impact is very dependent on the type of mineral site, the scale of the operations and the type of activities undertaken within the site and potential mitigation measures proposed, which would be assessed at the planning application stage.
16. To protect and enhance water quality and quantity in Gloucestershire, and to ensure that minerals development does not compromise sustainable sources of water supply.	-?	<p>The site is not within a Source Protection Zone but the majority of the site overlies a principal aquifer, as well as a Secondary A aquifer to the west which may provide a high level of water storage and support water supply and/or river base flow on a strategic scale.</p> <p>A hydrogeological impact assessment was carried out by Atkins. Low significance was placed on the potential for de-watering and diversion of groundwater away from the areas of the principal aquifer and secondary A aquifer, leading to a decrease in water quality. A significant effect was predicted on Slade Brook SSSI, which relates to a potential increase in suspended solids, the potential for an increase in overland flow, changes to base flow as a result of de-watering and/or inert infill and the potential for changes to carbonate content of groundwater, leading to changes to Tufa formation processes. During operation, there may be an increase in suspended sediments, leading to a decline in water quality. De-watering during operation can also result in diversion of water from the Slade Brook as groundwater flow paths are interrupted. Changes to the conservation status of the SSSI are possible, due to changes to flow or chemistry. After restoration, the site is likely to be partially backfilled, increasing overland flow. A reduction in baseflow contribution is also possible, due to the barrier created to groundwater flow. A minor negative effect is therefore predicted for this site, although this is uncertain because it is very likely that sufficient mitigation measures will be implemented to reduce the residual risk to negligible. The detailed development requirement for Allocation 01 in Appendix 4 of the MLP specifies the need for a hydrological/ hydrogeological impact assessment to be completed as the underlying geology is a principal aquifer, which will consider potential risks, their significance and possible mitigation measures, if required, on the nearby surface water bodies up to 5km. In addition, a Water Features Survey should be undertaken to identify other and / or more distant surface water bodies that are also worth assessing along with other relevant receptors.</p>
17. To reduce the adverse impacts of lorry traffic on the environment and	-?	This site is more than 1km from the strategic highway network and as traffic associated with the site is therefore likely to travel further along local roads, there could be a

SA Objective and Sub Questions	SA Score	Justification
<p>communities through means such as:</p> <ul style="list-style-type: none"> <li>a) reducing the need to travel</li> <li>b) promoting more sustainable means of transport e.g. by rail or water</li> <li>c) sensitive lorry routing</li> <li>d) the use of sustainable alternative fuels</li> </ul>		<p>minor negative effect on reducing the impacts of lorry traffic on the environment and communities. However, this is uncertain as the 2016 GCC assessment noted that the site has permission for new access, creation of quarry void and relocation of plant, but separate permission would be required to use this new access outside of the set parameters or if an alternative route was required. A new access route could provide benefits to the local amenity of the residents in Stowe Green by reducing lorry traffic on existing local roads. Therefore, if the site were to be allocated for mineral extraction, the GCC assessment noted that planning permission for use of the site would require conditions to enforce the use of the new access, which could mitigate the potential negative effects of lorry traffic.</p> <p>However, the detailed development requirements for Allocation 01 in Appendix 4 of the MLP specify the likely need for a Transport Assessment. There is also a preference for the use of access off the A48 via the B4321 or the A4136 via the B4228 into the existing Stowe Hill Quarry.</p>
<p>18. To reduce contributions to and to adapt to Climate Change.</p>	?	<p>The impacts of minerals sites on their ability to reduce contributions to and to adapt to climate change as will depend on the proposal, which would be assessed at the planning application stage.</p> <p>However, it is noted that the detailed development requirements for Allocation 01 in Appendix 4 of the MLP states that all proposed restoration solutions must seek to deliver greater resilience to the likely impacts of climate change.</p>

### Allocation 02: Land west of Drybrook Quarry

SA Objective and Sub Questions	SA Score	Justification
<p>1. To promote sustainable development and sustainable communities and improve the health and wellbeing of people living and working in Gloucestershire as well as visitors to the County.</p>	<p>-/+?</p>	<p>Ash Farm is located within and adjacent to the southern boundary of the site and Perlay (a residential building) is located within the northern area of the site. Forest View (a residential building) is also located within 100m of the southern boundary. The site is also located within 100m of the settlements Drybrook and Ruardean. Therefore, the site could have a minor negative effect on health due to the potential for dust (PM10) to have a negative effect on the health of local residents, communities and visitors to the site. However, this effect is uncertain, as the extent to which dust affects the nearby residents and settlement will depend on local circumstances such as the topography, nature of the landscape and the respective location of the site, Ash Farm, Perlay and Forest View in relation to the prevailing wind direction.</p> <p>The detailed development requirements for Allocation 02 in Appendix 4 of the MLP requires Health Impact Assessment screening and commitments to avoid and/or mitigate adverse amenity impacts and to maximise positive effects on health and wellbeing. In addition, it is assumed that mineral extraction at any of the potential sites will be well operated and that dust avoidance and suppression measures implemented by the operators should be sufficient to avoid any potential health effects. As such, mixed minor positive and negative effects are expected for this objective.</p>
<p>2. To safeguard the amenity of local communities from the adverse impacts of mineral development.</p>	<p>-</p>	<p>Ash Farm is located within and adjacent to the southern boundary of the site and Perlay (a residential building) is located within the northern area of the site. Forest View (a residential building) is also located within 100m of the southern boundary. The site is also located within 100m of the settlements Drybrook and Ruardean. Therefore, the site could have a minor negative effect on amenity for the nearby residents and settlement due to the potential noise and vibration associated with the mineral extraction operations. Noise and vibration effects may be more likely as the site would work crushed rock which would require blasting prior to excavation. However, the extent of these effects is very dependent on the scale of the operations and type of activities undertaken within the site as well as any potential mitigation measures proposed, which would be assessed at the planning application stage. While there may be some unavoidable short term effects due to noisy activities, it is assumed that mineral extraction at any of the potential sites will be well operated and that mitigation measures implemented should be sufficient to avoid any potential long term amenity effects.</p> <p>Drybrook was identified in the Forest of Dean District Council Adopted Core Strategy</p>

SA Objective and Sub Questions	SA Score	Justification
		<p>(February 2012) to provide 100 new dwellings within the defined settlement, which is shown in two allocation on the east of the village in the Submitted Allocations Plan, neither of which is within 100m of Allocation 02, so there will not be any land use conflicts.</p> <p>The site is within 1km of the settlements Drybrook and Ruardean and is proposed as an extension area to the currently mothballed Drybrook Quarry. Whilst it was operational, Drybrook Quarry produced a variety of limestone aggregate product and a certain amount of plant and buildings remain on the site. It is anticipated that the proposed site would only be considered as a potential extension area to Drybrook Quarry. Therefore, crushed rock extraction activity would continue in this area and could have a cumulative effect on the amenity of the local community.</p> <p>The GCC site assessment 2016 states that this site should use existing access and infrastructure unless a suitable alternative access can be demonstrated. Production rates should be maintained at or near to levels prior to the mothballing of the Quarry. However, this is uncertain as the potential for effects will depend on the exact nature and design of the site, which would not be known until the planning application stage.</p> <p>The detailed development requirement for Allocation 02 in Appendix 4 of the MLP specifies the need for an analysis of potential amenity impacts. Careful consideration should be paid to the local communities made up of the individual residential properties, farms and commercial enterprises located nearby to the site and those that comprise the settlements of Ruardean, Ruardean Hill, Drybrook and Puddlebrook. The MLP also requires consideration of the impact of proposed freight routes and highlights the likely need for a Transport Assessment.</p>
3. To promote sustainable economic development in Gloucestershire giving opportunities to people from all social and ethnic backgrounds.	0	No effect is likely as mineral sites are unlikely to present opportunities for spin off employment or other opportunities due to sites being self-served by the operators that own them. It is noted that the detailed development requirements for Allocation 02 in Appendix 4 of the MLP require an Economic Impact Assessment to be undertaken.
4. To provide employment opportunities in both rural and urban areas of the County, promoting diversification in the economy.	+	All potential mineral sites regardless of their location are likely to have a minor positive effect on increasing employment levels. This is because all of the sites could have a direct and indirect positive effect on increasing employment levels during site preparation, operation and restoration, which could result in a small amount of job creation for local people in both rural and urban areas. However, job creation from new mineral extraction sites is not expected to be significant within the Gloucestershire economy; and given that the overall number of mineral sites likely to be developed in

SA Objective and Sub Questions	SA Score	Justification
		the County will not be a large number each year, the total numbers of new employment opportunities likely to be provided within the County is not considered to be significant.
5. To ensure that mineral sites do not compromise the safety of commercial or military aerodromes.	0	The site is not within an aerodrome safeguarding area and is therefore not expected to have an effect on this objective.
6. To conserve minerals resources from inappropriate development whilst providing for the supply of aggregates and other minerals sufficient for the needs of society.	0	New potential mineral sites would not be inappropriate development as they are contributing to extraction of mineral resources, not limiting the ability to extract resources, and would therefore have no effect on this objective, which primarily relates to areas being designated as Mineral Safeguarding and Consultation areas to safeguard from sterilisation by <u>non-mineral</u> development.
7. To protect, conserve and enhance biodiversity in Gloucestershire.	+?	<p>The site is unlikely to have impacts on biodiversity due to the site being mainly agricultural grassland with some hedgerows and trees. This site is within 1km of two local wildlife sites (Hope Mansell and Lea Bailey Enclosure (both within Herefordshire)), and the southern boundary of the site being within 400m of Ruardean Hills Key Wildlife Site. The 2016 HRA Report states that "<i>Allocation 2: Preferred Area at Drybrook comprises of parcel A (CRFD2) previously considered at the Site Options stage of the draft MLP. Previously all parcels of land were screened out because there are no European Sites nearby or with a pathway present to result in any conceivable effect on any conservation objectives. It follows therefore that Allocation 2 Preferred Area at Drybrook can also be screened out from further consideration within the HRA.</i>"</p> <p>The GCC site assessment 2016 noted some potential for biodiversity enhancement if the small woods nearby to the site were to be linked to any restoration scheme. However, these effects would be minor and are not certain as the potential for effects will depend on the exact nature and design of the site, which would not be known until the planning application stage.</p> <p>The detailed development requirement for Allocation 02 in Appendix 4 of the MLP states that a comprehensive assessment of the natural environment will be required, including identifying potential impacts and measures to avoid, reduce, remedy and/or compensate possible unacceptable negative effects. The detailed development requirements also suggest that restoration could contribute to the ambitions of the Ruardean Woods SNA and Forest of Dean NIA, therefore potential minor positive effects are identified against this SA objective.</p>
8. To protect, conserve and enhance the landscape in Gloucestershire.	-?	A landscape assessment carried out by Atkins (June 2015) concluded that overall there will not be any significant impacts on the wider landscape character or features of the area as the development of the site would result in an extension of the visual impacts arising from the existing quarry. The proposed development will result in some



SA Objective and Sub Questions	SA Score	Justification
		<p>localised impacts to agricultural land and associated hedgerows within the site boundary. Therefore, a minor negative effect is identified for this objective. However, uncertainty is attached, as a more detailed assessment would be required once specific proposals and mitigation measures are known.</p> <p>Although not impacting on the wider landscape and therefore this objective, it is noted that the Atkins report also concluded that there would be significant Major Adverse visual impacts on isolated properties at the western end of Morse Lane and public footpaths DDB1, DRD43 and DRD72. Due to the proximity of the receptors affected, it would not be possible to avoid these significant impacts although they could be mitigated to some degree by sensitive boundary treatments to the site. The proposed development would also result in significant Moderate Adverse impacts on residential properties in the south-west of Drybrook and public footpaths DRD42 and DRD45. Due to the position of these receptors on elevated ground with direct views towards the site it would not be possible to avoid these significant impacts through mitigation measures.</p> <p>The detailed development requirement for Allocation 02 in Appendix 4 of the MLP specifies the need for a Landscape &amp; Visual Impact Assessment, which will analyse the sensitivity of national landscape character NCA 105 (Forest of Dean and Lower Wye) and the regional / local level classification – The Limestone Hills landscape character type and the Ruardean Hills landscape character area, which are both described in the Forest of Dean Landscape Character Assessment. The LVIA would also be required to provide details concerning measures to avoid, reduce, remedy and/or compensate any unacceptable negative effects.</p>
<p>9. To restore mineral sites to a high standard in order to achieve the maximum after use benefits including the conservation and enhancement of biodiversity, and delivery of green infrastructure where possible.</p>	<p>+?</p>	<p>The restoration of minerals sites is increasingly adopting innovative practice and therefore, any minerals site could have positive effects on landscape character, biodiversity, amenity and recreation in the longer term, once restored. However, this would be very dependent on the exact nature and proposed design of the restoration of the minerals site, which would not be known until the planning application stage.</p>
<p>10. To protect conserve and enhance Gloucestershire's material, cultural and recreational assets.</p>	<p>-</p>	<p>The PRoW footpath DRD/11/1 runs through the middle of the site north to south, while footpath DRD/72/1 runs through a small area in the northeast of the site and then runs along the eastern boundary of the site. The GCC PRoW Team has identified that a diversion will be necessary for footpath DRD/11/1. Furthermore, the footpaths DRD/43/1 and DRD/10 run along the western and northern boundaries of the site respectively. The GCC PRoW Team has identified that a diversion will be necessary for footpath DRD/43/1. The GCC PRoW Team also state that mineral developments could well offer opportunity of enhancement, but at this stage and without checking on the ground or consulting the parishes, it is too early to be exact.</p>

SA Objective and Sub Questions	SA Score	Justification
		<p>Therefore, the site could have minor negative effects on recreation activities as the PRoWs might be out of use while diverted, and minerals extraction at the site could make nearby recreational assets less attractive for users.</p> <p>The detailed development requirement for Allocation 02 in Appendix 4 of the MLP specifies the need for an assessment of the PRoW network which should be undertaken with particular attention given to paths DRD 11 and 43.</p>
<p>11. To protect conserve and enhance geodiversity in Gloucestershire.</p>	<p>0</p>	<p>The working of and restoration of minerals sites is increasingly adopting innovative practice and there may be opportunities to incorporate and preserve important geological features within the site. However, this would be very dependent on the exact nature, working and proposed design of the restoration of the minerals site, which would not be known until the planning application stage.</p> <p>The site is more than 500m from any national site of geological interest (SSSI) or Regionally Important Geological Site and is therefore not expected to affect this objective.</p>
<p>12. To protect conserve and enhance the historic environment, heritage assets and their setting.</p>	<p>-?</p>	<p>The western boundary of the site is within 1km of Ruardean Conservation Area and some of the Listed Buildings located within it, the closest being Holick Monument located approximately 960m to the west of the site. The site is also located within 1km of two other Listed Buildings, one located to the north east and one to the south west of the site. The Atkins Landscape Report (June 2015) found that the sensitivity of the historic landscape character (HLC) in relation to the proposed development is judged to be moderate adverse. The existing HLC of the site will change to become an active industrial site. This change is judged to result in a noticeable change to the HLC which is judged to be a Medium magnitude of change. It also noted that although the sensitivity of nearby Ruardean, Mitcheldean and Lydbrook Conservation Areas and the Ruardean Castle Scheduled Monument to the proposed development is high, the magnitude of change would be negligible as the proposal would not result in a discernible change to the setting or character of the Conservation Areas or the Scheduled Monument.</p> <p>The archaeological interest at this site is as yet uncertain. Evidence from the surrounding landscape and the previous, adjacent quarrying suggests the presence of some early activity of prehistoric or Roman date. Assessment/evaluation will be required to establish the extent and significance of any heritage assets present.</p> <p>Therefore, the site has some potential for minor negative effects on the historic environment and archaeology, however, the effects would be uncertain as a more</p>

SA Objective and Sub Questions	SA Score	Justification
		<p>detailed assessment would be required once proposals are known.</p> <p>The detailed development requirement for Allocation 02 in Appendix 4 of the MLP specifies the need for a comprehensive Heritage Statement for the Allocation that incorporates an analysis of its potential archaeological interest. This must include an evaluation of the presence and significance of heritage assets; and details of avoidance or mitigation measures, which could introduce constraints upon future mineral working.</p>
<p>13. To prevent flooding, in particular preventing inappropriate development in the floodplain.</p>	<p>-?</p>	<p>A hydrogeological assessment carried out by Atkins found that there would likely be a significant impact on flood risk. During operation, dewatering is likely to be required, and discharge of water may give rise to increased flood risk if the capacity of the receiving stream is exceeded. Stockpiling of materials in areas that are susceptible to flooding may increase flooding off site due to reduction in flood plain storage. After restoration, backfilling of the area with lower permeability material is likely to increase runoff after a rainfall event, which will increase risk of flooding. With the use of lower permeability materials, the migration of groundwater through the site is likely to be blocked, allowing water levels to rise upstream of the site. This could give rise to an increased risk of groundwater flooding locally. The Atkins report concluded that subject to appropriate design, especially with regard to storage and stockpiles, and the inclusion of appropriate mitigation measures it is likely that any impacts can be reduced to acceptable levels. A minor negative effect is therefore likely on this SA objective. However this effect is uncertain as it will depend on the specific proposals that come forward and mitigation measures proposed.</p> <p>The detailed development requirement for Allocation 02 in Appendix 4 of the MLP specifies the need for a flood risk assessment which affords attention to the possibility of elevated risks associated with groundwater flooding and increased surface water runoff. Potential sensitive receptors include the residential properties and commercial premises of Ruardean, the northern side of Ruardean Hill and Drybrook.</p>
<p>14. To protect and enhance soil / land quality in Gloucestershire.</p>	<p>-?</p>	<p>The site covers a medium area (11ha) and is mainly within grade 2 agricultural land and could therefore have a minor negative effect on protecting or enhancing soil/land quality. However, this is uncertain as there may be opportunities to restore agricultural soils during restoration.</p> <p>The detailed development requirements for Allocation 02 in Appendix 4 of the MLP specify the need for a Soil Survey and Agricultural Land Classification Report, which identifies potential impacts and possible mitigation, if required, particularly in light of the presence of agricultural land of BMVAL quality grade 2 and possibly 3a. A Soil Handling Strategy must also be prepared to consider how to safeguard soil quality and opportunities for improvement of soil quality.</p>

SA Objective and Sub Questions	SA Score	Justification
15. To protect and enhance air quality in Gloucestershire, helping to meet local, national and international objectives for air quality.	-	The site is not within 1km of an AQMA but is more than 1km from the strategic highway network. Traffic associated with the site is therefore likely to travel further along local roads. The site is therefore expected to have a minor negative impact on protecting air quality, although this impact is very dependent on the type of mineral site, the scale of the operations and the type of activities undertaken within the site and potential mitigation measures proposed, which would be assessed at the planning application stage.
16. To protect and enhance water quality and quantity in Gloucestershire, and to ensure that minerals development does not compromise sustainable sources of water supply.	-?	<p>The site is not within a Source Protection Zone but the site overlies a principal aquifer, which may provide a high level of water storage and support water supply and/or river base flow on a strategic scale.</p> <p>A hydrogeological impact assessment was carried out by Atkins. A 'low significance' effect was predicted on the principal aquifer during operation, de-watering and diversion of groundwater from the aquifer, and a decrease in water quality due to chemicals used during quarrying. Any alteration to the quality or lowering of the groundwater table has the potential to impact on any nearby private abstractions. After restoration, refilling with inert fill could contaminate the aquifer, and create a reduction in groundwater flow and storage. Any alteration to the quality or lowering of the groundwater table could impact on any nearby private abstractions. A minor negative effect is therefore predicted on this SA objective, although this is uncertain because it is very likely that sufficient mitigation measures will be implemented to reduce the residual risk to negligible.</p> <p>The detailed development requirement for Allocation 02 in Appendix 4 of the MLP specifies the need for a hydrological / hydrogeological impact assessment, which will consider potential risks, their significance and possible mitigation measures, if required, on the following nearby surface water bodies (within 1km): Cinderford Brook Source to Blackpool Brook, Dry Brook, Bailey Brook, Lodgegrove Brook, and quarry lagoons at the existing Drybrook quarry. The underlying geology, which has been classified as a principal aquifer will also need to be analysed.</p>
17. To reduce the adverse impacts of lorry traffic on the environment and communities through means such as: a) reducing the need to travel b) promoting more sustainable means of transport e.g. by rail or water	-?	This site is more than 1km from the strategic highway network and as traffic associated with the site is therefore likely to travel further along local roads, there could be a minor negative effect on reducing the impacts of lorry traffic on the environment and communities. However, this is uncertain as the GCC assessment notes that as the site would be an extension to the existing quarry it might provide an opportunity for a new highway access, which would enable lorries to reach the strategic road network with less impact on Drybrook. This may reduce impacts on this objective as lorry traffic may

SA Objective and Sub Questions	SA Score	Justification
<p>c) sensitive lorry routing</p> <p>d) the use of sustainable alternative fuels</p>		<p>be reduced on local roads.</p> <p>The detailed development requirement for Allocation 02 in Appendix 4 of the MLP specifies that the access for the existing Drybrook Quarry should ideally be utilised. This is in preference to creating a new vehicular access for the purpose of the Allocation.</p>
<p>18. To reduce contributions to and to adapt to Climate Change.</p>	<p>?</p>	<p>At this stage in the planning process it is not possible to determine the impacts of minerals sites on their ability to reduce contributions to and to adapt to climate change as it will depend on the proposal, which would be assessed at the planning application stage.</p> <p>However, it is noted that the detailed development requirements for Allocation 02 in Appendix 4 of the MLP states that all proposed restoration solutions must seek to deliver greater resilience to the likely impacts of climate change.</p>

### Allocation 03: Depth extension to Stowfield Quarry

SA Objective and Sub Questions	SA Score	Justification
<p>1. To promote sustainable development and sustainable communities and improve the health and wellbeing of people living and working in Gloucestershire as well as visitors to the County.</p>	<p>+?</p>	<p>The site is not within 100m of any sensitive receptors. The closest sensitive receptor is Scowles Caravan Park located approximately 300m to the southeast of the site boundary, while the closest settlement, which is the village of Scowles, is located over 300m to the southeast of the site. Therefore, the site is expected to have no effects on the health of local residents and communities.</p> <p>The detailed development requirements for Allocation 03 in Appendix 4 of the MLP requires Health Impact Assessment screening and commitments to avoid and/or mitigate adverse amenity impacts and to maximise positive effects on health and wellbeing. In addition, it is assumed that mineral extraction at any of the potential sites will be well operated and that dust avoidance and suppression measures implemented by the operators should be sufficient to avoid any potential health effects. As such, minor positive effects are expected for this objective, but this is uncertain as it depends on the details of any proposal at the site.</p>
<p>2. To safeguard the amenity of local communities from the adverse impacts of mineral development.</p>	<p>-</p>	<p>The site is not within 100m of any sensitive receptors. The closest sensitive receptor is Scowles Caravan Park located approximately 300m to the southeast of the site boundary, while the closest settlement, which is the village of Scowles, is located over 300m to the southeast of the site.</p> <p>The site is not within 100m of any areas allocated for new residential development in the Forest of Dean District Council Adopted Core Strategy or Submitted Allocations Plan, therefore there should not be any land use conflict.</p> <p>The site is located within 1km of the settlement Staunton and Scowles and is proposed as a deepening to the existing Stowfield Quarry, therefore, continuing crushed rock limestone extraction activity in this area could have a minor negative cumulative effect on the amenity of the local community due to the potential continued noise and vibration associated with the mineral extraction operations. Noise and vibration effects may be more likely as the site would work crushed rock which would require blasting prior to excavation. However, the extent of these effects is very dependent on the scale of the operations and type of activities undertaken within the site as well as any potential mitigation measures proposed, which would be assessed at the planning application stage. While there may be some unavoidable short term effects due to noisy activities, it is assumed that mineral extraction at any of the potential sites will be well operated and that mitigation measures implemented should be sufficient to avoid</p>

SA Objective and Sub Questions	SA Score	Justification
		<p>any potential long term amenity effects.</p> <p>The detailed development requirements for Allocation 03 in Appendix 4 of the MLP specify the need for an analysis of potential amenity impacts will be necessary. Careful consideration should be paid to the local communities made up of the individual residential properties, farms and commercial enterprises located nearby to the site and those that comprise the nearby hamlets and villages of Crossways, Scowles, Staunton and Newland. The MLP also requires consideration of the impact of proposed freight routes and highlights the need for a Transport Assessment.</p>
3. To promote sustainable economic development in Gloucestershire giving opportunities to people from all social and ethnic backgrounds.	0	No effect is likely as mineral sites are unlikely to present opportunities for spin off employment or other opportunities due to sites being self-served by the operators that own them. It is noted that the detailed development requirements for Allocation 03 in Appendix 4 of the MLP require an Economic Impact Assessment to be undertaken.
4. To provide employment opportunities in both rural and urban areas of the County, promoting diversification in the economy.	+	All potential mineral sites regardless of their location are likely to have a minor positive effect on increasing employment levels. This is because all of the sites could have a direct and indirect positive effect on increasing employment levels during site preparation, operation and restoration, which could result in a small amount of job creation for local people in both rural and urban areas. However, job creation from new mineral extraction sites is not expected to be significant within the Gloucestershire economy; and given that the overall number of mineral sites likely to be developed in the County will not be a large number each year, the total numbers of new employment opportunities likely to be provided within the County is not considered to be significant.
5. To ensure that mineral sites do not compromise the safety of commercial or military aerodromes.	0	The site is not within an aerodrome safeguarding area and is therefore not expected to have an effect on this objective.
6. To conserve minerals resources from inappropriate development whilst providing for the supply of aggregates and other minerals sufficient for the needs of society.	0	New potential mineral sites would not be inappropriate development as they are contributing to extraction of mineral resources, not limiting the ability to extract resources, and would therefore have no effect on this objective, which primarily relates to areas being designated as Mineral Safeguarding and Consultation areas to safeguard from sterilisation by <u>non-mineral</u> development.
7. To protect, conserve and enhance biodiversity in Gloucestershire.	-/+?	The eastern boundary of the site is within 50m of Dingle Wood SSSI and the northern area of the site is located within Blakes Wood Key Wildlife Site. The western boundary of the site is also within 1km of Staunton Woods Key Wildlife Site. The southwest corner of the site is within approximately 1km of Wye Valley Woodlands SAC and

SA Objective and Sub Questions	SA Score	Justification
		<p>Swanpool Wood &amp; Furnace Grove SSSI. The 2016 HRA Report states that <i>"Allocation 3: Preferred Area at Stowfield comprises of parcel C (CRFD3) previously considered at the Site Options stage of the draft MLP. This parcel of land is proposed for deepening of an existing quarry bottom. This is largely a working quarry already, and roosting or foraging or commuting features for bats would not be lost. This allocation can be safely screened out from appropriate assessment because clearly there could not be a likely significant effect on bats associated with the Wye Valley Woodlands or Wye Valley &amp; Forest of Dean SACs."</i></p> <p>The 2016 GCC site assessment noted that this site is made up of the proposed additional site deepening and sites within the existing consented quarry. There are already mitigation measures in place and a S106 fund has been secured to benefit the Wye Woods 1 SNA and a range of notable species in surrounding local areas nearby. The quarry is to be restored by a mixture of minimal landscaping and natural re-colonisation processes. Subject to the observations of statutory advisors a significant effect on Wye Valley Woodlands Sites SAC, Dingle Wood SSSI and Swanpool Wood &amp; Furnace Grove SSSI is unlikely but any new/revised development upon this land should still be assessed for such impacts at the planning application stage. Therefore, the site could have some minor negative effects in the short term, although mitigation would be possible, and minor positive effects in the long-term could be achieved through restoration, however, these effects are uncertain as they will depend on the specific proposals put forward at the planning application stage.</p> <p>The detailed development requirements for Allocation 03 in Appendix 4 of the MLP specify the need for a review of the assessment of the natural environment of Stowfield Quarry focusing on natural assets located within the Stowfield Quarry boundary and beyond. In addition an analysis of whether any significant effects on the Wye Valley Woodlands Sites SAC and/or the Wye Valley &amp; Forest of Dean Bat Sites SAC either alone or in combination with other plans or projects, are likely to arise must also be carried out through formal screening to establish the need for an Appropriate Assessment (AA).</p>
8. To protect, conserve and enhance the landscape in Gloucestershire.	0	<p>The site is within the Wye Valley AONB. However, the landscape assessment carried out by Atkins (June 2015) judged that there will not be any significant impacts on the landscape character of the area. It concludes that while some significant landscape and visual impacts have been identified, they are derived solely from the previous proposal within Parcel A (which is not within the Allocation 03); there are no significant impacts as a result of the proposal at this site. Therefore, a negligible effect is identified for this</p>



SA Objective and Sub Questions	SA Score	Justification
		<p>objective.</p> <p>The detailed development requirements for Allocation 03 in Appendix 4 of the MLP specify the need for a review of the of landscape and visual impacts associated with the existing Stowfield Quarry focusing on possible additional or heightened impacts relating to quarry deepening. Where negative landscape effects are deemed sufficiently harmful to render a proposal unacceptable in planning terms, the review should also cover mitigation and compensation measures.</p>
<p>9. To restore mineral sites to a high standard in order to achieve the maximum after use benefits including the conservation and enhancement of biodiversity, and delivery of green infrastructure where possible.</p>	<p>+?</p>	<p>The restoration of minerals sites is increasingly adopting innovative practice and therefore, any minerals site could have positive effects on landscape character, biodiversity, amenity and recreation in the longer term, once restored. However, this would be very dependent on the exact nature and proposed design of the restoration of the minerals site, which would not be known until the planning application stage.</p>
<p>10. To protect conserve and enhance Gloucestershire's material, cultural and recreational assets.</p>	<p>0</p>	<p>The PRoW footpath RST/18/1 is within 150m of the western boundary of the site, however, the GCC PRoW Team has identified that no effects are expected on PRoW. The existing PRoW also runs past the existing consented quarry which is an established site, and therefore it is unlikely that deepening of the quarry will further impact on recreation assets or recreational activities.</p> <p>Furthermore, the GCC PRoW Team state that mineral developments could well offer opportunity of enhancement but at this stage and without checking on the ground or consulting the parishes it is too early to be exact.</p> <p>Therefore, the site is not expected to have an effect on recreation assets or recreational activities.</p>
<p>11. To protect conserve and enhance geodiversity in Gloucestershire.</p>	<p>--?</p>	<p>The working of and restoration of minerals sites is increasingly adopting innovative practice and there may be opportunities to incorporate and preserve important geological features within the site. However, this would be very dependent on the exact nature, working and proposed design of the restoration of the minerals site, which would not be known until the planning application stage.</p> <p>The site is located within the existing consented Stowfield Quarry, which is designated as a Regionally Important Geological Site local site. Previous workings on the site exposed the need for this designation and additional workings could therefore have a significant negative effect on this objective. It is uncertain whether further workings will reveal more geodiversity features and the significant negative effect would be very</p>

SA Objective and Sub Questions	SA Score	Justification
		<p>dependent on the exact nature, working and proposed design of the restoration of the minerals site, which would not be known until the planning application stage. However, the GCC assessment recommends that if quarrying is extended, or any infilling takes place, one rock face along the complete E-W section of the existing consented quarry is preserved, with an access ramp or path along it.</p>
<p>12. To protect conserve and enhance the historic environment, heritage assets and their setting.</p>	<p>-?</p>	<p>The Scowles located north of Blake's Wood and located in Blake's Wood, which are Scheduled Monuments, are located within 100m of the northern and eastern boundary of the site. There are also Scowles (registered as Scheduled Monuments) located in Dingle Wood approximately 50m to the east of the site. Additionally the northern boundary of the site is within 500m of Staunton Conservation Area and the Listed Buildings located within it, the closest being Church Farmhouse (Grade II) located approximately 780m away. However, the landscape assessment carried out by Atkins (June 2015) judged that there will not be any significant impacts on the historic landscape character of the area, or the Scheduled Monuments. It concludes that while some significant landscape and visual impacts have been identified, they are derived solely from the previous proposal within Parcel A (which is not within Allocation 03); there are no significant impacts as a result of the proposal at this site.</p> <p>Therefore, the site may have a minor negative effect on the historic environment, however the effects would be uncertain as a more detailed assessment would be required once proposals are known.</p> <p>The GCC assessment notes that advice on planning applications for the existing quarry has covered the protection of the Scowles, and the recording of other archaeological features across the site.</p> <p>The detailed development requirements for Allocation 03 in Appendix 4 of the MLP requires a review of previous assessments of heritage assets associated with the existing Stowfield Quarry and that any agreed protection measures are not prejudiced.</p>
<p>13. To prevent flooding, in particular preventing inappropriate development in the floodplain.</p>	<p>-?</p>	<p>A hydrogeological assessment carried out by Atkins found that there would likely be a significant impact on flood risk. During operation, dewatering is likely to be required and discharge of this water may give rise to an increased risk of flooding if the capacity of the receiving stream is exceeded. Any stockpiling of materials within areas susceptible to surface water flooding may increase the risk of flooding off site due to a reduction in water storage. In addition, after restoration, the backfilling of the mineral working with lower permeability material is likely to increase the amount of runoff from the site following a rainfall event and may therefore increase the risk of flooding. The</p>

SA Objective and Sub Questions	SA Score	Justification
		<p>Atkins report concluded that subject to appropriate design, especially with regard to storage and stockpiles, and the inclusion of appropriate mitigation measures it is likely that any impacts can be reduced to acceptable levels. A minor negative effect is therefore predicted for this SA objective. However this effect is uncertain as it will depend on the specific proposals that come forward and mitigation measures proposed.</p> <p>The detailed development requirements for Allocation 03 in Appendix 4 of the MLP specify the need for a flood risk assessment, which affords attention to the possibility of elevated risks associated with groundwater flooding and increased surface water run-off. Potential sensitive receptors include the residential properties and commercial premises located within and near to the village of Scowles, particularly along Scowles Road.</p>
14. To protect and enhance soil / land quality in Gloucestershire.	0	<p>The site is not within Grade 1, 2 or 3 agricultural land and is therefore not expected to have an effect on protecting or enhancing soil/land quality.</p> <p>The detailed development requirements for Allocation 03 in Appendix 4 of the MLP specify the need to review the previous soil/agricultural land quality assessments associated with the existing Stowfield Quarry.</p>
15. To protect and enhance air quality in Gloucestershire, helping to meet local, national and international objectives for air quality.	0	<p>The site is within 300m of the A4136 but is not within 1km of an AQMA; therefore the site is expected to have a negligible impact on protecting air quality, although this impact is very dependent on the type of mineral site, the scale of the operations and the type of activities undertaken within the site and potential mitigation measures proposed, which would be assessed at the planning application stage. Although, the GCC assessment states that a potential depth extension would be considered using the existing access and infrastructure and should therefore not breach the current productive capacity.</p>
16. To protect and enhance water quality and quantity in Gloucestershire, and to ensure that minerals development does not compromise sustainable sources of water supply.	-?	<p>A hydrogeological impact assessment carried out by Atkins outlines the impacts on nearby receptors. Impacts on the principal aquifer are of low significance, which includes the dewatering and diversion of groundwater from this area of the aquifer and the decrease in water quality. During operation, de-watering activities from quarrying is likely to result in a decrease of water levels in the aquifer surrounding any quarrying activities. This reduction in levels is likely to impact on any abstractions within the aquifer in close proximity to the quarry. Pollution of the aquifer from chemicals used during quarrying may decrease water quality in the aquifer. The aquifer is small and hydraulically isolated from surrounding aquifers by low permeability units. Any</p>

SA Objective and Sub Questions	SA Score	Justification
		<p>alteration to the quality or lowering of the groundwater table due to de-watering will only impact locally and will not impact upon nearby potable supplies. Blake's Wood KWS has a low significance impacts in relation to the changes in groundwater levels and/or quality can impact sensitive vegetation and have knock-on impacts of faunal interest. During and after restoration, an adverse impact is likely due to the close proximity of the site the KWS. In addition, Dingle Wood SSSI also has low significance impacts in relation to the changes to water availability and discharge of polluted water. During operation and after restoration, as a designated SSSI any potential change in hydrological conditions could potentially impact on integrity of the site and he SSSI is not known to be water-dependent, however it is within close proximity of the site so there is potential for adverse impact. Therefore, overall a minor negative effect is identified, although this is uncertain because it is very likely that sufficient mitigation measures will be implemented to reduce the residual risk to negligible.</p> <p>The detailed development requirement for Allocation 03 in Appendix 4 of the MLP specifies the need for a hydrological / hydrogeological impact assessment, which will consider potential risks, their significance and possible mitigation measures, if required, on the nearby surface water bodies up to 1km. A review of the underlying geology should also be carried out to identify the presence of a designated aquifer.</p>
<p>17. To reduce the adverse impacts of lorry traffic on the environment and communities through means such as:</p> <ul style="list-style-type: none"> <li>a) reducing the need to travel</li> <li>b) promoting more sustainable means of transport e.g. by rail or water</li> <li>c) sensitive lorry routing</li> <li>d) the use of sustainable alternative fuels</li> </ul>	+?	<p>This site is within 300m of the A4136 and the GCC assessment states that a potential depth extension would be considered using the existing access and infrastructure and should therefore not breach the current productive capacity. Therefore the site is likely to have a minor positive effect on reducing the impacts of lorry traffic on the environment and communities as traffic associated with the site should not have to travel far on local roads. However, the effects would be uncertain as the potential for effects will depend on the exact nature and design of the site, which would not be known until the planning application stage.</p>
<p>18. To reduce contributions to and to adapt to Climate Change.</p>	?	<p>At this stage in the planning process it is not possible to determine the impacts of minerals sites on their ability to reduce contributions to and to adapt to climate change as it will depend on the proposal, which would be assessed at the planning application stage.</p> <p>However, it is noted that the detailed development requirements for Allocation 03 in Appendix 4 of the MLP states that all proposed restoration solutions must seek to deliver greater resilience to the likely impacts of climate change.</p>



### Allocation 04: Land northwest of Daglingworth Quarry

SA Objective and Sub Questions	SA Score	Justification
<p>1. To promote sustainable development and sustainable communities and improve the health and wellbeing of people living and working in Gloucestershire as well as visitors to the County.</p>	+?	<p>The site is not within 100m of any sensitive receptors. The closest sensitive receptor is Oysterwell House located approximately 250m north east of the site. The closest settlement Itlay, is located approximately 500m to the south. Therefore, the site is expected to have negligible effects on the health of local residents and communities.</p> <p>The detailed development requirements for Allocation 04 in Appendix 4 of the MLP requires Health Impact Assessment screening and commitments to avoid and/or mitigate adverse amenity impacts and to maximise positive effects on health and wellbeing. In addition, it is assumed that mineral extraction at any of the potential sites will be well operated and that dust avoidance and suppression measures implemented by the operators should be sufficient to avoid any potential health effects. As such, minor positive effects are expected for this objective, although this is uncertain as it depends on the exact proposals for this site.</p>
<p>2. To safeguard the amenity of local communities from the adverse impacts of mineral development.</p>	-	<p>The site is not within 100m of any sensitive receptors. The closest sensitive receptor is Oysterwell House located approximately 250m north east of the site. The closest settlement Itlay, is located approximately 500m to the south.</p> <p>The site is not within 100m of any allocated residential sites in the Submitted Cotswold District Local Plan (July 2017).</p> <p>The site is located within 1km of the settlements Itlay and Bagendon and is proposed as an extension area to the existing Daglingworth Quarry, therefore, continuing crushed rock extraction activity in this area could have a minor negative cumulative effect on the amenity of the local community due to the potential noise and vibration associated with the mineral extraction operations. Noise and vibration effects may be more likely as the site would work crushed rock which would require blasting prior to excavation. However, the extent of these effects is very dependent on the scale of the operations and type of activities undertaken within the site as well as any potential mitigation measures proposed, which would be assessed at the planning application stage. While there may be some unavoidable short term effects due to noisy activities, it is assumed that mineral extraction at any of the potential sites will be well operated and that mitigation measures implemented should be sufficient to avoid any potential long term amenity effects.</p> <p>The detailed development requirements for Allocation 04 in Appendix 4 of the MLP specify the need for an analysis of potential amenity impacts will be necessary. Careful</p>

SA Objective and Sub Questions	SA Score	Justification
		consideration should be paid to the local communities that comprise the individual residential properties, farms and commercial enterprises located nearby to the site and those which form the hamlets of Itlay and Upper End near to Bagendon. The MLP also requires consideration of the impact of proposed freight routes and highlights the need for a Transport Assessment.
3. To promote sustainable economic development in Gloucestershire giving opportunities to people from all social and ethnic backgrounds.	0	No effect is likely as mineral sites are unlikely to present opportunities for spin off employment or other opportunities due to sites being self-served by the operators that own them. It is noted that the detailed development requirements for Allocation 04 in Appendix 4 of the MLP require an Economic Impact Assessment to be undertaken.
4. To provide employment opportunities in both rural and urban areas of the County, promoting diversification in the economy.	+	All potential mineral sites regardless of their location are likely to have a minor positive effect on increasing employment levels. This is because all of the sites could have a direct and indirect positive effect on increasing employment levels during site preparation, operation and restoration, which could result in a small amount of job creation for local people in both rural and urban areas. However, job creation from new mineral extraction sites is not expected to be significant within the Gloucestershire economy; and given that the overall number of mineral sites likely to be developed in the County will not be a large number each year, the total numbers of new employment opportunities likely to be provided within the County is not considered to be significant.
5. To ensure that mineral sites do not compromise the safety of commercial or military aerodromes.	0	The site is not within an aerodrome safeguarding area and is therefore not expected to have an effect on this objective.
6. To conserve minerals resources from inappropriate development whilst providing for the supply of aggregates and other minerals sufficient for the needs of society.	0	New potential mineral sites would not be inappropriate development as they are contributing to extraction of mineral resources, not limiting the ability to extract resources, and would therefore have no effect on this objective, which primarily relates to areas being designated as Mineral Safeguarding and Consultation areas to safeguard from sterilisation by <u>non-mineral</u> development.
7. To protect, conserve and enhance biodiversity in Gloucestershire.	-/+?	High Tun Farm KWS, Itlay KWS, and Stancombe Grove & Oysterwell Wood KWS are within 250m of the site. There are also other Key Wildlife Sites within 1km of the site, such as Bagendon Grove & Oysterwell Wood KWS, Merchants Downs KWS, and Daglingworth & Snakes Groves KWS. However, the GCC site assessment 2016 notes that priority habitats plus protected and/or priority species have been recorded adjacent and within 1km of the land and that any development upon this land should be assessed for impacts on internationally and nationally designated sites.  The 2016 HRA Report states that " <i>Allocation 4: Preferred Area at Daglingworth</i>

SA Objective and Sub Questions	SA Score	Justification
		<p><i>comprises of parcel A (CRCW1) previously considered at the Site Options stage of the draft MLP. This parcel was deemed to be very distant and with no pathway present related to minerals development that would result in any conceivable effect on the conservation objectives of any European Site. Allocation 4: Preferred Area at Daglingworth can therefore be safely screened out [from Appropriate Assessment]."</i></p> <p>However, it is noted that the detailed development requirements for Allocation 04 in Appendix 4 of the MLP encourage restoration of the site to consider potential for biodiversity enhancements, so a mixed minor negative and positive, uncertain effect is identified. The detailed development requirements also require a comprehensive assessment of the natural environment will be required, including identifying potential impacts and measures to avoid, reduce, remedy and/or compensate possible unacceptable negative effects.</p>
8. To protect, conserve and enhance the landscape in Gloucestershire.	0	<p>The site is located within the Cotswolds AONB.</p> <p>The landscape assessment carried out by Atkins (June 2015) judged that there would be not be any significant impacts on the landscape character or features of the area. This is due to the lack of designated features within or around the site and the location of the site adjacent to an existing quarry. The Atkins report also judged that there would not be any significant impacts on the visual resource of the area.</p> <p>Therefore, a negligible effect is identified for this objective. However, the detailed development requirements within Appendix 4 of the MLP state that a Landscape and Visual Impact Assessment will be necessary, which must acknowledge the wider Cotswold AONB designation that the Allocation is located within. The LVIA would also be required to provide details concerning measures to avoid, reduce, remedy and/or compensate any unacceptable negative effects.</p>
9. To restore mineral sites to a high standard in order to achieve the maximum after use benefits including the conservation and enhancement of biodiversity, and delivery of green infrastructure where possible.	+?	<p>The restoration of minerals sites is increasingly adopting innovative practice and therefore, any minerals site could have positive effects on landscape character, biodiversity, amenity and recreation in the longer term, once restored. However, this would be very dependent on the exact nature and proposed design of the restoration of the minerals site, which would not be known until the planning application stage.</p>
10. To protect conserve and enhance Gloucestershire's material, cultural and recreational assets.	-	<p>The PRoW bridleway BDH 3/2 runs along the south eastern boundary of the site. The GCC site assessment 2016 identifies that this bridleway would have to be diverted, although the GCC site assessment criteria anticipated the PRoW remaining due to use of a tunnel to access the site. Furthermore, GCC PRoW Team state that mineral</p>



SA Objective and Sub Questions	SA Score	Justification
		<p>developments could well offer opportunity of enhancement but at this stage and without checking on the ground or consulting the parishes it is too early to be exact.</p> <p>Therefore, the site could have minor negative effects on recreation activities as the PRoW might be out of use while diverted, and minerals extraction at the site could make nearby recreational assets less attractive for users.</p> <p>The detailed development requirements for Allocation 04 in Appendix 4 of the MLP specify the need for an assessment of the PRoW network should be undertaken with particular attention given to paths BDH 3/2 and 10/1. Advice should be sought from the Local Highways Authority regarding any proposals to temporarily divert or permanent re-routing either of the potentially affected paths.</p>
<p>11. To protect conserve and enhance geodiversity in Gloucestershire.</p>	<p>-?</p>	<p>The working of and restoration of minerals sites is increasingly adopting innovative practice and there may be opportunities to incorporate and preserve important geological features within the site. However, this would be very dependent on the exact nature, working and proposed design of the restoration of the minerals site, which would not be known until the planning application stage.</p> <p>The site is located within 500m of Daglingworth Quarry Regionally Important Geological Site. Therefore, the site could have a minor negative effect on this objective. However, this would be very dependent on the exact nature, working and proposed design of the restoration of the minerals site, which would not be known until the planning application stage. The GCC site assessment 2016 calls for advice to be sought on geodiversity before the site is developed which would emulate what is already occurring on the adjacent site.</p> <p>The detailed development requirements for Allocation 04 in Appendix 4 of the MLP specify the need for an assessment of potential impacts on Daglingworth Quarry RIGS nos. 164 and 165 should be carried out, which incorporates possible mitigation measures, if required. Advice should be sought in this regard from the Gloucestershire Geology Trust.</p>
<p>12. To protect conserve and enhance the historic environment, heritage assets and their setting.</p>	<p>--?</p>	<p>The eastern boundary of the site is within 1km of Bagendon Conservation Area and Bagendon House Listed Building (Grade II) which is located within it. Additionally Duntisbourne Rouse/Middle Conservation Area and Daglingworth Conservation Area, and some Listed Buildings located within them are located just within 1km of the west and south west of the site respectively. However, the Atkins landscape assessment concluded that the sensitivity of the historic landscape character in relation to the</p>

SA Objective and Sub Questions	SA Score	Justification
		<p>proposed development was judged to be low and that the significance of effect on this receptor would be Negligible. In addition, it was judged that the proposed development would have no further landscape or setting impacts upon other landscape and heritage features within the area. Therefore a negligible effect is identified for heritage assets and their setting.</p> <p>However, the GCC site assessment 2016 identifies the site of a possible Bronze Age barrow, and an earthwork bordering the south eastern boundary of the site which forms a part of the late Iron Age-early Roman settlement of Bagendon. The latter is of national importance and parts of the complex are a Scheduled Monument. The possible presence of other features contemporary with Bagendon was raised. It was recommended that the linear earthwork was excluded from the extraction area, and that the rest of the site should be assessed/evaluated. Therefore, the site could have a significant negative effect on archaeology, however, the effects would be uncertain as a more detailed assessment would be required once proposals are known.</p> <p>The detailed development requirements for Allocation 04 in Appendix 4 of the MLP specify the need for a comprehensive Heritage Statement for the Allocation that incorporates an analysis of its potential archaeological interest. Where potential for adverse effects is identified, proposals for avoiding or mitigating these must be included.</p>
<p>13. To prevent flooding, in particular preventing inappropriate development in the floodplain.</p>	<p>-?</p>	<p>The hydrogeological assessment carried out by Atkins found that there would likely be a significant impact on flood risk. During operation, dewatering is likely to be required, and discharge of water may give rise to increased flood risk if the capacity of the receiving stream is exceeded. Stockpiling of materials in areas that are susceptible to flooding may increase flooding off site due to reduction in flood plain storage. After restoration, it is likely that surface pooling on site will increase if impermeable material is used. With the use of lower permeability materials, the migration of groundwater through the site is likely to be blocked, allowing water levels to rise upgradient of the site. This could give rise to an increased risk of groundwater flooding locally. However the Atkins report concluded that subject to appropriate design, especially with regard to storage and stockpiles, and the inclusion of appropriate mitigation measures it is likely that any impacts can be reduced to acceptable levels. A minor negative effect is therefore likely on this SA objective. However this effect is uncertain as it will depend on the specific proposals that come forward and mitigation measures proposed.</p> <p>The detailed development requirements for Allocation 04 in Appendix 4 of the MLP specify the need for a flood risk assessment, which affords attention to the possibility of</p>

SA Objective and Sub Questions	SA Score	Justification
		<p>elevated risks associated with groundwater flooding and increased surface water run-off. Potential sensitive receptors include the residential properties and commercial premises located within and surrounding the hamlet of Itlay and the villages of Daglingworth and Bagendon.</p>
<p>14. To protect and enhance soil / land quality in Gloucestershire.</p>	<p>-?</p>	<p>The site is considered to be medium-sized (17ha) and is within grade 3 agricultural land and could therefore have a minor negative effect on protecting or enhancing soil/land quality. However, this is uncertain as there may be opportunities to restore agricultural soils during restoration.</p> <p>The detailed development requirements for Allocation 04 in Appendix 4 of the MLP specify the need for a Soil Survey and Agricultural Land Classification Report, which identifies potential impacts and possible mitigation, if required, particularly in light of the potential presence of agricultural land of BMVAL quality grade 3a.</p>
<p>15. To protect and enhance air quality in Gloucestershire, helping to meet local, national and international objectives for air quality.</p>	<p>0</p>	<p>The site is adjacent to the A417 but is not within 1km of an AQMA; therefore the site is expected to have a negligible impact on protecting air quality, although this impact is very dependent on the type of mineral site, the scale of the operations and the type of activities undertaken within the site and potential mitigation measures proposed, which would be assessed at the planning application stage.</p>
<p>16. To protect and enhance water quality and quantity in Gloucestershire, and to ensure that minerals development does not compromise sustainable sources of water supply.</p>	<p>-?</p>	<p>A hydrogeological impact assessment was carried out by Atkins. A significant effect was predicted on the principal aquifer and Abstraction and SPZ1. In relation to the principal aquifer, de-watering and diversion of groundwater from this area of the aquifer, and a decrease in water quality is predicted. After restoration, backfilling of the quarry with impermeable material may decrease the supply recharge of water, possibly reducing the water level. In relation to Abstraction and SPZ1, during operation, dewatering activities may decrease the water levels within SPZ1, with chemicals lowering water quality. After restoration, backfilling of the quarry with impermeable material may decrease the supply recharge of water, possibly reducing the water level. However, the Atkins report does state that dewatering may not be required. A minor negative effect is predicted for this SA objective, although this is uncertain because it is likely that sufficient mitigation measures will be implemented to reduce the residual risk to negligible.</p> <p>The detailed development requirement for Allocation 04 in Appendix 4 of the MLP specifies the need for a hydrological / hydrogeological impact assessment, which will consider potential risks, their significance and possible mitigation measures, if required,</p>

SA Objective and Sub Questions	SA Score	Justification
		on the nearby surface water bodies up to 1km. A review of the underlying geology should also be carried out to identify the presence of a designated aquifer.
<p>17. To reduce the adverse impacts of lorry traffic on the environment and communities through means such as:</p> <ul style="list-style-type: none"> <li>a) reducing the need to travel</li> <li>b) promoting more sustainable means of transport e.g. by rail or water</li> <li>c) sensitive lorry routing</li> <li>d) the use of sustainable alternative fuels</li> </ul>	+?	<p>This site is adjacent to the A417 and could therefore have a minor positive effect on reducing the impacts of lorry traffic on the environment and communities, as traffic associated with the site should not have to travel far on local roads. Furthermore, the GCC assessment notes that the A417 was the preferred route for lorry traffic, and that it is anticipated that the site would only have potential as an extension to the existing site at Daglingworth using the current access. This may help reduce impacts of lorry traffic on the environment and communities. However, the effects would be uncertain as the potential for effects will depend on the exact nature and design of the site, which would not be known until the planning application stage.</p>
<p>18. To reduce contributions to and to adapt to Climate Change.</p>	?	<p>At this stage in the planning process it is not possible to determine the impacts of minerals sites on their ability to reduce contributions to and to adapt to climate change as it will depend on the proposal, which would be assessed at the planning application stage.</p> <p>However, it is noted that the detailed development requirements for Allocation 04 in Appendix 4 of the MLP states that all proposed restoration solutions must seek to deliver greater resilience to the likely impacts of climate change.</p>

**Allocation 05: Land south and west of Naunton Quarry<sup>184</sup>**

SA Objective and Sub Questions	SA Score	Justification
<p>1. To promote sustainable development and sustainable communities and improve the health and wellbeing of people living and working in Gloucestershire as well as visitors to the County.</p>	<p>-/+?</p>	<p>The south east corner of the southern land parcel (previously CRCW2 Huntsmans Parcel C) is within 100m of Huntsmans House and Huntsmans Cottage. The south west corner of the smaller northern parcel is within 100m of Nosehill Farm and the south east corner is within 100m of Chalkhill Farm. The nearest settlement is Barton, located over 1km away to the west of the site. Therefore, the site could have a minor negative effect on health due to the potential for dust (PM10) to have a negative effect on the health of local residents and communities within close proximity to the site. However, this effect is uncertain, as the extent to which dust affects the nearby residents and settlement will depend on local circumstances such as the topography, nature of the landscape and the respective location of the site, Huntsmans House, Huntsmans Cottage, and Nosehill Farm and Chalkhill Farm in relation to the prevailing wind direction.</p> <p>The detailed development requirements for Allocation 05 in Appendix 4 of the MLP requires Health Impact Assessment screening and commitments to avoid and/or mitigate adverse amenity impacts and to maximise positive effects on health and wellbeing. In addition, it is assumed that mineral extraction at any of the potential sites will be well operated and that dust avoidance and suppression measures implemented by the operators should be sufficient to avoid any potential health effects. As such, mixed minor positive and negative effects are expected for this objective.</p>
<p>2. To safeguard the amenity of local communities from the adverse impacts of mineral development.</p>	<p>-</p>	<p>The south east corner of the southern larger parcel (previously CRCW2 Huntsmans Parcel C) is within 100m of Huntsmans House and Huntsmans Cottage. The south west corner of the smaller northern parcel is within 100m of Nosehill Farm and the south east corner is within 100m of Chalkhill Farm. The nearest settlement is Barton, located over 1km away to the west of the site. Therefore, the site could have a minor negative effect on amenity for the nearby residents and settlement due to the potential noise and vibration associated with the mineral extraction operations. Noise and vibration effects may be more likely as the site would work crushed rock which would require blasting prior to excavation. However, the extent of these effects is very dependent on the scale of the operations and type of activities undertaken within the site as well as</p>

<sup>184</sup> As of November 2017 the quarry formerly known as “Huntsman’s Quarry” has been renamed Naunton Quarry by the site owner.

SA Objective and Sub Questions	SA Score	Justification
		<p>any potential mitigation measures proposed, which would be assessed at the planning application stage. While there may be some unavoidable short term effects due to noisy activities, it is assumed that mineral extraction at any of the potential sites will be well operated and that mitigation measures implemented should be sufficient to avoid any potential long term amenity effects.</p> <p>There are no residential sites allocated for development within 100m of the site as part of the Submitted Cotswold District Local Plan (July 2017).</p> <p>There are no settlements within 1km of the site and therefore the site is not expected to have a cumulative effect on the amenity of the local community.</p> <p>The detailed development requirements for Allocation 05 in Appendix 4 of the MLP specify the need for an analysis of potential amenity impacts. This should help provide mitigation for the potential negative effects identified. The MLP also requires consideration of the impact of proposed freight routes and the need for a transport assessment, also stating that the existing access route at Naunton Quarry should be utilised rather than a new, separate vehicular access.</p>
3. To promote sustainable economic development in Gloucestershire giving opportunities to people from all social and ethnic backgrounds.	0	No effect is likely as mineral sites are unlikely to present opportunities for spin off employment or other opportunities due to sites being self-served by the operators that own them. It is noted that the detailed development requirements for Allocation 05 in Appendix 4 of the MLP require an Economic Impact Assessment to be undertaken.
4. To provide employment opportunities in both rural and urban areas of the County, promoting diversification in the economy.	+	All potential mineral sites regardless of their location are likely to have a minor positive effect on increasing employment levels. This is because all of the sites could have a direct and indirect positive effect on increasing employment levels during site preparation, operation and restoration, which could result in a small amount of job creation for local people in both rural and urban areas. However, job creation from new mineral extraction sites is not expected to be significant within the Gloucestershire economy; and given that the overall number of mineral sites likely to be developed in the County will not be a large number each year, the total numbers of new employment opportunities likely to be provided within the County is not considered to be significant.
5. To ensure that mineral sites do not compromise the safety of commercial or military aerodromes.	0	The site is not within an aerodrome safeguarding area and is therefore not expected to have an effect on this objective.
6. To conserve minerals resources from inappropriate development whilst providing for the supply of aggregates	0	New potential mineral sites would not be inappropriate development as they are contributing to extraction of mineral resources, not limiting the ability to extract

SA Objective and Sub Questions	SA Score	Justification
and other minerals sufficient for the needs of society.		resources, and would therefore have no effect on this objective, which primarily relates to areas being designated as Mineral Safeguarding and Consultation areas to safeguard from sterilisation by <u>non-mineral</u> development.
7. To protect, conserve and enhance biodiversity in Gloucestershire.	+?	<p>The 2016 HRA Report states "The closest European Site is Dixton Wood SAC at around 14km away and no pathway is present from minerals development occurring at Huntsman's that would result in a conceivable effect on conservation objectives of the European Site." The HRA report concluded that Allocation 05 can be safely screened out from Appropriate Assessment.</p> <p>The GCC site assessment 2016 observes that the site is a large open area of mainly arable land with defunct hedgerows and that no confirmed notable species are recorded on site, but there are nationally designated sites nearby plus locally designated sites and priority habitats plus protected and/or priority species have been recorded within 1km of the land. The northern boundary of the site is within 800m of Barton Bushes SSSI and the site is also located within 1km of two Key Wildlife Sites: Warren Beds; and Barton Valley. As the site is adjacent to Brockhill B SNA, a useful contribution could be made through a restoration scheme including calcareous grassland creation. Therefore, the GCC site assessment 2016 considers the overall impact on biodiversity is potentially uncertain or positive, and a minor positive effect is predicted for this objective.</p> <p>However, these effects would be uncertain as they will depend on the exact nature and design of new sites, which would not be known until the planning application stage.</p> <p>The detailed development requirements for Allocation 05 in Appendix 4 of the MLP specify the need for a comprehensive assessment of the natural environment, particularly in regards to Huntsman's Quarry SSSI, Barton Bushes SSSI, Warren Beds KWS and Barton Vale KWS. The analysis will also need to assess all stages of mineral working and also provide sufficient detail on avoidance, mitigation and compensatory measures for any identified unacceptable negative effects. The detailed development requirements also encourage restoration of the site to consider potential for biodiversity enhancements.</p>
8. To protect, conserve and enhance the landscape in Gloucestershire.	0	<p>The site is located within the Cotswolds AONB.</p> <p>However, the landscape assessment carried out by Atkins (June 2015) judged that whilst some significant landscape and visual impacts have been identified, they are concentrated in close proximity to the site or within the boundary of the site itself. The</p>

SA Objective and Sub Questions	SA Score	Justification
		<p>significant impacts are derived from the proposals within Parcel A and B; there are no significant impacts as a result of the proposal at Parcel C (which is what this Allocation comprises). Therefore, a negligible effect is identified for this objective.</p> <p>The detailed development requirement for Allocation 05 in Appendix 4 of the MLP specifies the need for a Landscape &amp; Visual Impact Assessment, which must acknowledge the wider Cotswold AONB designation that the site is located within. of the LVIA should also consider national landscape character NCA 107 (Cotswolds) and the regional / local level classification – The High Wold landscape character type and area. The LVIA would also be required to provide details concerning measures to avoid, reduce, remedy and/or compensate any unacceptable negative effects.</p>
<p>9. To restore mineral sites to a high standard in order to achieve the maximum after use benefits including the conservation and enhancement of biodiversity, and delivery of green infrastructure where possible.</p>	<p>+?</p>	<p>The restoration of minerals sites is increasingly adopting innovative practice and therefore, any minerals site could have positive effects on landscape character, biodiversity, amenity and recreation in the longer term, once restored. However, this would be very dependent on the exact nature and proposed design of the restoration of the minerals site, which would not be known until the planning application stage.</p>
<p>10. To protect conserve and enhance Gloucestershire's material, cultural and recreational assets.</p>	<p>-?</p>	<p>The PRoW footpath HNA/19/1 appears to run along the eastern boundary of the site and could therefore have a minor negative effect on recreation activities by making the footpath less attractive for users. However, the 2016 GCC site assessment notes that no PRoWs would be affected, therefore this effect is uncertain.</p>
<p>11. To protect conserve and enhance geodiversity in Gloucestershire.</p>	<p>-?</p>	<p>The working of and restoration of minerals sites is increasingly adopting innovative practice and there may be opportunities to incorporate and preserve important geological features within the site. However, this would be very dependent on the exact nature, working and proposed design of the restoration of the minerals site, which would not be known until the planning application stage.</p> <p>The southern boundary of the northern smaller site is within 100m of Huntsman's Quarry SSSI (a national site of geological interest) and the southern boundary is within 500m of Grange Hill Quarry Regionally Important Geological Site. Therefore, the site could have a minor negative effect on this objective. However, this would be dependent on the exact nature, working and proposed design of the restoration of the site, which would not be known until the planning application stage.</p> <p>The detailed development requirements for Allocation 05 in Appendix 4 of the MLP outline that, in the event the existing Huntsman's Quarry RIGS (ref: 92) will be affected, a proportionately detailed assessment of the possible impacts must be carried</p>



SA Objective and Sub Questions	SA Score	Justification
		<p>out. There is also a need for a wider geodiversity analysis, with acknowledgement of Cotswold Slates and fossil-bearing rocks. Advice should be sought from the Gloucestershire Geology Trust.</p>
<p>12. To protect conserve and enhance the historic environment, heritage assets and their setting.</p>	<p>-?</p>	<p>The north west corner of the smaller, northern parcel is within 100m of a deserted medieval farmstead and associated earthworks, which are designated as a Scheduled Monument. The southern boundary of the larger, southern parcel is within 200m of Summerhill prehistoric site, which is designated as a Scheduled Monument. The south east corner of the site is also within 500m of Bowl barrow known as 'Salter's Pool round barrow', which is designated as a Scheduled Monument.</p> <p>However, the Atkins landscape assessment, which assessed impacts on historic landscape character and local designated heritage assets judged that there are no significant impacts as a result of the proposal at Parcel C (the larger, southern parcel of Allocation 05). In addition, the Atkins assessment notes the sensitivity of the Sumerhill prehistoric site Scheduled Monument south of Parcel C (the larger southern site of Allocation 05) to the proposed development is judged to be High. There would be a very minor alteration to the setting resulting in a Negligible magnitude of change. Overall it has been determined that the significance of effect on this receptor would be Negligible for Parcel C (the larger southern site of Allocation 05). In contrast, the Atkins Assessment notes that there are significant impacts within and close to the boundary of Parcel B (the smaller, northern parcel of Allocation 05).</p> <p>The GCC site assessment 2016 notes that only a limited evaluation round the periphery of this area identified undated archaeological features and some Roman finds and the site is situated in within a landscape with a high density of archaeological sites of prehistoric and Roman date, some of which are designated as Scheduled Monuments.</p> <p>Therefore, the site could have a minor negative effect on the setting of these assets, however, the effects would be uncertain as a more detailed assessment would be required once proposals are known.</p> <p>The detailed development requirements for Allocation 05 in Appendix 4 of the MLP specifies the need for a Heritage Statement for the Allocation to establish the presence of heritage assets that could be affected and to assess the nature, extent and importance of their significance and their settings and how any negative effects could be mitigated.</p>
<p>13. To prevent flooding, in particular preventing inappropriate development</p>	<p>-?</p>	<p>A hydrogeological assessment carried out by Atkins found that there would likely be a</p>

SA Objective and Sub Questions	SA Score	Justification
in the floodplain.		<p>significant impact on flood risk. During operation, dewatering is likely to be required, and discharge of water may give rise to increased flood risk if the capacity of the receiving stream is exceeded. Additionally, stockpiling of materials within areas susceptible to flooding may increase the risk of flooding due to reduction in flood plain storage. After restoration, it is likely that surface pooling on site will increase if impermeable material is used. With the use of lower permeability materials, rainwater events may increase risk of flooding. Lower permeability materials used in backfilling may block the migration of groundwater through the site, causing water levels to rise upstream. The Atkins report concluded that subject to appropriate design, especially with regard to storage and stockpiles, and the inclusion of appropriate mitigation measures it is likely that any impacts can be reduced to acceptable levels. A minor negative effect is therefore predicted for this SA objective. However, this effect is uncertain as it will depend on the specific proposals that come forward and mitigation measures proposed.</p> <p>The detailed development requirements for Allocation 05 in Appendix 4 of the MLP outlines the need for a flood risk assessment, focused on the possibility of elevated risks from groundwater flooding and increased surface water run-off. Potential sensitive receptors include Summerhill Farm (to the south) and the offices of the existing Naunton Quarry.</p>
14. To protect and enhance soil / land quality in Gloucestershire.	-?	<p>The site covers a large area (39ha) and is within grade 3 agricultural land and could therefore have a minor negative effect on protecting or enhancing soil/land quality. However, this is uncertain as there may be opportunities to restore agricultural soils during restoration.</p> <p>A Soil Survey and Agricultural Land Classification Report is required in the detailed development requirements for Allocation 05 in Appendix 4 of the MLP due to the potential presence of BMVAL grade 3a.</p>
15. To protect and enhance air quality in Gloucestershire, helping to meet local, national and international objectives for air quality.	-	<p>The site is not within 1km of an AQMA but is more than 1km from the strategic highway network. Traffic associated with the site is therefore likely to travel further along local roads. The site is therefore expected to have a minor negative impact on protecting air quality, although this impact is very dependent on the type of mineral site, the scale of the operations and the type of activities undertaken within the site and potential mitigation measures proposed, which would be assessed at the planning application stage.</p>
16. To protect and enhance water quality and quantity in Gloucestershire, and to ensure that minerals	-?	<p>The site is not within a Source Protection Zone but does overlay a principal aquifer which may provide a high level of water storage and support water supply and/or river</p>

SA Objective and Sub Questions	SA Score	Justification
development does not compromise sustainable sources of water supply.		<p>base flow on a strategic scale.</p> <p>A hydrogeological impact assessment found a low significance effect on Barton Bushes SSSI, in relation to changes to water availability and discharge of polluted water. The principal aquifer has a highly significant effect predicted. During operation, there may be a large de-watering process during quarrying and an impact on groundwater flow paths as it stretches across flow of groundwater. Chemicals used in the process may also enter the aquifer, reducing water quality. After restoration, replacement of sand with lower permeability may cause perturbation of the groundwater regime, which will have negative effects on local private potable abstractions and contaminate the aquifer. A minor negative effect is therefore predicted for this SA objective, although this is uncertain because it is very likely that sufficient mitigation measures will be implemented to reduce the residual risk to negligible.</p> <p>The detailed development requirement for Allocation 05 in Appendix 4 of the MLP specifies the need for a hydrogeological impact assessment, which will consider potential risks, their significance and possible mitigation measures, if required, on the following nearby surface water bodies (i.e. within 3km): River Windrush, River Eye, several springs feeding an unnamed tributary of the Windrush; and small ponds and a small lake that relate the existing Naunton Quarry. The site is also located less than 1km of a Source Protection Zone Level 3 and the underlying geology, which has been classified as a principal aquifer will also need to be analysed.</p>
<p>17. To reduce the adverse impacts of lorry traffic on the environment and communities through means such as:</p> <p>a) reducing the need to travel</p> <p>b) promoting more sustainable means of transport e.g. by rail or water</p> <p>c) sensitive lorry routing</p> <p>d) the use of sustainable alternative fuels</p>	-	<p>This site is more than 1km from the strategic highway network and as traffic associated with the site is therefore likely to travel further along local roads, there could be a minor negative effect on reducing the impacts of lorry traffic on the environment and communities.</p> <p>The detailed development requirements for Allocation 05 in Appendix 4 of the MLP specifies the need for a transport assessment.</p>
18. To reduce contributions to and to adapt to Climate Change.	?	At this stage in the planning process it is not possible to determine the impacts of minerals sites on their ability to reduce contributions to and to adapt to climate change as it will depend on the proposal, which would be assessed at the planning application stage. However, it is noted that the detailed development requirements for Allocation

SA Objective and Sub Questions	SA Score	Justification
		05 in Appendix 4 of the MLP states that all proposed restoration solutions must seek to deliver greater resilience to the likely impacts of climate change.

### Allocation 06 – Land south east of Down Ampney

SA Objective	SA Score	Justification
<p>1. To promote sustainable development and sustainable communities and improve the health and wellbeing of people living and working in Gloucestershire as well as visitors to the County.</p>	<p>-/+?</p>	<p>There are a small number of residential properties adjacent to the site . The nearest settlements are Down Ampney (600m west) and Marston Meysey (approximately 300m east). Therefore, the site could have a minor negative effect on health due to the potential for dust (PM10) to have a negative effect on the health of local residents and communities within close proximity to the site. However, this effect is uncertain, as the extent to which dust affects the nearby residents and settlement will depend on local circumstances such as the topography, nature of the landscape and the respective location of the site and sensitive receptors in relation to the prevailing wind direction.</p> <p>The detailed development requirements for Allocation 06 in Appendix 4 of the MLP requires Health Impact Assessment screening and commitments to avoid and/or mitigate adverse amenity impacts and to maximise positive effects on health and wellbeing. In addition, it is assumed that mineral extraction at any of the potential sites will be well operated and that dust avoidance and suppression measures implemented by the operators should be sufficient to avoid any potential health effects. As such, mixed minor positive and negative effects are expected for this objective.</p>
<p>2. To safeguard the amenity of local communities from the adverse impacts of mineral development.</p>	<p>-</p>	<p>There are a small number of residential properties adjacent to the site. The nearest settlements are Down Ampney (600m west) and Marston Meysey (approximately 300m east). Therefore, the site could have a minor negative effect on amenity for the nearby residents and settlement due to the potential noise and vibration associated with the mineral extraction operations. Noise and vibration effects may be less likely at this site than a site for crushed rock as sand and gravel rarely require blasting prior to excavation. However, the extent of these effects is very dependent on the scale of the operations and type of activities undertaken within the site as well as any potential mitigation measures proposed, which would be assessed at the planning application stage. While there may be some unavoidable short term effects due to noisy activities, it is assumed that mineral extraction at any of the potential sites will be well operated and that mitigation measures implemented should be sufficient to avoid any potential long term amenity effects.</p> <p>Although sites are allocated for residential development on the eastern edges of Down Ampney in the Submitted Cotswold District Local Plan (July 2017), there are no allocated future residential sites within 100m of this site which could result in land use conflict.</p> <p>As the nearby settlements and properties are not within 1km of any other existing mineral sites, there are no cumulative effects expected on the local community.</p> <p>The detailed development requirements for Allocation 06 in Appendix 4 of the Publication MLP specifies the need for an analysis of potential amenity impacts, with</p>

SA Objective	SA Score	Justification
		consideration given to the local communities Down Ampney (including Broadleaze); Latton; Marston Meysey and nearby individual properties. This should help provide mitigation for the potential negative effects identified. The MLP also requires consideration of the impact of proposed freight routes and outlines the need for a Transport Assessment, with input from the Local Highways Authority.
3. To promote sustainable economic development in Gloucestershire giving opportunities to people from all social and ethnic backgrounds.	0	No effect is likely as mineral sites are unlikely to present opportunities for spin off employment or other opportunities due to sites being self-served by the operators that own them. It is noted that the detailed development requirements for Allocation 06 in Appendix 4 of the MLP require an Economic Impact Assessment to be undertaken.
4. To provide employment opportunities in both rural and urban areas of the County, promoting diversification in the economy.	+	All potential mineral sites regardless of their location are likely to have a minor positive effect on increasing employment levels. This is because all of the sites could have a direct and indirect positive effect on increasing employment levels during site preparation, operation and restoration, which could result in a small amount of job creation for local people in both rural and urban areas. However, job creation from new mineral extraction sites is not expected to be significant within the Gloucestershire economy; and given that the overall number of mineral sites likely to be developed in the County will not be a large number each year, the total numbers of new employment opportunities likely to be provided within the County is not considered to be significant.
5. To ensure that mineral sites do not compromise the safety of commercial or military aerodromes.	-?	The entire site lies within the safeguarding zone for RAF Fairford. Therefore, the site could have a minor negative effect on the safety of commercial or military aerodromes due to the potential for birds to provide a hazard to aircraft, especially as this site may be restored to a form of open water use, as it is located close to the Cotswold Water Park. However, the effects would be uncertain as it is dependent on the type of restoration proposed and eventually developed on a site, which will not be known until the planning application stage. For example, the site may be restored to a dry after use due to being located within the RAF Fairford safeguarding zone, however, this could increase the risk of flooding as mentioned against SA Objective 13 below.  The detailed development requirements for Allocation 06 in Appendix 4 of the MLP specify the need for the consideration of aviation safety. Additionally, DIO Safeguarding will be consulted on all minerals development proposals within the site.
6. To conserve minerals resources from inappropriate development whilst providing for the supply of aggregates and other minerals sufficient for the needs of society.	0	New potential mineral sites would not be inappropriate development as they are contributing to extraction of mineral resources, not limiting the ability to extract resources, and would therefore have no effect on this objective, which primarily relates to areas being designated as Mineral Safeguarding and Consultation areas to safeguard mineral resources from sterilisation by <u>non-mineral</u> development.
7. To protect, conserve and enhance biodiversity in Gloucestershire.	-/+?	The 2016 HRA Report states " <i>Areas of Search at Down Ampney and Charlham Farm comprises of parcels A, B &amp; C (SGCW5) and A (SGCW6) previously considered at the Site Options stage of the draft MLP. The nearest European Site to Charlham Farm is</i>

SA Objective	SA Score	Justification
		<p><i>North Meadow &amp; Clattinger Farm SAC which is about 1.9km away (North Meadow) to the south. The nearest European Site to the Down Ampney Area of Search is at a closer 1km away and is again North Meadow &amp; Clattinger Farm SAC. The Down Ampney area has been the subject of a previous cross border (with Wiltshire) planning application. This planning application has been subject of HRA and a letter dated 29th December 2011 from Natural England confirmed the view of both County Mineral Planning Authorities that the Down Ampney development would not result in any hydrological or other effect on any conservation objectives of the SAC. In conclusion it is logical that Allocation 10: Areas of Search at Down Ampney and Charlham Farm can be safely screened out [from Appropriate Assessment]."</i></p> <p>The GCC detailed development requirements in Appendix 4 of the MLP state that a comprehensive assessment of the natural environment will be required. It identifies the following environmental designations that will need careful consideration:</p> <ul style="list-style-type: none"> <li>• North Meadow and Clattinger Farm SAC.</li> <li>• North Meadow SSSI / NNR.</li> <li>• Down Ampney Pits KWS (which is adjacent to the site).</li> </ul> <p>The development requirements also state that it must be clear how nearby Strategic Nature Areas will not be subject to unacceptable adverse impacts.</p> <p>There is potential for adverse effects on biodiversity at the Down Ampney Pits Key Wildlife Site, adjacent to the Allocation boundary, and the 2016 GCC site assessment notes that there would have to be a proven long-term benefit for biodiversity to accept minerals extraction there.</p> <p>The site is an extensive area of mainly arable but with significant strips and blocks of woodland (plantations) in places. A large variety of notable species have been recorded but those actually on site are probably more limited. The site area overlaps Eysey SNA so there is scope for good contributions to this SNA but this would have to be in addition to compensating for woodland features etc. already present.</p> <p>The detailed development requirements for Allocation 06 in Appendix 4 of the MLP encourage restoration of the site to consider potential for biodiversity enhancements. The detailed development requirements also require a comprehensive assessment of the natural environment will be required, including identifying potential impacts and measures to avoid, reduce, remedy and/or compensate possible unacceptable negative effects.</p> <p>Therefore, overall a mixed minor negative and positive effect is predicted for this objective. This effect is uncertain as it will depend on the exact nature and design of new sites and restoration proposals, which would not be known until the planning</p>

SA Objective	SA Score	Justification
		application stage.
8. To protect, conserve and enhance the landscape in Gloucestershire.	--?	<p>The landscape assessment carried out by Atkins (June 2015) judged that there would be significant Major Adverse impacts on the regional and historic landscape character of the area. This is as a direct result of the change in land use across a large proportion of the respective areas within which the site is located. It may be possible to mitigate these impacts in the long term through careful restoration of the site following completion of extraction.</p> <p>Therefore, a significant negative effect is identified for this objective. However, uncertainty is attached, as a more detailed assessment would be required once specific proposals and mitigation measures are known.</p> <p>Although not impacting on the wider landscape and therefore this objective, it is noted that the Atkins report also judged significant Major Adverse visual impacts on Castle Hill Farm, properties 500m south of Castle Hill Farm, properties 500m north of Alex Farm, public bridleway BDA7 and public footpath BDA11. Each of these receptors were located within the boundary of the site being assessed at the time. With the revised boundary, a small part of public bridleway BDA7 lies within the site but public footpath BDA11 is adjacent to the site. Castel Hill Farm, properties 500m south of Castle Hill Farm and 500m north of Alex Farm are not within the site boundaries, although properties 500m south of Castle Hill Farm and 500m north of Alex Farm are adjacent to the site. It is considered unlikely that it would be possible to avoid or reduce these significant impacts without an amendment to the site boundary, and / or accompanying design of effective mitigation measures. There would also be significant Moderate Adverse impacts on Alex Farm, public footpath BDA9, the road along the southern boundary and the road from along the eastern boundary and through the site. It may be possible to reduce the significance of a number of these impacts through effective mitigation design, particularly in relation to boundary treatments.</p> <p>The landscape assessment also judged that there would be significant Major Adverse impacts on the regional and historic landscape character of the area. This is as a direct result of the change in land use across a large proportion of the respective areas within which the site is located. It may be possible to mitigate these impacts in the long term through careful restoration of the site following completion of extraction.</p> <p>The detailed development requirements for Allocation 06 in Appendix 4 of the MLP specify the need for a Landscape &amp; Visual Impact Assessment, which will need to analysis the sensitivity of national landscape character NCA 108 (Upper Thames Clay Vales) and that of the regional / local level classification – the River Basin Lowland landscape character type and Down Ampney landscape character area, which are described in the Various Vales (Gloucestershire) Landscape Character Assessment. The LVIA would also be required to provide details concerning measures to avoid, reduce,</p>



SA Objective	SA Score	Justification
		remedy and/or compensate any unacceptable negative effects.
9. To restore mineral sites to a high standard in order to achieve the maximum after use benefits including the conservation and enhancement of biodiversity, and delivery of green infrastructure where possible.	+	The restoration of minerals sites is increasingly adopting innovative practice and therefore, any minerals site could have positive effects on landscape character, biodiversity, amenity and recreation in the longer term, once restored. However, this would be very dependent on the exact nature and proposed design of the restoration of the minerals site, which would not be known until the planning application stage.
10. To protect conserve and enhance Gloucestershire's material, cultural and recreational assets.	-	<p>The site includes a small part of PRoW footpath BDA 7/1. PRoW footpaths BDA 11/2 and footpath 9/2, are adjacent to the eastern boundary of the site. The GCC PRoW Team has identified that diversion these PRoWs is likely to be necessary. The Atkins landscape assessment report also judged significant Major Adverse visual impacts on public bridleway BDA7 and public footpath BDA11, as these were within the boundary of the site itself and the Atkins landscape assessment report suggests that it would not be possible to avoid or reduce these significant impacts without an amendment to the site boundary, and / or accompanying design of effective mitigation measures. There would also be significant Moderate Adverse impacts on Alex Farm, public footpath BDA9, the road along the southern boundary and the road from along the eastern boundary and through the site. It may be possible to reduce the significance of a number of these impacts through effective mitigation design, particularly in relation to the boundary treatment of each Parcel.</p> <p>Therefore, the site could have minor negative effects on recreation activities as the PRoW might be out of use while diverted, and minerals extraction at the site could make nearby recreational assets less attractive for users.</p> <p>The detailed development requirements for Allocation 06 in Appendix 4 of the MLP specify the need for an assessment of the PRoW network, with attention given to paths BDA 2/1, 9/2, 7, 10/1 and 11. The detailed development requirements also suggest that restoration could, under the right circumstances, facilitate new infrastructure to contribute to restoration and possible expansion of the Thames and Severn Canal network.</p>
11. To protect conserve and enhance geodiversity in Gloucestershire.	0	<p>The working of and restoration of minerals sites is increasingly adopting innovative practice and there may be opportunities to incorporate and preserve important geological features within the site. However, this would be very dependent on the exact nature, working and proposed design of the restoration of the minerals site, which would not be known until the planning application stage.</p> <p>The site is not located within 500m of a Regionally Important Geological Site (the nearest RIGS is Horcott Pit, approximately 3.7km northeast). Therefore, the site is not expected to affect this objective.</p>

SA Objective	SA Score	Justification
<p>12. To protect conserve and enhance the historic environment, heritage assets and their setting.</p>	<p>--?</p>	<p>There is a Scheduled Monument (settlement at Bean Hay Copse) adjacent to the west of the site. In addition, Down Ampney Conservation Area is 425m to the west, which includes two grade I Listed Buildings and seven grade II Listed Buildings within 1km of the site. The grade I Listed Buildings are the Church of All Saints (760m from the site) and Down Ampney House (830m from the site). There are also nine other grade I Listed Buildings within 1km of the site, with the closest located almost adjacent to the north (Castle Hill Farm). The Atkins landscape assessment report judged that there would be significant Moderate Adverse impacts on the settlement at Bean Hay Copse Scheduled Monument and the Grade II Listed Buildings at Castle Hill Farm. This is as a direct result of the presence of a quarry in close proximity to the features which will affect their setting. Therefore, the site could have a significant negative effect on the setting of these assets, however the effects would be uncertain as a more detailed assessment would be required once proposals are known.</p> <p>The GCC assessment notes that a number of archaeological features are known from aerial photography across this site including settlement enclosures, trackways and other features. The use of the area as an airfield is likely to have resulted in sites being obscured and under-represented on aerial photographs.</p> <p>The detailed development requirements for Allocation 06 in Appendix 4 of the MLP state that a Heritage Statement is required to establish the presence of heritage assets that could be affected and to assess the nature, extent and importance of their significance and their settings. This should include avoidance and/or mitigation measures, which may result in measures that limit future mineral working.</p>
<p>13. To prevent flooding, in particular preventing inappropriate development in the floodplain.</p>	<p>-?</p>	<p>A large area in the east of this site is within flood zones 2, 3a and 3b.</p> <p>A hydrogeological assessment carried out by Atkins found that there would likely be a significant impact on flood risk. During operation, dewatering is likely to be required, and discharge of water may give rise to increased flood risk if the capacity of the receiving stream is exceeded. After restoration the use of lower permeability materials may cause rainwater events to increase risk of flooding. With the use of lower permeability materials, the migration of groundwater through the site is likely to be blocked, allowing water levels to rise upstream of the site. This could give rise to an increased risk of groundwater flooding locally. The Atkins report concluded that subject to appropriate design, especially with regard to storage and stockpiles, and the inclusion of appropriate mitigation measures it is likely that any impacts can be reduced to acceptable levels. A minor negative effect is therefore likely on this SA objective. However this effect is uncertain as it will depend on the specific proposals that come forward and mitigation measures proposed.</p> <p>The detailed development requirements for Allocation 06 in Appendix 4 of the MLP specifies the need for a flood risk assessment focused on the risk of river flooding and</p>

SA Objective	SA Score	Justification
		groundwater flooding, including possible cumulative / in-combination impacts on flood risk. Potential sensitive receptors to flood risk that will need to be investigated include: the settlements of Down Ampney; Latton; Marston Meysey; Cricklade; Castle Eaton; Dunfield; Kempsford; and RAF Fairford.
14. To protect and enhance soil / land quality in Gloucestershire.	--?	<p>The site covers a large area (250 ha) and includes agricultural land classified as grade 2 and grade 3, and could therefore have a significant negative effect on protecting or enhancing soil/land quality. However, this is uncertain as there may be opportunities to restore agricultural soils during restoration.</p> <p>The detailed development requirements for Allocation 06 in Appendix 4 of the MLP states that a Soil Survey and Agricultural Land Classification (ALC) Report will be required. A Soil Handling Strategy will also be required to consider how best to safeguard against damage to existing soil quality and potential for improvement.</p>
15. To protect and enhance air quality in Gloucestershire, helping to meet local, national and international objectives for air quality.	-	The site is not within 1km of an AQMA or the strategic highway network (A419 is approximately 1.1km to the southwest). Traffic associated with the site is therefore likely to travel further along local roads. The site is therefore expected to have a minor negative impact on protecting air quality, although this impact is very dependent on the type of mineral site, the scale of the operations and the type of activities undertaken within the site and potential mitigation measures proposed, which would be assessed at the planning application stage.
16. To protect and enhance water quality and quantity in Gloucestershire, and to ensure that minerals development does not compromise sustainable sources of water supply.	-?	<p>The site lies mostly within Source Protection Zone 2, although a small area falls within Source Protection Zones 1 and 3. The majority of the site also overlies a Secondary A aquifer which may be capable of supporting water supplies at a local scale, and may form an important source of base flow to rivers.</p> <p>A hydrogeological assessment of the site was carried out by Atkins. In this report, the Marston Meysey Brook receptor's impacts were rated as low significance. The impacts on this receptor regarded diversion of water away from the brook, and an increase of suspended solids into the brook. The impact on the secondary A aquifer was also deemed low significance, with the effect of dewatering and diversion of groundwater from this area of the aquifer. A minor negative effect is therefore predicted on this SA objective, although this is uncertain because it is very likely that sufficient mitigation measures will be implemented to reduce the residual risk to negligible.</p> <p>The detailed development requirement for Allocation 06 in Appendix 4 of the MLP specifies the need for a hydrological / hydrogeological impact assessment. A specific risk assessment will need to be carried out to consider potential pollution of potable water supplies and other sensitive commercial water supplies. Hydrogeological impacts on the nearby surface water bodies (i.e. within 3km) will require scrutiny</p>

SA Objective	SA Score	Justification
<p>17. To reduce the adverse impacts of lorry traffic on the environment and communities through means such as:</p> <ul style="list-style-type: none"> <li>a) reducing the need to travel</li> <li>b) promoting more sustainable means of transport e.g. by rail or water</li> <li>c) sensitive lorry routing</li> <li>d) the use of sustainable alternative fuels</li> </ul>	-	<p>The site is further than 1km from the A419 (and the rest of the strategic highway network), therefore the increased road transport resulting from the site is likely to travel a greater distance along local roads, and may result in localised air pollution issues as a result of travelling more slowly on local roads.</p> <p>The detailed development requirements for Allocation 06 in Appendix 4 of the MLP specify the need for a Transport Assessment with input from the Local Highways Authority.</p>
<p>18. To reduce contributions to and to adapt to Climate Change.</p>	?	<p>At this stage in the planning process it is not possible to determine the impacts of minerals sites on their ability to reduce contributions to and to adapt to climate change as it will depend on the proposal, which would be assessed at the planning application stage. However, it is noted that the detailed development requirements for Allocation 06 in Appendix 4 of the MLP states that all proposed restoration solutions must seek to deliver greater resilience to the likely impacts of climate change.</p>

**Allocation 07 –Land at Lady Lamb Farm, west of Fairford**

SA Objective	SA Score	Justification
<p>1. To promote sustainable development and sustainable communities and improve the health and wellbeing of people living and working in Gloucestershire as well as visitors to the County.</p>	<p>-/+?</p>	<p>There is a property located at the centre of the site (Lady Lamb Farm), in addition to a further property located within 100m of the site boundary – Cherry Tree House (50m north). The nearest settlements are Fairford (540m northeast) and Meysey Hampton (810m west). Therefore, the site could have a minor negative effect on health due to the potential for dust (PM10) to have adverse health effects on local residents and communities within close proximity to the site. However, this effect is uncertain, as the extent to which dust affects the nearby residents and settlement will depend on local circumstances such as the topography, nature of the landscape and the respective location of the site and sensitive receptors in relation to the prevailing wind direction.</p> <p>The detailed development requirements for Allocation 07 in Appendix 4 of the MLP requires Health Impact Assessment screening and commitments to avoid and/or mitigate adverse amenity impacts and to maximise positive effects on health and wellbeing. In addition, it is assumed that mineral extraction at any of the potential sites will be well operated and that dust avoidance and suppression measures implemented by the operators should be sufficient to avoid any potential health effects. As such, mixed minor positive and negative effects are expected for this objective.</p>
<p>2. To safeguard the amenity of local communities from the adverse impacts of mineral development.</p>	<p>-?</p>	<p>There is a property located at the centre of the site (Lady Lamb Farm), in addition to a further property located within 100m of the site boundary – Cherry Tree House (50m north). The nearest settlements are Fairford (540m northeast) and Meysey Hampton (810m west). Therefore, the site could have a minor negative effect on amenity for the nearby residents and settlement due to the potential noise and vibration associated with the mineral extraction operations. Noise and vibration effects may be less likely at this site than a site for crushed rock as sand and gravel rarely require blasting prior to excavation. However, the extent of these effects is very dependent on the scale of the operations and type of activities undertaken within the site as well as any potential mitigation measures proposed, which would be assessed at the planning application stage. While there may be some unavoidable short term effects due to noisy activities, it is assumed that mineral extraction at any of the potential sites will be well operated and that mitigation measures implemented should be sufficient to avoid any potential long term amenity effects.</p> <p>Although there are residential site allocations at Fairford in the Submission Cotswold District Local Plan (July 2017), they are not within 100m of this site.</p> <p>The site is within 1km of Fairford and Meysey Hampton, which are also within 1km of an existing mineral site (Horcott), therefore, continuing sand and gravel extraction activity in this area could have a cumulative effect on the amenity of the local community.</p> <p>The GCC assessment 2016 notes that a safe and suitable access from the sites frontage</p>

SA Objective	SA Score	Justification
		<p>on to the A417 would need to be demonstrated as well as the likely acceptable limit on output tonnage and mitigation required to ensure a safe and suitable access given that the route through Fairford Town would be unsuitable due to restricted widths.</p> <p>This may lead to adverse effects on local communities, however, effects would be uncertain as the potential for effects will depend on the exact nature and design of the site, which would not be known until the planning application stage.</p> <p>The detailed development requirement for Allocation 07 in Appendix 4 of the MLP specifies the need for an analysis of potential amenity impacts. Careful consideration should be paid to the local communities made up of the individual residential properties, farms and commercial and leisure enterprises located nearby to the site and those that comprise the western side of Fairford town; and the hamlets and villages of Meysey Hampton and Furzey Hill. The MLP also requires consideration of the impact of proposed freight routes and highlights the need for a Transport Assessment.</p>
<p>3. To promote sustainable economic development in Gloucestershire giving opportunities to people from all social and ethnic backgrounds.</p>	0	<p>No effect is likely as mineral sites are unlikely to present opportunities for spin off employment or other opportunities due to sites being self-served by the operators that own them. It is noted that the detailed development requirements for Allocation 07 in Appendix 4 of the MLP require an Economic Impact Assessment to be undertaken.</p>
<p>4. To provide employment opportunities in both rural and urban areas of the County, promoting diversification in the economy.</p>	+	<p>All potential mineral sites regardless of their location are likely to have a minor positive effect on increasing employment levels. This is because all of the sites could have a direct and indirect positive effect on increasing employment levels during site preparation, operation and restoration, which could result in a small amount of job creation for local people in both rural and urban areas. However, job creation from new mineral extraction sites is not expected to be significant within the Gloucestershire economy; and given that the overall number of mineral sites likely to be developed in the County will not be a large number each year, the total numbers of new employment opportunities likely to be provided within the County is not considered to be significant.</p> <p>The GCC site assessment 2016 observes that there is no mineral operator interest in the site and it is unlikely for a planning application to be submitted in the plan period. However, if a mineral operator did show interest, the landowner would be happy for the site to be allocated and the site would provide a valuable contribution to the sand and gravel land bank.</p>
<p>5. To ensure that mineral sites do not compromise the safety of commercial or military aerodromes.</p>	-?	<p>The GCC assessment 2016 notes that the entire site lies within the safeguarding zone for RAF Fairford (Fairford Airfield lies 1.3km to the south).</p> <p>Therefore, the site could have a minor negative effect on the safety of commercial or military aerodromes due to the potential for birds to provide a hazard to aircraft, especially as this site may be restored to a form of open water use as it is located close to the Cotswold Water Park. However, the effects would be uncertain as it is</p>

SA Objective	SA Score	Justification
		<p>dependent on the type of restoration proposed and eventually developed on a site, which will not be known until the planning application stage. For example, the site may be restored to a dry after use due to being located within the RAF Fairford safeguarding zone. Additionally, the GCC site assessment states that DIO Safeguarding should be consulted in any buildings or structures of metallic or reflective cladding and that are over 15.2m tall. Furthermore, the entire site lies within the safeguarding zone and technical Instrumental Landing System for RAF Fairford.</p> <p>The detailed development requirement for Allocation 07 in Appendix 4 of the MLP specifies that Aviation safety should be considered as the site falls within a zone where Instrumental Landing Systems (ILSs) may need to be operated. It also falls within the statutory Birdstrike zone for RAF Fairford. DIO Safeguarding will be consulted on all minerals development proposals within the site.</p>
<p>6. To conserve minerals resources from inappropriate development whilst providing for the supply of aggregates and other minerals sufficient for the needs of society.</p>	<p>0</p>	<p>New potential mineral sites would not be inappropriate development as they are contributing to extraction of mineral resources, not limiting the ability to extract resources, and would therefore have no effect on this objective, which primarily relates to areas being designated as Mineral Safeguarding and Consultation areas to safeguard mineral resources from sterilisation by <u>non-mineral</u> development.</p>
<p>7. To protect, conserve and enhance biodiversity in Gloucestershire.</p>	<p>+?</p>	<p>There are no internationally or nationally designated sites within 1km of the site and no locally designated sites are within 250m of the site. There is a Key Wildlife Site within 1km of the site (Cotswolds Water Park, 650m east). The GCC site assessment 2016 notes the site is arable land with mainly defunct hedgerows but with a woodland copse in the southern area which will probably have some biodiversity interest. According to the GCC site assessment 2016, priority habitats plus protected and/or priority species have been recorded on, adjacent and within 1km of the land. The 2016 HRA Report states "Area of Search at Lady Lamb Farm, Fairford comprises of parcel A (SGCW3 northern area) previously considered at the Site Options stage of the draft MLP. This area of search is well over 6km away from the nearest European Site which is part of North Meadow &amp; Clattinger Farm SAC. Given the position in the catchment it has already been deemed that minerals development at Lady Lamb Farm would not result in any conceivable effect on conservation objectives of the SAC or any other European Site. Allocation 8: Area of Search at Lady Lamb Farm, Fairford can therefore be safely screened out."</p> <p>The detailed development requirements for Allocation 07 in Appendix 4 of the MLP require a comprehensive assessment of the natural environment will be required, including identifying potential impacts and measures to avoid, reduce, remedy and/or compensate possible unacceptable negative effects. The detailed development requirements also encourage restoration of the site to consider potential for biodiversity enhancements, including opportunities to contribute to the Bibury and Coln Corridor SNAs and the Cotswold Water Park NIA. Therefore, minor positive effects are identified</p>

SA Objective	SA Score	Justification
		against this SA objective. However, these effects would be uncertain as the potential for effects will depend on the exact nature and design of the site, which would not be known until the planning application stage.
8. To protect, conserve and enhance the landscape in Gloucestershire.	0	<p>The landscape assessment carried out by Atkins (June 2015) judged that there would be no significant landscape impacts on national and local landscape character or local features and designations. Therefore, a negligible effect is identified for this objective.</p> <p>Although not impacting on the wider landscape and therefore this objective, it is noted that the Atkins report also judged significant Major Adverse visual impacts on Waitenhills Barn and public footpath BFA6. These impacts arise as a direct result of workings within this Allocation and it is unlikely that they could be mitigated.</p> <p>The detailed development requirement for Allocation 07 in Appendix 4 of the MLP specifies the need for a Landscape &amp; Visual Impact Assessment, which should analyse the sensitivity of national landscape character NCA 108 (Upper Thames Clay Vales) and the regional / local level classification – Unwooded Vale and River Basin Lowland landscape character type and the Fairford and Lechlade landscape character areas that are described in the Various Vales (Gloucestershire) Landscape Character Assessment. The LVIA would also be required to provide details concerning measures to avoid, reduce, remedy and/or compensate any unacceptable negative effects.</p>
9. To restore mineral sites to a high standard in order to achieve the maximum after use benefits including the conservation and enhancement of biodiversity, and delivery of green infrastructure where possible.	+?	The restoration of minerals sites is increasingly adopting innovative practice and therefore, any minerals site could have positive effects on landscape character, biodiversity, amenity and recreation in the longer term, once restored. However, this would be very dependent on the exact nature and proposed design of the restoration of the minerals site, which would not be known until the planning application stage.
10. To protect conserve and enhance Gloucestershire's material, cultural and recreational assets.	-	<p>The site includes the PRoW footpath BFA 6/1 that crosses the eastern part of the site. The GCC PRoW Team has noted that this is a well-walked path. Therefore, the site could have minor negative effects on recreation activities as the PRoW might be out of use while diverted, and minerals extraction at the site could make nearby recreational assets less attractive for users.</p> <p>The detailed development requirement for Allocation 07 in Appendix 4 of the MLP specifies the need for an assessment of the PRoW network with particular attention given to path BFA 6/1. Advice should be sought from the Local Highways Authority regarding any proposals to temporarily divert or permanent re-routing the affected path.</p>
11. To protect conserve and enhance geodiversity in Gloucestershire.	0	The working of and restoration of minerals sites is increasingly adopting innovative practice and there may be opportunities to incorporate and preserve important geological features within the site. However, this would be very dependent on the exact nature, working and proposed design of the restoration of the minerals site,



SA Objective	SA Score	Justification
		<p>which would not be known until the planning application stage.</p> <p>The site is more than 500m from any Regionally Important Geological Sites (the nearest is Horcott Pit, 1.1km southeast). Therefore, the site is not expected to affect this objective.</p>
<p>12. To protect conserve and enhance the historic environment, heritage assets and their setting.</p>	<p>-?</p>	<p>This site is located within 1km of Fairford Conservation Area (Meysey Hampton Conservation Area is 1.1km to the west), and two Scheduled Monuments (Hemingford Barrow and Fairford Saxon Cemetery). The site is also within 1km of 34 Grade II Listed Buildings, mainly located to the northeast at Fairford Conservation Area. The closest Listed Buildings are both at Claremont House (the Lodge, and the Gatepiers and Quadrant Entrance Wall), which is located approximately 265m east. The Atkins landscape assessment, which assesses the potential impacts on historic landscape and local designated heritage assets found that the sensitivity of the group of Grade II Listed Buildings to the proposed development to be High. Mineral workings to the east of Parcel A (which comprises this Allocation) and north of Parcel B would affect the distant context of the setting of the buildings, although their primary setting within the property grounds will remain unchanged. This is judged to result in a Low magnitude of change. Overall it has been determined that the significance of effect on this receptor would be Minor Adverse.</p> <p>Therefore, the site could have a minor negative effect on the setting of these assets; however, the effects would be uncertain as a more detailed assessment would be required once proposals are known.</p> <p>Furthermore the GCC assessment 2016 notes that numerous archaeological sites were identified on site, ranging in date from early prehistoric to Anglo-Saxon. The number of sites, their date range and therefore the intensity of the use of the area, led to it being characterised as of 'high archaeological potential' with some areas possibly meriting designation.</p> <p>The detailed development requirement for Allocation 07 in Appendix 4 of the MLP specifies the need for a comprehensive Heritage Statement for the site that incorporates an analysis of its potential archaeological interest. The statement should include an evaluation of the presence and significance of heritage assets and mitigation requirements, which may introduce restraints to future mineral working in order to preserve key heritage assets and their settings.</p>
<p>13. To prevent flooding, in particular preventing inappropriate development in the floodplain.</p>	<p>-?</p>	<p>A hydrogeological assessment carried out by Atkins found that there would likely be a significant impact on flood risk. During operation, dewatering is likely to be required, and discharge of water may give rise to increased flood risk if the capacity of the receiving stream is exceeded. After restoration, it is likely that surface pooling on site will increase if impermeable material is used. With the use of lower permeability</p>

SA Objective	SA Score	Justification
		<p>materials, rainwater events may increase risk of flooding. Lower permeability materials used in backfilling may block the migration of groundwater through the site, causing water levels to rise upstream. The Atkins report concluded that subject to appropriate design, especially with regard to storage and stockpiles, and the inclusion of appropriate mitigation measures it is likely that any impacts can be reduced to acceptable levels. A minor negative effect is therefore predicted for this SA objective. However this effect is uncertain as it will depend on the specific proposals that come forward and mitigation measures proposed.</p> <p>The detailed development requirement for Allocation 07 in Appendix 4 of the MLP specifies the need for a flood risk assessment focused on the risk of groundwater flooding and increased surface water run-off. Potential sensitive receptors that may be subject to flood risk and will therefore require scrutiny include a number of isolated residential properties and agricultural and other commercial premises, particularly surrounding Marston Hill, Furzey Hill and Waiten Hill. The village of Whelford may also require investigation as a consequence of possible hydrological impacts on Dudgrove Brook.</p>
14. To protect and enhance soil / land quality in Gloucestershire.	-?	<p>The site covers a large area (48ha) and is mostly within grades 2 and 3 agricultural land, and could therefore have a minor negative effect on protecting or enhancing soil/land quality. However, this is uncertain as there may be opportunities to restore agricultural soils during restoration.</p> <p>The detailed development requirement for Allocation 07 in Appendix 4 of the MLP specifies the need for a Soil Survey and Agricultural Land Classification, which identifies potential impacts and possible mitigation, if required, particularly in light of the presence of agricultural land of BMVAL quality grades 2 and 3a. A Soil Handling Strategy must also be prepared to consider how to safeguard soil quality and opportunities for improvement of soil quality.</p>
15. To protect and enhance air quality in Gloucestershire, helping to meet local, national and international objectives for air quality.	0	<p>The site is adjacent to the A417 that runs along the northern boundary of the site, and the increased road transport resulting from the site is likely to travel a shorter distance along local roads, and result in fewer localised air pollution issues that would otherwise occur from travelling more slowly on local roads.</p> <p>The site is not within 1km of an AQMA; therefore the site is expected to have a negligible impact on protecting air quality, although this impact is very dependent on the type of mineral site, the scale of the operations and the type of activities undertaken within the site and potential mitigation measures proposed, which would be assessed at the planning application stage.</p>

SA Objective	SA Score	Justification
<p>16. To protect and enhance water quality and quantity in Gloucestershire, and to ensure that minerals development does not compromise sustainable sources of water supply.</p>	-?	<p>The Atkins Hydrogeological Report outlined three areas on which impacts would have low significance: ponds, secondary A aquifer (bedrock) and secondary A aquifer (superficial). In regards to ponds, the potential impacts are dewatering and increased suspended solids. In regards to the secondary A aquifer (bedrock) and secondary A aquifer (superficial), dewatering and diversion of groundwater are the potential impacts. A minor negative effect is therefore predicted for this SA objective, although this is uncertain because it is likely that sufficient mitigation measures will be implemented to reduce the residual risk to negligible.</p> <p>The detailed development requirement for Allocation 07 in Appendix 4 of the MLP specifies the need for a hydrological / hydrogeological impact assessment, which will consider potential risks, their significance and possible mitigation measures, if required, on nearby surface water bodies (i.e. within 3km). Consideration should also be given to the site being located within a Source Protection Zone 1 and that the underlying geology has been classified as a Secondary A Aquifer.</p>
<p>17. To reduce the adverse impacts of lorry traffic on the environment and communities through means such as:</p> <ul style="list-style-type: none"> <li>a) reducing the need to travel</li> <li>b) promoting more sustainable means of transport e.g. by rail or water</li> <li>c) sensitive lorry routing</li> <li>d) the use of sustainable alternative fuels</li> </ul>	+/-?	<p>The site is adjacent to the A417 that runs along the northern boundary of the site, and could therefore have a minor positive effect on reducing the impacts of lorry traffic on the environment and communities as traffic associated with the site should not have to travel far on local roads. However, the GCC assessment 2016 notes that the site is not associated with any current minerals operations and safe and suitable access to the A419 would need to be demonstrated along with the likely acceptable limit on output tonnage and mitigation required given that the route through Fairford Town would be unsuitable due to restricted widths. This may lead to negative effects on local communities and the environment; however, effects would be uncertain as the potential for effects will depend on the exact nature and design of the site, which would not be known until the planning application stage. The detailed development requirement for Allocation 07 in Appendix 4 of the MLP states that wherever possible, minerals-related traffic should avoid routes that run through Fairford and Lechlade. Where this is unavoidable, the effectiveness and realistic deliverability of proposed mitigation measures will be rigorously scrutinised.</p>
<p>18. To reduce contributions to and to adapt to Climate Change.</p>	?	<p>At this stage in the planning process it is not possible to determine the impacts of minerals sites on their ability to reduce contributions to and to adapt to climate change as it will depend on the proposal, which would be assessed at the planning application stage. However, it is noted that the detailed development requirements for Allocation 07 in Appendix 4 of the MLP states that all proposed restoration solutions must seek to deliver greater resilience to the likely impacts of climate change.</p>