Wiltshire and Swindon Minerals Development Control Policies Development Plan Document

Sustainability Appraisal Report for the Submission Draft Document

by Tara Sethi and Clare Harmer (C4S)
and Ruth Thomas (Enfusion)

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Centre for Sustainability (C4S) in association with Enfusion
Table of Contents

List of Tables............................................................................................................. iii
List of Figures............................................................................................................iv
Non Technical Summary ............................................................................................v
1 Introduction......................................................................................................... 1
  1.1 Background to Sustainability Appraisal/Strategic Environmental Assessment ........................................... 1
  1.2 Wiltshire and Swindon Minerals Development Documents ................................................................. 1
  1.3 SA/SEA Methodology .......................................................................................................................2
  1.4 Compliance with the SEA Directive/ Regulations ...............................................................................1
  1.5 Consultation ......................................................................................................................................3
  1.6 How the SA has influenced the Development Control Policies DPD .............................................. 4
  1.7 Habitat Regulations Assessment .......................................................................................................4
  1.8 Geographic and Temporal Scope ......................................................................................................6
2 Environmental and Sustainability Planning Context ............................................. 7
  2.1 Introduction .......................................................................................................................................7
  2.2 Relationship of the MDF with other Plans and Programmes .............................................................7
  2.3 Current and Future State of the Environment ..................................................................................16
  2.4 Evolution of the Baseline without the Plan .......................................................................................29
  2.5 Difficulties Encountered ..................................................................................................................30
3 Environmental and Sustainability Issues, Opportunities and Priorities ........ 31
  3.1 Introduction ......................................................................................................................................31
  3.2 Key Sustainability Issues ................................................................................................................31
4 SA/SEA Objectives and Framework.................................................................. 43
  4.1 Introduction ......................................................................................................................................43
  4.2 SA/SEA Framework ........................................................................................................................43
  4.3 Compatibility between SA/SEA Objectives and Plan Objectives ..................................................43
5 Development Control Options Development (2005-2007) ............................... 49
  5.1 Assessment of Issues and Options (November 2005) ......................................................................49
  5.2 Assessment of Preferred Options (June 2006) ................................................................................49
  5.3 Assessment of Revised Preferred Options (August 2007) ...............................................................50
6 Development Control Policies Draft Submission Document – February 2008 .... 51
  6.1 Methodology of the Assessment ......................................................................................................51
  6.2 Summary of the Assessment and Recommendations ....................................................................51
  6.3 Cumulative, Synergistic and Secondary Effects .............................................................................63
  6.4 Inter-relationships ..........................................................................................................................64
List of Tables

Table 1: Stages in the SA/SEA and Minerals Development Framework .................... 2
Table 2: Other Plans and Programmes Reviewed .................................................. 10
Table 3: How the plan should address issues raised by other plans .................... 12
Table 4: Objectives of other Plans and Programmes ........................................... 15
Table 5: Condition of SSSIs within Wiltshire ...................................................... 18
Table 6: Sand and Gravel Shortfall .................................................................. 30
Table 7: Environmental Impacts Associated with Different Materials ............... 32
Table 8: Sustainability Issues ............................................................................ 35
Table 9: Sustainability Appraisal Framework ...................................................... 44
Table 10: Summary of Submission Draft Assessment (Medium Term) ............... 52
Table 11: Proposed Mitigation and Enhancement Measures ............................. 66
Table 12: Potential Monitoring Measures ............................................................ 71
Table 13: Example Monitoring Plan .................................................................. 75
List of Figures

Figure 1: Wiltshire International and National Biodiversity Designations.............. 19
Figure 2: Wiltshire & Swindon Heritage Designations (Excluding Listed Buildings) . 21
Figure 3: Landscape Designation within Wiltshire and Swindon ......................... 22
Figure 4: Landscape Character Areas within Wiltshire and Swindon .................... 23
Figure 5: Tranquility in the South-West ............................................................... 24
Figure 6: Tranquility in the South-West - 2006 ..................................................... 25
Figure 7: Main Sand and Gravel Producing Quarries in and around Wiltshire and Swindon .................................................................................................................. 27
Figure 8: Assessment Criteria ............................................................................... 51
Non Technical Summary

Background
This Non-Technical Summary accompanies the Sustainability Appraisal (SA) and Strategic Environmental Assessment (SEA) Report of the Wiltshire and Swindon Minerals Development Framework Development Control Policies, as required by planning legislation and Government guidance.

SA and SEA assist planning authorities by aiding integration of sustainability considerations into their plans. The purpose of the Development Control Policies DPD is to set policies that will help deliver the long term vision for Minerals Planning in Wiltshire and Swindon. It also sets a framework for other development planning documents that will follow at a later date, including the Site Allocations Document.

During 2005 the key sustainability issues relevant to minerals development in Wiltshire and Swindon were identified. Other plans and programmes were reviewed and information on the current and future social, environmental and economic characteristics to understand the issues and priorities for the County and Unitary Authority areas was compiled.

A Framework setting out Sustainability Objectives for the SA/SEA was developed and a Scoping Report, outlining all the information compiled was made available for public comment.

The Framework was used to test the sustainability of the Development Control Policies DPD during the plan preparation process. This included an examination of the Development Control Policies DPD Options (as represented in the document Wiltshire and Swindon Minerals Development Control Policies DPD Issues and Options Report), and a detailed appraisal of the Development Control Policies DPD Preferred Options (June 2006) and the Revised Development Control Policies DPD Preferred Options (August 2007).

Recommendations were made to enhance the sustainability of the emerging policies when appropriate, some of which have been included in the Development Control Policies DPD demonstrating the influence of the SA on the plan.

The Development Control Policies DPD is judged to make a positive contribution to the progression of Sustainable Development Objectives for minerals planning in Wiltshire and Swindon.

1 Wiltshire County Council and Swindon Borough Council commissioned the Centre for Sustainability at TRL and Enfusion to progress the SA and SEA work in 2005
The SA/SEA assessment process that has been undertaken is summarised in Figure NTS 1.

The Minerals Development Control Policies DPD has been prepared jointly by officers from Wiltshire County Council and Swindon Borough Council. The document develops the strategy, objectives and policies of the Minerals Core Strategy by presenting a limited suite of detailed criteria based policies, designed to assist the process of identifying sites for new minerals development and the determination of planning applications.

Figure NTS 1: Summary of the SA/SEA Process

The development of the Minerals Development Control Policies DPD has been informed by a consultation process involving all key stakeholders and the general public. A final Minerals Development Control Policies DPD will be submitted to Government in July 2008.

The Minerals Development Control Policies DPD Submission Draft contains a series of policies covering the following themes:

- Delivering sustainable minerals development;
- Managing the impacts of minerals development;
- The natural and historic environment;
- Sustainable transport; and
- Restoration, aftercare and after-use of minerals development.

Environmental Issues

The SEA Regulations\(^3\) require that the Environmental Report describes any existing environmental problems that are relevant to the plan. Examples of those identified for the area include:

- 8% of the areas of all Sites of Special Scientific Interest in Wiltshire are in unfavourable condition and are declining;
- Seven Air Quality Management Areas have been declared in Wiltshire due to high levels of pollutants;
- Overall Wiltshire has high levels of tranquillity, however loss of tranquillity and increased light pollution are areas of concern;
- Recycled highway materials are not currently being used due to lack of storage;

\(^3\) Statutory Instrument 2004 No.1633 The Environmental Assessment of Plans and Programmes Regulations (HMSO 2004)
The 2001 census shows a 10% increase in population compared with 1991 in Wiltshire leading to increased need for housing and infrastructure; and
Between 1993/2002 road traffic increased in the South West by 20% leading to slow journey times during peak periods.

Sustainability Appraisal Framework
A Sustainability Appraisal Framework was compiled setting out sustainability objectives that aim to focus the assessment on key sustainability issues. The high level objectives are provided below:

- Help make suitable housing available and affordable for everyone;
- Promote stronger more vibrant communities;
- To foster a vibrant, varied economy, with particular emphasis on supporting regeneration projects in market towns;
- Encourage a switch from transporting freight by road to rail or water;
- Protect habitats and species;
- Promote the conservation and wise use of land;
- Protect and enhance landscape and townscape;
- Value and protect diversity and local distinctiveness including rural ways of life;
- Maintain and enhance cultural and historical assets;
- Reduce vulnerability to flooding;
- Keep water consumption within local carrying capacity limits (taking account of climate change);
- Reduce waste produced by mineral development;
- Minimise the use of non-renewable resources and where possible promote the use of renewable resources;
- Minimise land, water, air, light, noise, and generic pollution; and
- Minimise the impacts on climate change.

Minerals Development Control Policies DPD
Alternatives
Alternative approaches to achieving the objectives of the plan have been assessed. Officers from the County and Borough Councils have considered a variety of different strategies and these have been subject to assessment to see how they perform against the sustainability objectives. The assessment has also looked at a further alternative (the ‘without the plan option’) which has been used as a comparison to show the effect on the SEA objectives that could result if the new plan were not to be implemented.

Options Considered
An iterative process was used to identify alternative options. Initial Options were assessed before a set of preferred options were developed in June 2006. These were assessed by C4S on behalf of Wiltshire County Council and Swindon Borough Council. Further work was then undertaken resulting in a revised set of preferred options being developed in August 2007 which were more focused on the specific needs and opportunities that related to the plan area. These revised preferred
options were also assessed by C4S. These revised preferred options have since been amended and now make up the policies contained in the final Development Control Policies DPD.

**Significant Effects Assessment**

The Development Control Policies have been evaluated against the sustainability objectives. An assessment of whether the policy would have a significant positive, a positive, a neutral, an uncertain, a negative or a significant negative effect on each sustainability objective has been made. The assessment also considered:

- Whether the impact will be in the short, medium or long term;
- How likely the effect is to occur i.e. a high, medium or low likelihood of the effect happening;
- At what scale the effect is likely to occur, i.e. within Wiltshire and Swindon, within the South-West region or within the UK and a wider global area; and
- Whether the effect will be temporary or permanent.

The findings of the assessment of the policies against each of the SA objectives can be summarised as follows:

- **No significant negative effects** of the Development Control Policies have been identified in the assessment of the Submission Draft.
- **One negative effect** (not considered significant) has been identified in the assessment of the Submission Draft for MDC 10: Restoration within Airfield Safeguarding Areas, against SA Objective Water Consumption.
- **Positive effects** of individual policies have been identified for all of the SA Objectives.
- All but one of the Development Control Policies has been identified as having **uncertain effects** on one or more of the SA Objectives.

**Mitigation Measures**

No **significant** negative effects have been identified in the plan, but a range of mitigation measures have been identified to ensure that the plan maximises its positive effects. Some of these measures are appropriate at this level of the Development Control Policies DPD, whereas others are more appropriate for lower level planning documents and for the mineral operations themselves.

The measures include:

- Requiring best practice techniques to minimise greenhouse gas emissions;
- Using vegetation for screening purposes;
- Restricting the hours of site operation; and
- Monitoring water consumption and implementing measures to help limit water use.
Monitoring

There is a requirement in the SEA Regulations to monitor significant environmental effects from the implementation of plans and programmes. This should identify unforeseen adverse effects at an early stage and the need for appropriate remedial action. While, no significant negative effects have been identified measures are proposed to monitor uncertain and minor negative effects.

Next Steps

When the Development Control Policies DPD is adopted, it will be accompanied by an SEA Statement which will explain how the environmental assessment and consultation have influenced the plan making process. The monitoring programme will also be presented at this stage.

Further Details

The main SA Report and technical appendices will be available along with the Minerals Development Framework documents on the Wiltshire County Council website at [www.wiltshire.gov.uk](http://www.wiltshire.gov.uk).

The County Council, at County Hall, Trowbridge, Swindon Borough Unitary Authority Council Office, Libraries and District Councils will hold copies of the main report and non-technical summary along with the provisional Minerals Development Plan. Hard copies of any of the documents are available on request from Wiltshire County Council.
1 Introduction

1.1 Background to Sustainability Appraisal/Strategic Environmental Assessment

New regulations require planning authorities to replace their local minerals plans and local waste plans with local minerals and waste development frameworks (MWDF). Wiltshire County Council (WCC) and Swindon Borough Council’s (SBC) Minerals Development Control Policies Development Plan Document (DPD) forms part of the MWDF. The document must be subject to both Sustainability Appraisal and Strategic Environmental Assessment under the Planning and Compulsory Purchase Act (2004) and The Environmental Assessment of Plans and Programmes Regulations (2004) which implement European Directive 2001/42/EC, known as the Strategic Environmental Assessment (SEA) Directive.

Both the SA and the SEA processes help planning authorities to fulfil the objective of contributing to the achievement of sustainable development in preparing their plans through a structured assessment of the objectives and strategies against key sustainability issues.

Although the requirement to carry out both an SA and SEA is mandatory for certain plans, it is possible to satisfy the requirements of both pieces of legislation through a single assessment process. Government guidance for undertaking SEA and for SA of Development Plan Documents in particular, detail how the SA and SEA should be integrated into one process. The final output of the process is a combined Sustainability Appraisal/Environmental Report which will be published alongside the plan. Throughout this document this report is referred to as the SA Report.

1.2 Wiltshire and Swindon Minerals Development Documents

The purpose of the Development Control Policies DPD is to set out development control policies that deliver the long term spatial vision for Minerals Planning in Wiltshire and Swindon. The Minerals Local Development Documents (MLDDs) will form part of the County and Borough’s Minerals and Waste Development Framework (MWDF). The Councils will be producing:

- A Minerals Core Strategy;
- A Minerals Development Control Policies LDD;
- A Minerals Site Specific Allocations Document; and
- An Adopted Proposals Map.

This SA Report should be read in conjunction with the Development Control Policies DPD Submission Draft, which provides the policy content and the preferred policy options that make up the Development Control Policies DPD. The Development Control Policies DPD will be submitted in July 2008 to Government via the Government Office for the South West and the Planning Inspectorate.

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5 “Sustainability Appraisal of Regional Spatial Strategies and Local Development Documents” (ODPM 2005)
The Development Control Policies DPD Submission Draft contains 10 policies covering the following themes:

- Delivering sustainable minerals development;
- Managing the impacts of minerals development;
- The natural and historic environment;
- Sustainable transport; and
- Restoration, aftercare and after-use of minerals development.

1.3 SA/SEA Methodology

The stages of the SA/SEA and Minerals Development Framework are shown in Table 1 below, which take into account ODPM guidance\(^6\). This SA Report addresses stages B and C.

**Table 1: Stages in the SA/SEA and Minerals Development Framework**

<table>
<thead>
<tr>
<th>Minerals Development Control DPD Stage</th>
<th>SA / SEA Stages</th>
<th>Dates</th>
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<tbody>
<tr>
<td>Begin document preparation</td>
<td>Stage A: Setting the context, establishing the baseline and deciding on the scope.</td>
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<tr>
<td></td>
<td>A1: Identify other relevant policies, plans and programmes, and sustainability objectives.</td>
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<td>A2: Collecting baseline information.</td>
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<td></td>
<td>A3: Identifying sustainability issues and problems.</td>
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<td></td>
<td>A4: Developing the SA framework.</td>
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<td></td>
<td>A5: Consulting on the scope of the SA (Scoping Report).</td>
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<tr>
<td>Preparation of Issues and Options (I&amp;O) paper and consultation Preparation of preferred options, including consultation on possible preferred option</td>
<td>Stage B: Developing and refining options and assessing effects.</td>
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<tr>
<td></td>
<td>B1: Testing the DPD objectives against the SA framework.</td>
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<td></td>
<td>B2: Developing the DPD options.</td>
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<tr>
<td></td>
<td>B3: Predicting the effects of the DPD.</td>
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<tr>
<td></td>
<td>B4: Evaluating the effects of the DPD.</td>
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<tr>
<td></td>
<td>B5: Considering ways of mitigating adverse effects and maximising beneficial effects.</td>
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<td></td>
<td>B6: Proposing measures to monitor the significant effects of implementing the DPDs.</td>
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<tr>
<td></td>
<td>Consultation on Issues &amp; Options (I&amp;O) paper November 2005 to January 2006.</td>
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<td></td>
<td>Preparation of SA Working Note on I&amp;O(^7) April 2006.</td>
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</table>

\(^6\) Now the Department for Communities and Local Government (CLG)

\(^7\) This output is not required by the SEA Regulations but was produced to assist in selecting the preferred options.
Stage C: Preparing the Sustainability Appraisal Report.
- C1 Preparing the \textit{SA Report}.

Stage D: Consulting on the preferred options of the DPD and SA Report.
- D1: Public participation on the preferred options of the DPD and the SA Report
- D2(i): Appraising significant changes
- D2(ii) Appraising significant changes resulting from representations
- D3: Making decisions and providing information

Stage E: Monitoring the significant effects of implementing the DPD.
- E1: Finalising aims and methods for monitoring.
- E2: Responding to adverse effects.
- Preparing the \textit{SEA Statement}.\footnote{The SEA Statement is required by the SEA Regulations.}

Submission of DPD to Secretary of State

Submission Draft: July 2008 (\textit{this report}).

The documents produced (see Table 1) are available to download on Wiltshire County Council's website at \url{http://www.wiltshire.gov.uk}.

The SA/SEA of the Wiltshire and Swindon MLDDs is being carried out by the Centre for Sustainability (C4S) at TRL and Enfusion to provide an independent assessment of the significant effects of the plan on environmental and sustainability issues.

\textbf{1.4 Compliance with the SEA Directive/ Regulations}

The SEA Regulations set out certain requirements for reporting the SEA process, and specify that “\textit{The Environmental Report required by the SEA Directive can be included in an assessment report on the wider effects of the plan or programme, such as a Sustainability Appraisal Report. However it must clearly show that the Directive has been complied with, for example by signposting to enable the components that meet the requirements for the Environmental Report to be readily identified." Consequently, the requirements for reporting the SEA process are set out below, and the section of the report that includes each requirement is indicated.}

\begin{itemize}
  \item An outline of the contents, main objectives of the plan or programme, and relationship with other relevant plans and programmes:
    \begin{itemize}
      \item Section 1.2 of this report sets out the contents and mains objectives of the Development Control Policies document. The relationship with other relevant plans is summarised in Section 2.2 and detail is provided in Appendix A.
    \end{itemize}
  \item The relevant aspects of the current state of the environment and the likely evolution thereof without implementation of the plan or programme:
    \begin{itemize}
      \item Section 2.3 of this report summarises the relevant baseline conditions for sustainability and minerals planning for Wiltshire and Swindon. Appendix B
    \end{itemize}
\end{itemize}
sets out this information in more detail. The likely evolution of current conditions is also summarised in Section 2 and detail provided in Appendix B.

The environmental characteristics of areas likely to be significantly affected:

- Where relevant and available, information regarding particular areas has been included in Section 2. Good practice guidance specifies that the contents and level of detail of information required should be relevant to the particular plan being assessed. The role of Mineral LDDs is to set out a spatial strategy for minerals planning across the whole County. Site specific issues will be relevant during the site allocations process. Accordingly, baseline information is provided at a range of different scales where available and appropriate.

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 (Conservation of Wild Birds) and 92/43/EEC (Habitats Directive):

- Section 3 of this report summarises existing sustainability problems for Wiltshire and Swindon. Issues relating to Natura 2000 sites (designated by the above directives) are outlined in Section 1.7.

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:

- Section 2 outlines the environmental protection objectives relevant for sustainability in Wiltshire and Swindon, and the implications of these objectives for the MLDDs.

The likely significant effects on the environment, including on issues such as biodiversity, population, human health, fauna, flora, soil, water, air, climatic factors, material assets, cultural heritage including architectural and archaeological heritage, landscape and the interrelationship between the above factors. These effects should include secondary, cumulative, synergistic, short, medium and long-term permanent and temporary, positive and negative effects:

- The SA Framework of objectives presented in Section 4 of this report covers all of the topics in the SEA Regulations, and progresses them through SA objectives. This assures that all of the issues are considered during the assessment of the Development Control Policies. The likely effects of the Development Control Policies DPD Submission Draft (including environmental effects, as well as an indication of the nature of that effect) are summarised in Section 6 of this report and detailed in Appendix D.

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:

- No significant adverse effects have been forecast. However measures have been outlined to mitigate other adverse effects (see Section 7).

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:

- Section 5 summarises the assessments conducted on options considered at earlier stages of the Development Control Policies' development. The detailed assessment of these options can be accessed in the previous SA Reports

- Section 6 provides a summary of the assessment of the Submission Draft Policies. The detailed assessment matrices are presented in Appendix D.
- The difficulties encountered in compiling information are summarised in Section 2.5 and Section 6 of this report.

A description of measures envisaged concerning monitoring in accordance with Article 10:

- Measures envisaged for the monitoring of the sustainability effects (including environmental effects) arising from implementing the Development Control Policies are provided in Section 8 of this report.

A non-technical summary of the information provided under the above headings:

- The non-technical summary is set out at the beginning of this report.

Consultation:

- The results of the consultation of the previous SA Report for the MLDDs, and appropriate modifications made, can be found in Appendix C.

1.5 Consultation

Consultation is a mandatory requirement for SEA and is required at more than one stage. To date three consultation exercises have been undertaken.

The SEA Regulations and SA Guidance require that consultation on the scope of the SA/SEA should be undertaken with the four statutory environmental consultees (Countryside Agency, English Nature\(^9\), English Heritage and the Environment Agency). However, WCC and SBC decided to consult with stakeholders more widely than that statutorily required, to ensure that a wide range of stakeholders were aware of the SA/SEA and could contribute to the development of the Minerals Development Plans. Further information on the consultation process is provided in Appendix C.

<table>
<thead>
<tr>
<th>Scoping Report Consultation</th>
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<tbody>
<tr>
<td>The first round of consultation was undertaken on the Scoping Report for the SA/SEA and took place in August to September 2005. The aim of this consultation was to ensure that all the relevant issues were identified and discussed at an early stage of the process so that they could be addressed during the SA and plan making.</td>
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<table>
<thead>
<tr>
<th>SA Report Consultation</th>
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<tbody>
<tr>
<td>The second round of consultation was undertaken on the SA Report that accompanied the original Preferred Options Report and took place in June to August 2006. At this stage of consultation there was a requirement to consult more widely and to include the public in the consultation process. A Non-Technical Summary was produced in order to present the findings of the SA/SEA in a more accessible format.</td>
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</table>

<table>
<thead>
<tr>
<th>Revised SA Report Consultation</th>
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<tbody>
<tr>
<td>The third round of consultation was undertaken on the SA Report that accompanied the Revised Preferred Options Report and took place in August 2007. A summary of the</td>
</tr>
</tbody>
</table>

In all three cases amendments to the SA were made as a direct result of the comments received.

1.6 How the SA has influenced the Development Control Policies DPD

The interaction between the plan making and sustainability teams at several key stages during the development of the Development Control Policies DPD has helped to incorporate sustainability and environmental considerations into the plan. At each stage, recommendations have been made, including suggestions for amendments to policies or revisions to options and objectives. Other changes include additions made to the supporting text of the Development Control Policies DPD to provide more clarity on how some issues would be dealt with in other MWDF documents. Recommendations have also been adopted to provide a clearer context to the supporting text that accompanies the policies. Such examples are the inclusion of cumulative and cross-boundary impacts in the policies.

Prior to the finalisation of the Submission Draft, recommendations were made to strengthen and further clarify the following policies:

- MDC1 Key Criteria for Sustainable Minerals Development – SA team recommended including in the policy protection of biodiversity and the historic environment.
- MDC6 Biodiversity and Geological Interest – SA team recommended strengthening the wording of the policy from ‘should be accompanied’ and ‘should maintain’ to ‘must be accompanied’ and ‘must maintain’.
- MDC9 Restoration, Aftercare, After-use Management of Minerals Development – SA team recommended strengthening the policy by removing the words ‘where possible’.

For these three policies, the SA team’s recommendations were accepted. Additionally, several other small alterations to policy wording were suggested and taken on board by WCC.

1.7 Habitat Regulations Assessment

The European Directive (92/43/EEC) on the Conservation of Natural Habitats and Wild Flora and Fauna (the Habitats Directive) protects habitats and species of European nature conservation importance. The Habitats Directive establishes a network of internationally important sites designated for their ecological status. These are referred to as Natura 2000 sites or European Sites, and comprise Special Areas of Conservation (SACs) and Special Protection Areas (SPAs).

Articles 6 (3) and 6 (4) of the Habitats Directive require Appropriate Assessment (AA) to be undertaken on proposed plans or projects which are not necessary for the management of the site but which are likely to have a significant effect on one or more Natura 2000 sites either individually, or in combination with other plans and projects. In 2007, this requirement will be transposed into UK law in Part IVA of the Habitats Regulations (The Conservation (Natural Habitats, & c) (Amendment) (England and Wales) Regulations 2007). These regulations will require the application of AA to all land use plans. Government guidance also requires that Ramsar sites (which support internationally important wetland habitats) and are listed under the Convention on Wetlands of International Importance (Ramsar Convention 1971) are included within HRA/AA.
The purpose of AA is to assess the impacts of a land-use plan, in combination with the effects of other plans and projects, against the conservation objectives of a European Site, and to ascertain whether it would adversely affect the integrity of that site. Where significant negative effects are identified, alternative options should be examined to avoid any potential damaging effects. The scope of the AA is dependent on the location, size and significance of the proposed plan or project.

It is the responsibility of the Local Planning Authorities to conduct Habitat Regulations Assessment (HRA) to identify whether the Minerals Development Control Policies DPD is likely to affect the integrity of the Natura 2000 sites that are located within, and in the vicinity of Wiltshire and Swindon, and to determine if further AA is required.

A detailed HRA, including AA, was undertaken for the Minerals Core Strategy. Given the relationship between the Core Strategies and the Development Control (DC) policies, and the detailed HRA work undertaken; this subsequent phase of HRA for the DC policies has employed a modified assessment. The assessment focused on:

a) A policy review and screening to assess whether the DC policies had the potential to result in significant impacts (not previously addressed by the Core Strategy HRA) at the sites screened into the Core Strategy HRA Appropriate Assessment stage; and

b) An assessment of how the recommendations emerging from the Core Strategy HRA had been taken on board in the development of DC policies.

### 1.7.1 Policy review and screening

The screening assessment noted that the DC policies for minerals are criteria based and that their primary focus is to control the nature of development, as opposed to directing development to specific locations - a function served at a strategic level by the Core Strategy and at a lower level by the Site Allocations DPD.

The screening findings concluded that there are no likely significant impacts arising as a result of DC policy implementation that have not been previously addressed through the Core Strategies HRA. In particular, the screening assessment noted that environmental protection measures have been effectively integrated throughout the DC policies, and that this approach takes forward recommendations made in relation to specific sites at the conclusion of the Core Strategies HRA.

The findings that the DC policies provide strong protection for European sites does not, however, obviate the requirement for these recommendations to be carried forward to the Site Allocations DPD level for consideration. It is at this site specific level that the majority of the recommendations are most appropriate and it will, therefore, be the role of the HRA of the Site Allocations DPDs to ensure that these recommendations are enacted. Key issues for consideration at this stage will include issues of water quality and hydrological connectivity that were identified as being particularly relevant to the integrity of several SACs.

### 1.7.2 Recommendations from Core Strategy HRA

The following recommendations from the Minerals Core Strategy HRA have been taken into account within the policies contained in the Development Control Policies DPD. Consideration in the policies of:

- Air quality issues;
- Water quality issues and impacts on hydrology;
- Land take and the disturbance to foraging and flightpaths;
- Habitat loss and fragmentation;
- Transportation;
- Cumulative and in combination impacts; and
- Airborne pollutants and noise/light levels.

### 1.7.3 Next steps

Further HRA will be required when the Minerals Site Allocations DPD is prepared and this also will need to take account of the recommendations made in the Minerals Core Strategy HRA. Given that the Site Allocations DPD will be proposing actual sites to be worked for minerals, the HRA will need to be more detailed at this stage and it is likely that further Appropriate Assessments will be required.

### 1.8 Geographic and Temporal Scope

The spatial scope for the assessment is the County of Wiltshire and the Unitary Authority of Swindon. However, the assessment has also taken into account the potential impacts that could affect the environment outside the immediate area (i.e. impacts on Hampshire, Somerset, Bath and North East Somerset, the New Forest, South Gloucestershire and Gloucestershire).

The SA/SEA has examined three temporal scales:
- Short term effects: effects expected in the next 1-10 years;
- Medium term effects: effects expected in the next 10-20 years; and
- Long term effects: effects expected in the next 20+ years (after the life of the plan).
2 Environmental and Sustainability Planning Context

2.1 Introduction
This section summarises the findings from the SA scoping stage. The scoping process seeks to ensure that the Sustainability Appraisal encompasses the key sustainability issues relevant to Wiltshire and Swindon in the context of the development planning system, especially with regard to minerals planning.

The section provides the environmental and sustainability context by:

- Examining the relationship of the development plan documents with other plans and programmes, to identify all relevant environmental protection objectives and identify potential conflicts to be addressed within the plan making process;
- Assembling data on the current and future state of the environment (baseline) for the environmental and sustainability topics which may be affected by the plan. The analysis of data can later be used for establishing the effects of the development plan documents; and
- Identifying the present and future environmental problems and opportunities in order that development plan documents can address these issues as far as possible.

2.2 Relationship of the MDF with other Plans and Programmes
The SEA Regulations (see Schedule 2) state that an Environmental Report should outline:

- The plan’s relationship with other relevant plans and programmes; and
- 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.

To fulfil this requirement, a review of the relevant plans, policies and programmes has been carried out to identify environmental objectives which may provide constraints or synergies with the plan being formulated. This review has covered international conventions and EU policies through to local plans and strategies. This chapter provides a summary of the main outcomes of the review, with the full review appearing in Appendix A.

2.2.1 Summary of the Review
The MLDDs have many direct and indirect relationships with other plans, programmes and policies at an international, national, regional and local level. At an international level there are several conventions and EU policies which the MLDDs need to consider. These include the Convention for the Protection of Architectural Heritage of Europe and the European Convention on the Protection of Archaeological Heritage, which set common policies for the protection and conservation of architectural and archaeological heritage. The European Landscape Convention and the EU Thematic Soil Strategy need to be considered as both may have implications for the MLDDs.

The Habitats Directive is a major European law that aims to protect biodiversity through the conservation of natural habitats and wild plants and animals. The Directive provides for the creation of a network of protected areas across the European Union known as ‘Natura 2000’ sites (comprising of Special Areas of
Conservation (SACs) and Special Protection Areas (SPAs)). Articles 6 (3) and 6 (4) of the Directive require an Appropriate Assessment to be undertaken on proposed plans or projects which are not necessary for the management of the site, but which are likely to have a significant effect on one or more Natura 2000 sites. MLDDs will need to determine whether an Appropriate Assessment is required in relation to their plans.

The Water Framework Directive is another major European law which requires all Member States to achieve ‘good ecological status’ of inland water bodies by 2015. The Directive also requires the development of River Basin Management Plans. MLDDs will need to consider what the implications of these plans will be, and importantly be flexible enough to take account of them once they are adopted.

As a result of the Water Act 2003, dewatering of mines and quarries which is currently exempt will need a transfer licence (as of October 2008) for the abstraction of water. This is to ensure that they are managed appropriately and that any impacts on the environment are taken into account.

At a national level, minerals development is guided by Mineral Policy Guidance Notes (MPGs) and their replacements Mineral Policy Statements (MPSs). In terms of aggregate minerals, (mainly sand and gravel in Wiltshire and Swindon’s case) development is guided by MPS1. In policy terms the forecast provision of aggregate is governed through a process of regional apportionment (both hard rock and sand and gravel). Revised “National and Regional Guidelines for Aggregates Provision in England, for the period 2001-2016” was published by ODPM in June 2003.

In June 2003, Government asked the South West Regional Assembly (SWRA), advised by the Regional Aggregates Working Party (RAWP) and Mineral Planning Authorities (MPA) to carry out a new sub-regional apportionment to 2016. This sub-regional apportionment essentially divides the regional apportionment between MPAs in the region on the basis of past production. An initial sub-regional apportionment for the South West Region (‘Scenario 1’) was completed by the South West RAWP in October 2003. However, this sub-regional apportionment process has been subject to a debate with recognition that the sub regional apportionment submitted to Government in October 2003 is not considered sustainable in the long term by the South West RAWP (see Box 1).

**Box 1: Letter of advice to SWRA from the South West RAWP**

> “SWRAWP considers that initially the apportionment of primary land won aggregates should be based on a scenario which maintains the status quo. This scenario (Scenario 1) represents a pragmatic approach because it is based on the existing pattern of supplies and recognises the extent of existing planning commitments to extraction (planning permissions and preferred area resources). At the same time SWRAWP has recognised the need to consider a shift in this supply pattern because of the potential environmental implications of maintaining the present pattern of production which will require the release of further land for extraction in the identified shortfall areas. At present, however, the information necessary to set out an alternative approach is not in place”.

(October 2003 letter from Mark Jones to Peter Brown)

This approach is consistent with the MPS1. This guidance note states that it might be appropriate to carry out an initial sub-regional apportionment on the basis of recent production. It then notes that alternatives can be examined before deciding on a preferred option. This decision should take account of the likely environmental impact of the alternative especially on areas of international and national landscape or conservation designations, and the impacts on local population.
In recognition of the above approach the SWRA commissioned a review of the sub-regional apportionment for the Region\textsuperscript{10}. This study addressed the shortfalls within the South West and examined ways to mitigate unacceptable environmental aspects of future workings.

The review established a hybrid scenario which consists of the following changes, compared to Scenario 1 (where there was an identified shortfall in Wiltshire and Swindon of 18.4m tonnes of sand and gravel):

- Further increasing the use of construction and demolition waste arisings as aggregates, especially in higher value applications such as concrete;
- Increasing the use of marine dredged aggregates, particularly from existing South Coast licence areas to replace land-won sand and gravel, especially in Dorset;
- Minimising the necessity to substitute natural sand and gravel with crushed rock, because of the transport impacts and increased cement requirements involved, and also because of the potential conflict with water resources in limestone aquifers;
- Minimising the necessity for sand and gravel extraction within the most sensitive areas - i.e. those within or adjacent to national and international designations;
- Anticipating major objections (particularly on the grounds of bird-strike risks to MOD facilities) to future sand and gravel extraction in the Cotswold Water Park area;
- Avoiding further permissions for Carboniferous Limestone extraction within the Forest of Dean (with a resulting increased output from such quarries in South Gloucestershire and perhaps in South Wales to substitute for the shortfall); and
- Exploring the use of fiscal measures to stimulate the increased use of china clay aggregates within the Region (but not to implement this immediately).

Further work is needed before this review can be adopted. This should include a review of known and potential sand and gravel resources within Wiltshire and Swindon, Dorset and Gloucestershire (the so called ‘sand and gravel shortfall areas’). It should also include a detailed assessment of the extent to which these resources could be worked recognising the following:

- Using best practice mitigation techniques;
- Without adverse effects on environmental designations;
- Other major planning restrictions; and
- The risk of bird-strike to MOD facilities.

There are other plans and programmes that the MLDDs have an indirect relationship. These include local action plans such as the Wiltshire Biodiversity Action Plan and the Cotswold Water Park Biodiversity Action Plan which the MLDDs can contribute positively to in terms of after use of minerals sites. Other examples include Local Development Frameworks (LDFs); the Regional Spatial Strategy (RSS) which should

provide an integrated, strategic approach, with regional and sub-regional priorities for housing and other development that are formulated alongside those for environmental protection and minerals. The RSS should lead to a concentration of development in Swindon and other Principal Urban Areas (PUAs) within the Region and this would also have implications for the transport of minerals.

Table 2 provides a list of all the other planning documents that were reviewed during the initial stages of the SA/SEA process, and which has been updated as new documents have been published.

**Table 2: Other Plans and Programmes Reviewed**

<table>
<thead>
<tr>
<th>International</th>
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<tbody>
<tr>
<td>- EU Habitats Directive (92/43/EC)</td>
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<tr>
<td>- Kyoto Protocol on Climate Change</td>
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<td>- The Convention on Biological Diversity, Rio de Janeiro 1992</td>
</tr>
<tr>
<td>- Ambient Air Quality and Management Directive (66/62/EC)</td>
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<tr>
<td>- The Johannesburg Declaration of Sustainable Development 2002</td>
</tr>
<tr>
<td>- European Spatial Development Perspective 1999</td>
</tr>
<tr>
<td>- Århus Convention (Decision 2005/370/EC)</td>
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<tr>
<td>- Nitrates Directive (91/676/EEC)</td>
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<tr>
<td>- Waste to Landfill Directive (99/31/EC)</td>
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<tr>
<td>- European Landscape Convention 2004</td>
</tr>
<tr>
<td>- Convention for the Protection of the Architectural Heritage of Europe 1985</td>
</tr>
<tr>
<td>- EU Directive relating to the assessment and management of environmental noise (2002/49/EC)</td>
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<tr>
<td>- Environment 2010: Our Future, Our Choice (EU Sixth Environment Action Programme)</td>
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<table>
<thead>
<tr>
<th>National</th>
</tr>
</thead>
<tbody>
<tr>
<td>- PPS1 – Delivering Sustainable Development (ODPM, 2005)</td>
</tr>
<tr>
<td>- Planning and Climate Change – Supplement to PPS1 (CLG, 2007)</td>
</tr>
<tr>
<td>- PPG 2 – Green Belts (as amended, ODPM, 2001)</td>
</tr>
<tr>
<td>- PPS 3 – Housing (as updated, ODPM, 2005)</td>
</tr>
<tr>
<td>- PPS 7 – Sustainable Development in Rural Areas (ODPM, 2004)</td>
</tr>
<tr>
<td>- PPS 9 – Biodiversity and Geological Conservation (ODPM, 2005)</td>
</tr>
<tr>
<td>- PPS 10 – Planning for Sustainable Waste Management (ODPM, 2005)</td>
</tr>
<tr>
<td>- PPS 11 – Regional Spatial Strategies (ODPM, 2004)</td>
</tr>
<tr>
<td>- PPS 12 – Local Development Frameworks (ODPM, 2004)</td>
</tr>
<tr>
<td>- PPG 13 – Transport (ODPM, 2001)</td>
</tr>
<tr>
<td>- PPG 14 – Development of Unstable Land (DoE, 1990)</td>
</tr>
<tr>
<td>- PPG 15 – Planning and the Historic Environment (DoE, 1994)</td>
</tr>
<tr>
<td>- PPG 16 – Archaeology and Planning (DoE, 1990)</td>
</tr>
<tr>
<td>- PPG 17 – Planning for Open Space, Sport, and Recreation (ODPM, 2002)</td>
</tr>
<tr>
<td>- PPS 23 – Planning and Pollution Control (ODPM, 2006)</td>
</tr>
<tr>
<td>- PPG 24 – Planning and Noise (DoE, 1994)</td>
</tr>
<tr>
<td>- MPS 1 – Planning and Minerals and associated Good Practice Guidance (ODPM, 2006)</td>
</tr>
<tr>
<td>- MPG 2 – Applications, Permissions and Conditions (ODPM, 1998)</td>
</tr>
</tbody>
</table>
- MPS 2 – Controlling and Mitigating the environmental effects of mineral extraction in England (ODPM, 2005) (supersedes MPG11)
- MPG 7 – Reclamation of Mineral Workings (ODPM, 1996)
- MPG 10 – Provision of raw material for the cement industry
- National and Regional Guidelines for Aggregates Provision in England, for the period 2001-2016 (ODPM 2003)
- Securing the Future: The Government’s Sustainable Development Strategy (DEFRA, 2005)
- Wildlife and Countryside Act 1981 (as amended)
- Countryside and Rights of Way Act 2000 (CRoW)
- Natural Environment and Rural Communities Act (NERC) Act 2006
- The Urban Waste Water Treatment (England and Wales) (Amendment) Regulations 2003
- Good Practice Guide on Planning for Tourism (ODPM, 2006) (supersedes PPG21)
- UK Biodiversity Action Plan (1992)
- Climate Change: The UK Programme (DEFRA, 2000)
- The Historic Environment: A Force for Our Future (DCMS, 2001)
- Communities Plan (Sustainable Communities: Building for the Future) (ODPM, 2003)
- English Heritage Policy Statement: Mineral Extraction and the Historic Environment Consultation (EH 2007)
- Water Act 2003
- Groundwater Protection: Policy and Practice (GP3) (EA, 2007)

**Regional**

- A Biodiversity Guide for the Planning and Development Sectors in the SW (South West Biodiversity Partnership and the Association of Local Government Ecologists, 2002)
- South West Biodiversity Action Plan (1997)
- Strategic Sustainability Appraisal Framework (SWRA, 2003)
- South West Regional Planning Guidance (RPG10) (DTLR, 2001)
- In Search of Chunky Dunsters – A Cultural Strategy for the South West (Culture South West, 2003)
- South West Regional Waste Strategy (SWRA 2004)
- South West Regional Environmental Strategy (SWRA, 2001)
- Creating Sustainable Communities in the South West (GOSW, 2005)
- Technical and Strategic Assessment of Current Aggregate Reserves and Potential Use of Secondary & Recycled Aggregates in the South West Region
Table 3 provides information on how the plan should address issues raised by these other plans and programmes.

**Table 3: How the plan should address issues raised by other plans**

<table>
<thead>
<tr>
<th>Issue</th>
<th>How the MLDDs should address the issue</th>
</tr>
</thead>
<tbody>
<tr>
<td>Air quality and noise</td>
<td>MLDDs should include consideration of how site management can positively contribute to air quality and noise especially through heavy goods vehicles (HGV) management policies. The plan should have regard for PPG24 when developing policies, particularly with regard to site selection, design, site management and monitoring. Site selection should also take into account air quality impacts where possible. The MLDD needs to include air quality policies for instance with regard to dust, and emissions from machinery and vehicles.</td>
</tr>
<tr>
<td>Climatic factors</td>
<td>The plan should have regard to climate change when developing policy options. The SA of the plan should contain objectives for reducing emissions and coping with the effects of climate change. The MLDDs could contribute to UK greenhouse gas reduction targets, for instance through encouraging industrial efficiency, procurement of renewable energy, and more sustainable transport of materials and personnel. The proximity principle in particular needs to be built into site selection for the MLDDs. Climate change also has the potential to lead to increased flood risk.</td>
</tr>
<tr>
<td>Human health and safety</td>
<td>The plan should take account of the need to conserve green areas for informal and formal recreation, and to site development away from communities, where possible, to minimise those affected by air (inc. dust), noise, and vibration. The plan should consider how restoration and after-uses could be designed to contribute to improved levels of physical fitness for local communities. Green and/or open space has been found to have...</td>
</tr>
<tr>
<td>Issue</td>
<td>How the MLDDs should address the issue</td>
</tr>
<tr>
<td>-------</td>
<td>--------------------------------------</td>
</tr>
<tr>
<td><strong>Population</strong></td>
<td>The plan should pay due regard to the targets set for housing by the South West Regional Spatial Strategy. It should help provide and contribute towards making Swindon an economically prosperous place, without detracting from its environment.</td>
</tr>
<tr>
<td><strong>Landscape, open space and recreation</strong></td>
<td>The MLDDs should take into account PPG 17 and the Good Practice Guide on Planning for Tourism in preserving the quality of open space and hence avoiding the adverse impacts on areas like the Cotswold AONB. Proposed new mineral sites must take account of the CRoW Act and should not, where possible, hinder accessibility to open country and common land. The plan should aim to reduce the impacts on agricultural land of mineral developments and take into account the objectives of the North Wessex Downs and Cotswold AONBs particularly relating to landscape and natural resources.</td>
</tr>
<tr>
<td><strong>Cultural heritage</strong></td>
<td>The MLDDs should be committed to PPG 15 and PPG 16 objectives for the effective protection of the historic environment and archaeological remains through site selection. It should also take into account the strategic aims of the South West Cultural Strategy, including encouraging access and participation, improving the quality and relevance of the region’s cultural facilities and activities and celebrating the regional identity and rich diversity of the South West’s cultural life and traditions.</td>
</tr>
<tr>
<td><strong>Biodiversity, fauna, flora and soil</strong></td>
<td>The MLDDs should accept the primacy of nature conservation objectives and pay particular regard to international, national and locally designated sites habitats and linear habitat structures. If developments that impact upon protected species or designated sites are necessary, then compensation measures and mitigation is required. Mitigation should be pro-active through site selection, timing, and consideration of alternatives. In particular, attention should be paid to the Biodiversity Action Plans and Geodiversity Action Plans for Swindon, Wiltshire (as it stands, there are no GAPs in Wiltshire and Swindon), and the Cotswold Water Park as well as the UK and South West Biodiversity Action Plan, with minerals operations encouraged to adopt their own Biodiversity Action Plans. The River Avon SAC Conservation Strategy should be consulted if mineral developments fall within the SAC boundaries. A Habitats Regulation Assessment should be undertaken to assess whether the MLDDs will have a significant effect on any Natura 2000 sites. The restoration of old mineral working sites provides an opportunity to create habitats prioritised in local Biodiversity/Habitat Action Plans. The MLDDs should be developed bearing in mind the objectives, targets, and indicators contained within the South West Biodiversity Implementation Plan.</td>
</tr>
<tr>
<td><strong>Water pollution and flooding</strong></td>
<td>The MLDDs should ensure that potential contaminated runoff from mineral working sites and associated developments are considered, along with the impacts of mineral developments on groundwater in their vicinity. The MLDDs should have regard to PPS 25, through ensuring minerals operations do not increase flood risk in sensitive areas, and through</td>
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<table>
<thead>
<tr>
<th>Issue</th>
<th>How the MLDDs should address the issue</th>
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<td></td>
<td>ensuring minerals operations (for instance in riverbed gravel areas) are not threatened by flooding. Liaison with the Environment Agency is recommended. Plans should also require efficiency in water use by mineral extraction operations. A Level 1 Strategic Flood Risk Assessment (SFRA) has been prepared.</td>
</tr>
</tbody>
</table>
| Material assets | The MLDDs should take into account the waste reduction, recovery and recycling targets contained with the Council Directive 1999/31/EC on the Landfill of Waste and Waste Framework Directive, when considering waste from minerals developments. Alternative options need to be tested as part of the MLDDs considering efficient resource use and use of recycled / secondary materials.  
The Plan needs to consider the potential minerals resource requirements needed to pursue the objectives of the Regional Economic Strategy and Regional Sustainable Development Framework for the South West. |
| Sustainable development / environmental policy | Local Authorities should consider how their plans are addressing the four pillars of sustainable development by including relevant sustainability objectives both for the plan and the SA. This is expected to be a challenge in the case of the MLDDs due to exacting regional requirements and environmental constraints including the three Areas of Outstanding Natural Beauty (AONBs). Strategies that planners need to be aware of when developing the Plan include: The South West Regional Environmental Strategy, The Government’s Sustainable Development Strategy, PPS1, the EU Sixth Environment Action Programme, and the Johannesburg Declaration of Sustainable Development (2002). |
| Minerals policy | The MLDDs must make allowance for the principles of MPS1 and MPS2 through local development policy in particular through the selection of suitable plan objectives and through site selection. The MLDDs will need to include policies that require a consideration of detailed matters such as the economic, environmental, nature conservation, agricultural, landscape, traffic, site restoration and other effects of the proposal that are relevant to the planning decision.  
The sub-regional apportionments of mineral provision as relevant to the Revised MPG6 and its sustainability as examined in the SA, should be taken into account within the MLDDs, as should the provisions for reclamation of mineral workings as covered by MPG7.  
The plan may need to include a review of known and potential sand and gravel resources within Wiltshire and a detailed assessment of the extent to which these could be worked, using best practice mitigation techniques, without significant adverse effects on environmental designations, other major planning restrictions, and the risk of bird-strike to MOD facilities. |
| Spatial policy | The MLDDs must take into account various Planning Policy Guidance Notes, ensuring wherever possible that mineral developments do not compromise the openness of green belt land, take into consideration its impacts on traffic through transportation of materials and personnel, and avoiding adverse impacts on rural and urban communities (for example through maintaining a high-quality environment and providing local economic benefits). The Plan should encourage the use of renewable energy and the use of secondary and recycled aggregates. Potential pollution risks from mineral developments should be tackled in line with PPS23.  
At a regional and local level, the Plan will need to consider the resource requirements imposed by the Wiltshire Structure Plan and Swindon Borough Local Plan. These spatial plans may also have implications for possible resource sterilisation which will need to be considered within the |


**Issue** | **How the MLDDs should address the issue**
---|---
MLDDs. | Environmental Objectives within Local Plans to do with specific designated areas must also be taken into account. These include the New Forest National Park, AONBs, SACs, and Cotswold Water Park.
Other policy | In line with the Aarhus Convention, public consultation and access to information supporting the decision-making process must be introduced in the procedures for the drawing up of the Plan in respects of matters covered by the legislation and Directives mentioned. The SEA Directive requires that public consultation is carried out on the Draft Plan and its accompanying Environmental Report.

The South West Regional Assembly believes that local level appraisals may be more efficiently and effectively carried out if LPAs adopt a similar framework of sustainability objectives as used in the SSA Appraisal Framework document, when undertaking their appraisals.

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### 2.2.2 Relevant Environmental Objectives

A set of SA/SEA objectives and indicators were developed to help determine the significant effects of the plan. The review of plans and programmes was used to help identify the following topic areas where objectives were needed (see Table 4).

**Table 4: Objectives of other Plans and Programmes**

<table>
<thead>
<tr>
<th>Issue</th>
<th>Relevant objectives</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Air quality and noise</strong></td>
<td>Minimise emissions to air; and Minimise nuisance from minerals working and HGV traffic (including the effects of noise).</td>
</tr>
<tr>
<td><strong>Climatic factors</strong></td>
<td>Encourage the use of sustainable transport options for minerals; Where possible, adopt the proximity principle when siting facilities; Minimise the impact of mineral workings through implementing effective measures to control emissions to air; and Reduce the risk of flooding by siting developments away from floodplains.</td>
</tr>
<tr>
<td><strong>Human health and safety</strong></td>
<td>Maintain or where possible enhance the quality of life for people affected by mineral working and/or ancillary development; Ensure robust consideration is given to the proximity of mineral workings and/or ancillary development to developments and individual properties; and Protect rights of way, open space and common land.</td>
</tr>
<tr>
<td><strong>Population</strong></td>
<td>Ensure that sub-regional aggregate apportionment is met to ensure adequate materials for house building.</td>
</tr>
<tr>
<td><strong>Landscape, open space and recreation</strong></td>
<td>Ensure that future quarrying proposals within AONBs are only permitted for cases of overriding national need and when alternative sources outside the AONBs have been fully considered; Reduce visual intrusion from mineral working and/or ancillary development; Ensure effective restoration of all mineral sites and areas affected by mineral working; Protect and improve the quality of the countryside in proximity to mineral working and/or ancillary development; and Maintain and enhance access to the countryside for residents and visitors.</td>
</tr>
<tr>
<td><strong>Cultural heritage</strong></td>
<td>Protect designated and, where possible, non-designated sites and monuments of cultural/archaeological importance.</td>
</tr>
<tr>
<td><strong>Biodiversity</strong></td>
<td>Avoid minerals development which would impact on sites of...</td>
</tr>
<tr>
<td>Issue</td>
<td>Relevant objectives</td>
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</tbody>
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| Fauna, flora and soil         | International or national importance;  
                                | • Avoid minerals development on identified sites of county/local importance, BAP habitats and other habitats of notable ecological value;  
                                | • Avoid the effects of minerals development on populations of protected or notable species; and  
                                | • To enhance biodiversity through the restoration and creation of habitat to contribute to BAP targets for restoration and creation. |
| Water pollution and flooding  | • Reduce risk of flooding (of mineral developments and as a consequence of mineral developments);  
                                | • Minimise adverse impacts on water resources at all stages of mineral working through effective site design and management; and  
                                | • Protect and where possible improve surface, groundwater and drinking water quality. |
| Material assets               | • Minimise the amount of waste produced per tonne of saleable mineral; and  
                                | • To reduce reliance upon primary, land-won minerals in favour of increasing the contribution made by secondary and/or recycled materials. |
| Sustainable development /    | None (already covered by other objectives).                                                                                                                                                                              |
| environmental policy          |                                                                                                                                                                                                                       |
| Minerals policy               | • Make a sustainable contribution to meeting Wiltshire and Swindon’s sub-regional apportionment.                                                                                                                                 |
| Spatial policy                | None (already covered by other objectives).                                                                                                                                                                              |
| Other policy                  | None (already covered by other objectives).                                                                                                                                                                              |

Further details are provided in Section 4 on how the SA/SEA objectives were selected.

**2.3 Current and Future State of the Environment**

The Regulations require that the SA Report includes an examination of the current state of environment and its likely evolution without implementation of the plan.

SA Guidance suggests a practical approach to data collection, recognising that information gaps for future improvements should be reported as well as the need to consider uncertainties in the data. The collection of baseline information is continuous throughout the plan making process, and the baseline has been added to as new information has become available. The aim is to only collect relevant and sufficient data to allow the potential effects of the plan to be adequately forecast.

The baseline data provides an evidence base for identifying sustainability issues in Wiltshire and Swindon, as well as a mechanism for identifying alternative ways of dealing with the issues. The information has helped the development of the SA Framework, and has provided a basis for predicting and monitoring the effects of the Plan. In order to assess how the MLDDs will contribute to sustainable development, it is essential to understand the present economic, environmental and social circumstances in the County, and how they may progress without implementation of the Plan. Forecasting of future trends can be highly uncertain, however key trends identified from the available baseline data are outlined within the summaries below.

Alongside the baseline data collated to inform the SA/SEA process an Evidence Base and Monitoring Framework Report has been developed by Wiltshire County
Council and Swindon Borough Council to support the main Development Plan Documents. This report provides information on the spatial context of the plan area, including detail on spatial planning and sustainable development, population, housing, the economy, transport, landscape, cultural heritage, habitats and biodiversity and the environment. The second and third sections of the report provide information on the need for waste management and the need for minerals resources in Wiltshire and Swindon. The Evidence Base has been drawn on by the SA/SEA team to help inform their assessment work. The Evidence Base is available on the Wiltshire County Council website.

2.3.1 Methodology

Information was compiled from a variety of sources including the relevant national, regional, county and local datasets and resources. The tables in Appendix B set out the information under the topics listed in the SEA Directive (Schedule 2), to demonstrate legislative compliance. The tables contain the following information:

- The type of information, i.e. the subject;
- Data source - indication of source reliability;
- The current local situation - to assess against comparators or targets, where available;
- Comparators or thresholds and targets - a point of reference to which local data may be compared, how far is the current situation from established thresholds and targets;
- Local trends - to assist in the prediction of the likely future state of the plan area and whether a particular situation is improving or worsening;
- Issues - identification of potential positive/negative issues for sustainability, including sensitivity/ importance; reversibility/ performance; ability to offset/remedy; cumulative/ synergistic effects; and
- Any comments about the data itself.

2.3.2 Air Quality

There are no Air Quality Management Areas (AQMAs) declared in Swindon, but in Wiltshire there are seven AQMAs. Five of these cover sections of roads in Salisbury whilst the remaining two are in Westbury and Bradford on Avon (West Wiltshire). In Salisbury there have been recent changes to the locations of the AQMAs, with the Wilton Road AQMA being revoked, and an additional central Salisbury AQMA being declared in Exeter Street. The AQMAs are:

**West Wiltshire DC**
- Westbury (NO\(_2\)) (Sections of Haynes Rd and Warminster Rd); and
- Bradford on Avon (NO\(_2\) & PM\(_{10}\)) (Masons Lane, Market St, Silver St, St Margaret’s St).

**Salisbury DC**
- Brown St/Winchester St (NO\(_2\));
- Fisherton St (NO\(_2\));
- Milford St (NO\(_2\));
- Minister St (NO\(_2\)); and
- Exeter St (NO\(_2\)).

Whereas the Salisbury and Westbury AQMAs have been notified on the basis of high NO\(_2\), the Bradford on Avon AQMA has also been notified for particulates (PM\(_{10}\)). This is largely due to the canyon effect caused by the presence of tall buildings at the
bottom of the valley which trap the pollution created by the heavy traffic passing through the town.

No AQMAs have been declared in either Kennet or North Wiltshire Districts. There are no automatic air monitoring sites within the county, the nearest sites being at Bath, Bristol, Somerton and Bournemouth.

### 2.3.3 Biodiversity, Flora and Fauna

#### European Designations

Wiltshire and Swindon cover an important area of biodiversity interest, containing either in full or part, 10 Special Areas of Conservation (SAC) and 2 Special Protection Areas (SPA), these being areas of European designation. The location of these sites is shown in Figure 1. The primary reasons for the selection of these sites as being of European importance are shown in Appendix B.

#### National and Local Designations

There are 136 Sites of Special Scientific Interest (SSSIs) and 7 National Nature Reserves (NNRs) in Wiltshire and Swindon, and the area also has 12 Local Nature Reserves (LNRs). In addition there are 60 Regionally Important Geological or Geomorphological Sites (RIGS) (Wiltshire only) and approximately 1,500 County Wildlife Sites (CWS) (Wiltshire & Swindon).

Natural England reports on the condition of SSSIs, grading them into six categories. The Government has set a Public Service Agreement for 95% of SSSI to be in the top two categories by 2010. The figure for Wiltshire in 2008 was 87.83% which shows an improvement over the 86.89% reported on the Natural England website, prior to some of the site condition information being updated. Table 7 indicates the condition of SSSIs in Wiltshire.

<table>
<thead>
<tr>
<th>% Area meeting PSA target</th>
<th>% Area favourable</th>
<th>% Area unfavourable recovering</th>
<th>% Area unfavourable no change</th>
<th>% Area unfavourable declining</th>
<th>% Area destroyed / part destroyed</th>
</tr>
</thead>
<tbody>
<tr>
<td>87.83%</td>
<td>54.22%</td>
<td>33.61%</td>
<td>4.47%</td>
<td>7.71%</td>
<td>0.00%</td>
</tr>
</tbody>
</table>

**Table 5: Condition of SSSIs within Wiltshire**

Source: Natural England, complied in 2008

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Other Biodiversity

The Wiltshire Biodiversity Action Plan (BAP) includes eleven habitat action plans and one species action plan (bats). Of the habitats within Wiltshire, chalk grassland is one of the most important, with the county holding over 50% of the UK’s resource of flower rich chalk grassland.

The Swindon BAP includes 14 habitat action plans and one species action plan, whilst the Cotswold Water Park BAP includes action plans for eight habitats and nine species.

Despite the dominance of chalk downland in certain areas of the county, Wiltshire has a wide variety of habitat types, and it encompasses parts of nine of the English Nature Natural Areas. Natural Areas are bio-geographic zones which reflect the geological foundation, natural systems and processes, and wildlife.

In Swindon and Wiltshire, 3.6% of the area is covered by ancient woodland, compared to over 2% of the land area in Great Britain.
A Regional Nature Map has been developed by the South West Regional Biodiversity Partnership which identifies areas of opportunity for habitat creation. For the Minerals Development Framework SA/SEA this map provides context to help guide potential habitat enhancement and creation opportunities.

### 2.3.4 Climatic Factors

The UK Climate Impacts Programme (UKCIP, 2002) has identified that global temperature has risen by 0.6°C since the beginning of the twentieth century, and that over the last 30 years winters have been getting warmer and summers drier. In the South-West, 8 of the 10 warmest years since 1855 have occurred since 1990. This trend is set to continue and on current trends average global temperatures will rise by 2-3°C within the next 50 years (UKCIP, 2002). Annual average precipitation across the UK may decrease slightly by between 0-15% by the 2080s and the seasonal distribution of precipitation will change, with winters becoming wetter and summers becoming drier (UKCIP, 2002).

The transport system is now the largest source of greenhouse gas emissions in the UK, and has shown a steady increase since 1990, unlike the industrial and domestic sectors which now have emissions lower than the 1990 base year (Sustainable Development Indicators, 2007). The plan will need to consider how the transportation of minerals could be made more sustainable to reduce greenhouse gas emissions.

To help improve Wiltshire’s performance with regard to reducing its impact on climate change, Wiltshire County Council has joined the Local Authority Carbon Management Programme being run by the Carbon Trust. This programme provides councils with support and guidance to help them achieve carbon emissions savings from assets such as buildings, vehicle fleets, street lighting and landfill sites. As WCC develops actions to implement the programme, these may feed into future monitoring arrangements for the Minerals Sustainability Appraisal.

### 2.3.5 Cultural Heritage

Wiltshire contains nearly 20,000 archaeological sites, including the combined World Heritage Sites of Stonehenge and Avebury, Salisbury Cathedral, and the more recent industrial archaeological features such as Box Tunnel and the Kennet and Avon Canal. The county has 12 National Trust properties which attract large numbers of visitors.

The Stonehenge World Heritage Site covers 2,600 hectares, and includes over 400 scheduled ancient monuments. The Avebury site includes the remains of the largest stone circle in the British Isles, as well as the largest prehistoric mound in Europe (Silbury Hill), whilst the stone circle at Stonehenge is the most sophisticated in the world and was erected between circa 3000BC and 1500BC. The county contains nearly 20,000 archaeological sites of interest ranging from prehistoric through to Roman and medieval times. Wiltshire also contains one of England's 43 Registered Historic Battlefields at Roundway Down, where the Royalists defeated the Parliamentarians during the Civil War in 1643.

Figure 2 indicates the locations of the designated heritage assets within Wiltshire and Swindon, excluding listed buildings.

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The Wiltshire Structure Plan 2011 gives priority for preserving and enhancing the special character of 22 settlements. There are also approximately 14,000 listed buildings, 10 Historic Parks and Gardens and more than 250 Conservation Areas.

### 2.3.6 Landscape

Wiltshire’s landscape is of great importance on a national scale. There are three Areas of Outstanding Natural Beauty (AONBs) that cover 43% of the county (Cotswolds, North Wessex Downs, and Cranborne Chase and West Wiltshire Downs), with the south-east tip of the county also being part of the New Forest National Park. Wiltshire has also designated Special Landscape Areas. Figure 3 shows the locations and extent of these areas.
Figure 3: Landscape Designation within Wiltshire and Swindon

Landscape Character

The landscape character of the area is anything but uniform, with 11 of the Countryside Agency Landscape Character Areas featuring to a greater or lesser extent within the county border. Figure 4 shows the location and extent of these areas. This national classification takes a broad brush approach to defining landscape character within England, and local studies have also been undertaken to classify the landscape in more detail.

The three most dominant national Character Areas within Wiltshire are:

**Avon Vale:** This is an undulating clay vale cut through by numerous westward flowing tributaries of the River Avon. The area contains a wide range of wildlife, historic and landscape features. Gravels and other alluvial deposits occur along the wide river corridor and calcareous grassland and stone walls occur on higher land in the east. Westwards, the landscape is open and generally arable with few hedgerows or hedgerow trees.
**Berkshire and Malborough Downs**: This is an extensive area of chalk extending from the edge of Salisbury Plain and Devizes in the west, across a band of chalk to Wantage in the north and the River Thames in the east. The dominant landscape is large-scale open rolling chalk downland characterised by intensive arable farming, sparse woodland cover and few hedgerows and hedgerow trees.

**Salisbury Plain and West Wiltshire Downs**: This is an elevated, open and extensive chalk plateau dissected by the tributaries of the Hampshire River Avon. The area includes parts of the Cranborne Chase and West Wiltshire Downs AONB and the Wessex Downs AONB. The core area of Salisbury Plain has expansive tracts of calcareous grassland with scattered scrub and large arable fields bounded by very sparse hedgerows at the fringes.

Information on trends relating to changes in landscape is summarised for each of the landscape character areas in Appendix B. This information has been generated through the Countryside Agency’s ‘Countryside Quality Counts’ programme.

**Figure 4: Landscape Character Areas within Wiltshire and Swindon**
Tranquillity and Light Pollution

Part of the appeal of the rural nature of Wiltshire, particularly within the AONBs, is the tranquillity provided in these locations. The results of the 2006 tranquillity study published by the Campaign to Protect Rural England (CPRE) showed Wiltshire to be in country’s top ten most peaceful areas\(^\text{14}\). Figure 5 shows how tranquillity decreased from the early 1960s through to the early 1990s (darker areas – more tranquil) with Figure 6 showing the results from the 2006 study.

\[\text{Figure 5: Tranquility in the South-West}
\]

(Source: CPRE and Countryside Agency, 1995 cited at www.swenvo.org)

\(^{14}\) http://www.swenvo.org.uk/environment/tranquillity.asp#new_map
2.3.7 Material Assets including Waste

Overall waste production in Wiltshire and Swindon has shown a steady increase in recent years. Although there was a small decrease in the amount of municipal waste arising in 2005/06 than 2004/05 mainly due to increased recycling initiatives throughout the County and Borough Levels are, however, expected to grow at a rate of 4% for Wiltshire, and 3% for Swindon per annum. Trends in household recycling have shown improvement, reaching approximately 31.6% in Wiltshire and 28% in Swindon in 2005/06. This implies a need for new waste management facilities in order to meet future requirements for waste recovery rates as well as disposal capacity.

Of the construction, demolition and excavation wastes produced in the south west region, 51% were recovered through recycling in 2003 (ODPM/ Wiltshire and Swindon Minerals Development Framework Forum 2004). This compares favourably to the figure of 28% for 2001\textsuperscript{15}.

2.3.8 Population

Demographics

At the 2001 Census the population of Wiltshire was 432,793, this showing a 10% increase from the previous census in 1991. Swindon’s population was 180,051 (10.5% increase), whilst in comparison the South-West region showed a 6.9% increase over the same period.

Wiltshire’s population currently stands at 451,300 and is estimated to rise to 516,100 by 2026 (WCC and SBC, 2007). The State of the Countryside in the South-West 2004 (Countryside Agency) reports that between 1992 and 2002 each of the region’s 31 rural local authority areas showed a rise in their population. North Wiltshire and

\textsuperscript{15} Further baseline information for waste can be found in the Minerals and Waste Development Framework Evidence Base (2008) available at www.wiltshire.gov.uk
West Wiltshire showed the largest increases of over ten percent. Future population growth to 2026 is predicted to be unevenly distributed within the plan area, with most growth to be in West Wiltshire and Swindon (WCC and SBC, 2007).

**Social Exclusion**

Of the 149 county and unitary authorities in England, Wiltshire is ranked as the 139th least deprived in the 2004 Index of Multiple Deprivation (IMD), whilst Swindon is ranked at 102.

At a district level the indices show that between 2000 and 2004 the Wiltshire Districts have all become less deprived in relation to other districts and unitary authorities in England. North Wiltshire is the least deprived district in the county, featuring in the top 10 least deprived districts in England based on the average score for all the wards. However there are pockets of deprivation in the county which are masked by the overall prosperity of the districts, and both Trowbridge and Salisbury contain areas which are in the 20% most deprived in England.

Swindon has higher levels of deprivation than all the Wiltshire districts, however trends in the deprivation indices are generally positive.

**Employment**

In 2004, there were 427 employed in mining and quarrying, representing 0.15% of the working population of Wiltshire and Swindon. There has been a decline in manufacturing employment in Wiltshire from 20% in 1998 to 15.5% in 2001. The two largest employment sectors are ‘public administration, education and health’ (25.0%) and ‘distribution, hotels and restaurants’ (24.8%). Wiltshire County Council is the largest civilian employer with approximately 7,000 staff across the county, and the military also have a large presence, particularly in the south of the county.

Unemployment rates showed a decline from the 2001 census (1.97%) to June 2003 when the figure stood at 2,790 (1.1%). This compares favourably to regional and national comparators (2001 census – South West 2.57%, England 3.35%).

Unemployment levels in Swindon are higher than those for Wiltshire, but remain lower than the regional and national averages.

**2.3.9 Human Health**

One objective of the Sustainable Community Strategy (2007) is to actively promote the health of residents, and seek to reduce local health inequalities. Currently Wiltshire has a lower Standardised Mortality Ratio (SMR) than the national average for six of the seven major causes of death, although for road traffic accidents (which is reported separately) Wiltshire is significantly higher than average.

The 2001 census recorded that 6.6% of Wiltshire residents described their health as ‘not good’ (South-West 8.5%), with Wiltshire also recording a lower proportion of ‘people experiencing a limiting long-term illness’ than the South-West. However the trend for this second indicator has shown an increase in both Wiltshire and the South-West.

The NHS Health Profile for Wiltshire describes that on average people in the County live longer than the average in England, with life expectancy for males and females higher than the national average. A lower proportion of people feel ‘in poor health’ than the England average (5.1% in Wiltshire compared to 7.8% in England).

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2.3.10 Soils and Minerals

Chalk dominates the geology in the south and east of Wiltshire, whilst in the north of the county the sand and gravel deposits in the Cotswold Water Park area are subject to the highest levels of mineral extraction.

The highest concentration of extraction is in the Cotswold Water Park where the main aggregates sites are located. The Cotswold Water Park has been quarried for sand and gravel for over sixty years with varying ecological impacts. Despite this, the Water Park is still of national nature conservation importance for wintering & breeding wetland birds and must be protected.

Figure 7 shows the main sand and gravel producing quarries in and around Wiltshire and Swindon.

![Figure 7: Main Sand and Gravel Producing Quarries in and around Wiltshire and Swindon](image)

(Source: WCC and SBC, 2007)
There are currently 23 active mineral workings in Wiltshire, and of these, 9 produce sand and gravel, 3 produce chalk, 4 extract clay and 7 produce building stone (limestone and small amounts of sandstone). The highest concentration of current extraction is concentrated in the Cotswold Water Park where the main aggregates sites are located. Among the impacts are those from HGV traffic (mud on roads in winter), dust (summer) and noise.

The County also has 10 dormant (sand and gravel / building sand / crushed rock) and 5 temporarily inactive (sand and gravel / building sand / crushed rock / chalk) quarries. The majority of these are surface mined but some take the form of extensive underground mine complexes\(^\text{17}\).

### 2.3.11 Transport

In the period 1993 to 2002 road traffic in the South-West increased by 20%. Whilst traffic levels continue to rise, the rate of increase in 2002/03 (1.3%) was lower than in the previous two years, although it was still higher than that recorded across England as a whole (0.8%)\(^\text{18}\). In Wiltshire the car remains the major mode of transport, with the number of cars increasing by 92% between 1981 and 2001.

In Wiltshire the Freight Action Plan has been reviewed and updated by the Freight Quality Partnership for Wiltshire as part of the development of the Local Transport Plan 2006/7 - 2010/11. This will have an affect on how HGVs, including those associated with mineral workings, will use the highway network.

Minerals operators within Wiltshire are heavily reliant on HGVs for the transportation of minerals due to the lack of viable alternative options (WCC and SBC, 2007). Within the Cotswold Water Park, the Western Spine Road has been opened to remove freight from the local settlements. Development of an Eastern Spine Road to serve the new minerals sites to the east of the A419T has been discussed but has not proceeded (WCC and SBC, 2007).

The Wiltshire and Swindon Rail Aggregate Depot (RAD) Study (2003) highlighted that there is limited capacity at the Wootton Bassett RAD and reported that there was a potential need for an additional facility within the plan area. Since the RAD study the development of a second depot has begun at Key Point in South Marston (WCC and SBC, 2007).

### 2.3.12 Water Resources

Similar to the South-West as a whole the chemical and biological river water quality in Wiltshire has shown a gradual improvement between 1995 and 2003, although there are some variations (e.g. biological quality in Kennet has declined). The trends are also similar for the level of nitrates and phosphates. Once again there are exceptions. Salisbury District, which is dominated by the catchment of the Hampshire Avon, has the best results for biological and chemical river water quality of all the Wiltshire Districts, whereas for nitrates and phosphates the results are mixed. Ogbourne in Wiltshire has been designated as a Nitrate Sensitive Area.

Within Wiltshire, there are 6 Catchments Abstraction Management Strategies of varying status. Two areas are over abstracted meaning that at recent abstraction levels there may be environmental impacts on the environment during low river flows.

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\(^{17}\) Further baseline information for minerals can be found in the Minerals and Waste Development Framework Evidence Base (2008) available at www.wiltshire.gov.uk

\(^{18}\) South West Barometer (South West Observatory, May 2005)
Another two have no water available i.e. conditions on the licences issued restrict abstraction during low flows. Abstraction for public water supply is contributing to low river flows within four catchments in the Wessex Water region. This is affecting the fishery, appearance and biodiversity interest of the rivers concerned, with the Wlye and Malmesbury Avon being those affected within Wiltshire. As a result, the Low Flow Solutions Project has been set up, with Wessex Water, English Nature, the Environment Agency and Ofwat. These measures include maximising the use of water supply from Bristol Water and seeking additional water from Wimbleball reservoir in Somerset, so that the low flow rivers are used as sources for abstraction only as a last resort. It is likely that climate change will exacerbate problems with water resources in the area.

Environment Agency maps summarising the assessments of water availability for winter and summer both show that the majority of areas in the South-West region where there is an unacceptable flow regime are in Wiltshire.

A Level 1 Strategic Flood Risk Assessment (SFRA) has been completed for the M&WDF in accordance with Planning Policy Statement 25: Development and Flood Risk. The assessment of the potential minerals allocations sites within the M&WDF study area identified that the majority of the sand and gravel sites have a high percentage of the site area located within areas at risk of flooding (Flood Zones 2 and 3). However, sand and gravel workings are classified as ‘Water Compatible’ and therefore development is acceptable in principle. WCC and SBC will still be required to undertake the Sequential Test, outlined in PPS 25, to ensure the impact on floodplain storage capacity and flow pathway is maintained throughout the life cycle of the mineral allocation site.

### 2.4 Evolution of the Baseline without the Plan

Where trend data was available for the baseline information it has been included in the tables in Appendix B and summarised under each topic in the previous sections. This trend data shows how the baseline could evolve in the absence of introducing a new Minerals Development Framework.

Wiltshire has a growing population, a trend that is likely to increase under all likely future growth scenarios, with growth especially in the four Strategically Significant Cities and Towns of Swindon, Chippenham, Trowbridge and Salisbury (Draft SW Regional Spatial Strategy). This growing population will put increasing pressure on building materials, especially aggregates such as sand and gravel. The pressure on development in the region and the county is reflected in the sub regional sand and gravel apportionment for Wiltshire which was published by the SW Regional Assembly and RAWP in 2003.

Table 6 shows that over the period 2001 – 2016, unless Wiltshire produces more sand and gravel extraction sites, there is likely to be a shortfall of 18.4 million tonnes (in the plan period).

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20 Minerals and Waste Framework Level 1: Strategic Flood Risk Assessment (Scott Wilson, 2007)

21 As defined in Table D.1 of PPS25: Development and Flood Risk available at: [http://www.communities.gov.uk](http://www.communities.gov.uk)

<table>
<thead>
<tr>
<th>MPA</th>
<th>5 Yr. average production expressed as a % of overall regional production (97-01)</th>
<th>Amount (million tonnes)</th>
<th>Annual Expression (million tonnes/yr)</th>
<th>Permitted Reserves 2001 (million tonnes)</th>
<th>Shortfall</th>
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<tbody>
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<td>Devon/Somerset/Cornwall</td>
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<td>Gloucestershire</td>
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<td>18.18</td>
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<td>11.26</td>
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<td>105.99</td>
<td>-</td>
<td>65.65</td>
<td></td>
</tr>
</tbody>
</table>

### 2.5 Difficulties Encountered

Unavoidably there are gaps within the information provided due to the scale and availability of data. In some cases information was not available for the Wiltshire area, for example, climate change data was only available at the regional level. Information on past or predicted future trends was often not readily available and therefore has not been included.
3 Environmental and Sustainability Issues, Opportunities and Priorities

3.1 Introduction
The SEA Regulations state that the environmental problems experienced in the area under study should be reported. ODPM\textsuperscript{23} guidance extends this requirement to sustainability issues (including both problems and opportunities). This section describes sustainability problems, opportunities and issues that the plan needs to address. These have been identified through:

- Discussions with Wiltshire County Council and Swindon Borough Council officers;
- Review of the baseline data, especially where targets are not on track to be met or trends are negative;
- Tensions/inconsistencies with other plans, programmes and sustainability objectives; and
- A review of the potential sustainability effects of mineral extraction (especially sand and gravel extraction). The majority of information in this section was taken from the Good Quarry Website (http://www.quarry.leeds.ac.uk/goodquarry/).

3.2 Key Sustainability Issues
The baseline review in Section 2.3 highlighted several key sustainability issues within the plan area:

- 8% of the areas of all Sites of Special Scientific Interest in Wiltshire are in unfavourable condition and are declining;
- Seven Air Quality Management Areas have been declared in Wiltshire due to high levels of pollutants;
- Overall Wiltshire has high levels of tranquillity, however loss of tranquillity and increased light pollution are areas of concern;
- Recycled highway materials are not currently being used due to lack of storage;
- The 2001 census shows a 10% increase in population compared with 1991 in Wiltshire leading to increased need for housing and infrastructure; and
- Between 1993/2002 road traffic increased in the South West by 20% leading to slow journey times during peak periods.

The following sections highlight key sustainability issues relating specifically to minerals extraction.

Wiltshire produces a range of minerals including sand and gravel for the construction industry, chalk and clay for cement manufacturing and natural building stone. This means that the issues that require consideration are slightly different from an area that produces mainly hard rock, for example. The environmental impacts associated with different minerals are shown in Table 7 and this has been used as a guide to the types of sustainability issue that the plan and the SA/SEA need to address.

\textsuperscript{23} Now the Department for Communities and Local Government (CLG)
**Table 7: Environmental Impacts Associated with Different Materials**

<table>
<thead>
<tr>
<th>Material</th>
<th>Activities associated with minerals development</th>
<th>Potential Environmental Impacts</th>
</tr>
</thead>
</table>
| All materials | Site operations will normally include:  
Extraction by hydraulic excavator or mechanical rock breaker etc.  
Development of ancillary of infrastructure.  
Processing of the materials.  
Transportation of materials around the site.  
Transportation of minerals by road or rail.  
Site restoration (either during and/or after workings) and after-care. | **Land take & Habitat Loss/Fragmentation**  
- From continued extraction of aggregates and the development of ancillary infrastructure. Any land take within a Natura 2000 site is likely to have an adverse impact upon site integrity. It is likely to impact on species populations and species movements.  
- The impact may also relate to non-designated habitat features. For example, any fragmentation or loss of habitat associated with a SAC woodland, or equally any significant areas of woodland or hedgerows in the vicinity of the SAC may have an adverse effect on bats through the loss of foraging or commuting habitat. Similarly, removal of a habitat adjacent to or within vicinity of an SAC or SPA habitat may have a negative impact on the designated site through a reduction in buffering or changes to local hydrology.  
- Restoring quarries to biodiversity can be positive for nature conservation.  
- Partial and full restoration of extraction sites has the potential to improve the SACs and SPAs through increasing the robustness of sites. This could be either through enhancing buffers or improving the connectivity of sites.  
**Disturbance**  
- Noise and light pollution from extraction, ancillary facilities, transportation and some types of restoration may impact upon fauna such as bats and birds.  
**Water pollution**  
- Contamination of habitats may occur from a number of sources.  
- Impacts may include reductions in prey species with subsequent impacts on the food chain, bioaccumulation of toxins in the food chain or eutrophication.  
- Contaminants can be transported large distances with surface or ground water. Impacts may depend on the strength of the pathway between the source and the site.  
- Wetland habitats are particularly vulnerable to pollution from surface or ground water sources.  
**Air pollution**  
- From on site operations and transportation may result in reduced condition and integrity of Nature 2000 sites.  
- The impacts of nitrogen and nitrogen oxides |
### Material

| Sand and gravel (land won) | Extracted by hydraulic excavators following the stripping of soil. Minerals are generally crushed, screened and washed. Silt is disposed of within on-site lagoons. | Higher land take from extraction and development of ancillary infrastructure (than crushed rock). Likely to impact on species populations and species movements. | Noise levels relatively low (compared to hard rock quarries). Silt disposal capacity is important – water impacts. Soil stripping in summer can cause dust problems. |

### Potential Environmental Impacts

- Deposition on vegetation growth are of particular concern. Other pollutants including sulphur dioxide, ozone and particulates.
  - Air pollution has been linked to ill health amongst trees, particularly over mature specimens, and also a failure to regenerate, either from coppice, pollard or seed.
  - Air pollution may also cause changes in species assemblages, for example in lichens.

### Dust

- Dust from extraction and on site operations may have an impact on habitats and species.
- Potential for affecting the growth of plants.
- Dust could also get into water sources.

### Hydrology

- Decreased (for example as a result of extraction) or increased water quantity (for example due to impeded water flow or restoration utilising non-permeable fill materials) ground or surface water levels may impact upon designated habitats.
- This could impact on the integrity of the site by causing alterations in the species composition or reducing the extent of target habitats.
- Reduced water levels in water courses and water bodies could have direct impacts on wetland habitats and designated wildfowl populations.
- Reduced volumes of water would increase the concentration of contaminants.
- Any significant or long term changes in ground water levels may also affect woodland sites, either having a direct effect on species (canopy, basal flora or epiphytes) or indirectly by increasing stress and vulnerability to other factors.

### Introduced/invasive species

- Restoration and mitigation could potentially lead to the introduction or increased abundance of potential invasive species which could comprise an adverse impact on integrity of Natura 2000 sites.
Material | Activities associated with minerals development | Potential Environmental Impacts
---|---|---
| | Transport is often by road because of the small amounts being transported and the fact that the material is relatively low value, bulk materials, for which transport costs make up a large proportion of the market price. | ▪ Road transport impacts. ▪ Sand and gravel quarries can be pumped dry which has potential impacts on mean water table levels and the associated issues surrounding cumulative impacts derived from multiple sites, working in close proximity, all pumping water. 

Limestone – Building stone | Underground mining. Above ground extraction using rock breakers and excavators. | ▪ Noise and dust impacts during above ground excavation ▪ Road transport impacts. Vibration and occasional noise during underground excavation (dependant on the depth of working). 

Limestone – aggregate quarries | Extracted using rock breakers and excavators. Crushing and screening / washing. | ▪ Noise and dust impacts during excavation and crushing. ▪ Working can be below the water surface so can have water pollution impacts and other hydrological consequences. ▪ Road transport impacts. ▪ Landscape and visual impacts. 

Sandstone | Extracted using rock breakers and excavators. Crushing and screening / washing. | ▪ Noise and dust impacts during excavation and crushing. ▪ Road transport impacts. ▪ Landscape and visual impact. ▪ This can generate large volumes of associated waste material. 

Chalk | Extracted using rock breakers and excavators. Crushed and turned into slurry. The slurry can then be transported by pipeline to its point of use. | ▪ Noise and dust impacts during excavation and crushing. ▪ Landscape and visual impact. 

Clay | Mechanical stripping and excavation. | ▪ Noise associated with extraction plant and transport. ▪ Dust can be an issue if clay stockpiles are left to dry out. 

Table 8 shows the results of the review of sustainability issues. The table outlines the potential sustainability effects for each SEA topic and identifies what implications these have for both the plan and the sustainability appraisal.
### Table 8: Sustainability Issues

<table>
<thead>
<tr>
<th>SEA Topic</th>
<th>Potential sustainability effects</th>
<th>Issues for the plan and the SA</th>
</tr>
</thead>
</table>
| Biodiversity, Flora and Fauna and Soil | Wiltshire has over 150 internationally and nationally designated ecological sites which need to be protected and where possible enhanced. Biodiversity outside these areas should not be forgotten and it is often undesignated linking habitats that are vital. The potential negative effects are:  
- Land take and associated habitat loss including fragmentation of habitats;  
- Changes in air quality, water quality, noise, vibration, light emissions, dust deposition as a result of construction and operation;  
- Changes in pattern of human activity and associated disturbance or damage;  
- Creation of barriers or other obstacles affecting the movement of animals;  
- Changes in habitat management;  
- Changes in soil conditions;  
- Changes in hydrology;  
- Changes in number of predators and/or prey; and  
- Introduction of new habitats and/or species. However, mineral operations have potential to enhance existing and create new habitats, particularly as part of their restoration schemes. | There is a lack of phase 1 habitat data in most of the county and a county wide phase 1 ecological survey may be needed. An ALSF bid has been submitted in order to collect this data for the SA / SEA. If this is unsuccessful, some data collection may be necessary for the site selection and assessment and WCC / SBC will need to consider this at the appropriate time.  
- The SA needs to address effects on both designated and non designated sites and species.  
- The SA needs to consider the conflict between the potential need to extract sand and gravel from the Cotswolds Water Park and North Meadow and Clattinger Farm SAC and the CWP BAP that includes action plans for eight habitats and nine species. There is also further potential spatial conflict, including the potential need to extract from the Avon Valley and the Avon Valley SPA. |
<table>
<thead>
<tr>
<th>SEA Topic</th>
<th>Potential sustainability effects</th>
<th>Issues for the plan and the SA</th>
</tr>
</thead>
</table>
| Air quality      | One of the most important aspects of air pollution in relation to quarries is the generation of dust. Without appropriate mitigation, residents can potentially be affected by dust up to 1km from the source, although concerns about dust are most likely to be experienced near to dust sources, generally within 100 metres depending on site characteristics. The finest particles of between 1 and 10μm in diameter (known as PM$_{10}$) will be respirable and are associated with health effects. Particles greater than 10μm are associated with public perception and nuisance. Certain locations are more sensitive to dust emission than others and those considered highly sensitive are: hospitals and clinics, retirement homes, hi-tech industries, painting and furnishing and food processing. Residential areas are considered of medium sensitivity. Changes to air quality can also be caused by mineral transport by road. | - Site selection and assessment should consider the location of sensitive receptors for dust.  
- The proximity principle (proximity to markets) should be adopted to reduce emissions from transport.  
- There is a tension between the above issues which will need to be taken into account, as it is likely that close to market will also mean close to sensitive receptors.  
- Consideration needs to be given to dust generation from potential minerals sites near to Bradford on Avon where there is an Air Quality Management Area designated for PM$_{10}$. |
<p>| Other: Transport | The majority of sand &amp; gravel use takes place within a few miles of its point of origin, and at any given location, is required in quantities that are too small to be movement by rail. Similar factors apply to the transportation of higher value products such as ready-mixed concrete and asphalt. Limitations (including planning restrictions) on the life expectancy of individual quarries (especially sand &amp; gravel workings) also deter investment in new railhead facilities at these locations. The effects of road traffic include 'intimidation' by large vehicles, The future of the Eastern Spine Road improvements in the Cotswolds Water Park is uncertain and the SA will need to take into account the impact of sites if the new spine road doesn’t go ahead. There has been a lack of progress on more sustainable transport for minerals for the reasons mentioned in the left hand column of this table. Wootton Basset is the only suitable rail freight location (although a second depot is being developed at Keypoint in South Marston). As a result most minerals are transported by road within the County. |</p>
<table>
<thead>
<tr>
<th>SEA Topic</th>
<th>Potential sustainability effects</th>
<th>Issues for the plan and the SA</th>
</tr>
</thead>
</table>
| **Climatic Factors**           | Site operation and transportation of minerals (by road) generates CO\textsubscript{2}. There is limited opportunity to consider renewable energy sources for minerals development through the strategic planning process. This is a matter for site management. Restoration, after-use and aftercare could have positive effects on adaptation to climate change, for example due to the creation of new habitats, creation of additional water storage.                                                                                                                                             | • The proximity principle should be adopted to reduce emissions from transport.  
• The SA should consider how the plan can contribute positively to climate change adaptation.                                                                                                                                                                                                                       |
| **Material Assets (mineral resources)** | The use of recycled and secondary aggregates can help to reduce the environmental effects of the extraction of primary materials. However, in construction, recycled and secondary aggregates can in many cases only substitute for bulk fill whereas secondary aggregates can substitute for a number of building sand applications. At present Wiltshire and Swindon do not have any sites or facilities handling secondary aggregates.                                                                                                                | • The plan will need to be realistic in terms of the amount of recycled and secondary substitution that can occur.                                                                                                                                _common_|
| **Other: Waste**                | The main effects of any waste which is not immediately used are:  
• The take up of space within or outside the working area;  
• Visual impacts;  
• It can be a source of dust, sediment and other contamination in run-off; and  
• It can affect the surface water regime, e.g. by changing surface water flow in a flood plain.  
Waste can be classified as temporary or permanent. The main                                                                                                                                                                                                                                                         | • It may be useful to encourage recycling facilities at extraction sites to reduce the amount of waste.  
• The SA / SEA needs to examine the effect of the plan on waste production and recycling.  
• The amount of waste produced at the extraction site will have implications for transport and waste disposal off site.  
• The MLDD will need to consider the potential for identifying permanent CDE waste recovery and recycling facilities in the vicinity of growth areas (an issue raised by the Minerals.                                                                                                                                                                       |
<table>
<thead>
<tr>
<th>SEA Topic</th>
<th>Potential sustainability effects</th>
<th>Issues for the plan and the SA</th>
</tr>
</thead>
</table>
| Water                     | As the sand and gravel resources coincide with the local aquifer as soon as quarrying occurs the resultant void fills with water. To counter this quarry operators tend to pump workings dry. Pumping can cause environmental effects (issues relating to localised cones of depression within the water-table leading to low flows in the Thames for example). Dewatering can also cause drying up of abstraction wells, reduction of water in surface features (including streams, lakes and wetland areas), changes in groundwater flow paths causing possible contamination from external sources, and possible subsidence and settlement. Minerals development could also have a negative effect on water quality, i.e. run-off from quarry waste tips and quarry fines stockpiles could contaminate local watercourses or transfer of dust from air to water could result in contamination. Minerals extraction in the floodplain may reduce the level of flood risk by providing additional storage capacity during its operational phase for flood waters. Alternatively, stockpiles and ancillary buildings could reduce the storage capacity of the floodplain. Stockpiles and ancillary buildings could alter the natural flow of flood water increasing flood risk to adjacent land. The use of heavy machinery could increase the potential for surface run-off by reducing the sites permeability. | ▪ The SA / SEA needs to examine the plan’s impact on the water environment (quantity and quality) and links to biodiversity effects.  
▪ The SA/SEA needs to consider the plan’s impact on flood risk.                                                                                                                                                                                                                                           |
| Other: Land Use and Restoration | If properly planned, minerals development can contribute to sustainability objectives mainly by providing valuable habitat or recreational resources. However, in the Cotswold Water Park for... | ▪ The long term contribution of minerals development to sustainability should be assessed. There may be a problem with wetland restoration in the Cotswolds Water Park because...  

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25 Minerals and Waste Framework Level 1: Strategic Flood Risk Assessment (Scott Wilson, 2007)
<table>
<thead>
<tr>
<th>SEA Topic</th>
<th>Potential sustainability effects</th>
<th>Issues for the plan and the SA</th>
</tr>
</thead>
</table>
|           | example, there has been some examples of poor restoration which has resulted in large areas of habitat that are relatively poor for wildlife despite the fact that the Water Park is of national nature conservation importance for wintering & breeding wetland birds. Restoration, after-use and aftercare could have positive effects on adaptation to climate change, for example due to the creation of new habitats and the creation of additional water storage. | of the potential of air strike on MOD land (CAA Guidance CAP680).  
- There are opportunities in the Cotswolds Water Park to develop a major new habitat and recreational resource. SWERDA are currently developing a masterplan for the water park. The minerals planning team need to track development of this plan and assess what implications it may have on future site selection.  
- The creation of wetland habitats could have positive implications for climate change adaptation. |
| Material Assets (economic factors) | In 2004, 427 people in Wiltshire and Swindon were directly employed in mining and quarrying. This is only 0.14% of the working population. Figures on direct employment do not provide the full picture of the importance of minerals to the economy. Mineral production contributes to wealth creation and sustainable economic development by providing:  
- Employment, both directly and indirectly;  
- Markets for other goods and services thereby stimulating activity elsewhere in the economy and importantly; and  
- Basic raw materials for downstream industries in construction, manufacturing and power generation. Here the minerals, or derived products, may be key components of specific manufactured goods or essential to a particular industrial process, thereby adding value that may be several times the cost of the mineral.  
In fact the UK National Accounts for 2001 showed that the UK Gross Value Added per employee for non energy mineral extraction | The SA/SEA needs to examine the plan’s impact on the economy.                                                                                                                                                                                                                                   |

### SEA Topic
**Population / Human Health (noise)**
Noise is an inevitable consequence of the working of minerals and can affect the health of local communities. The extraction process for any material will contain a number of noise generating processes. In most cases, there will be a need to remove soil and overburden to expose the mineral. The mineral will need to be excavated (maybe by blasting) and then transported from the quarry face to a processing area. The mineral will then be transported from the quarry site for further processing or direct use. These activities involve the use of powered machinery for excavation and transport of materials within the site. Processing plant on site can often include the use of crushing and grading plant, prior to the mineral being transported off site by road or rail vehicles. All of these operations could generate noise levels which may negatively affect local communities.

### Issues for the plan and the SA
- Noise needs to be examined as part of the site selection process and the SA/SEA.
- The SA needs to consider the implications of the EU Environmental Noise Directive; in particular consideration will need to be given to Noise Maps published by DEFRA[^27] and subsequently any Action Plans which are developed as a result of the maps.

### Human Health and Population (other community effects)
Minerals development can impact on communities in a number of ways. Physically, minerals development can cause congestion, noise, impacts on air quality and visual impacts (most of which are covered elsewhere in this report). This can have a variety of psychological and community effects from stress caused to individuals through to changing the nature of a community through impacts associated with transport and blasting.

### Issues for the plan and the SA
- Community effects (and their physical causes) need to be considered as part of the SA.

### Cultural heritage including architectural and archaeological
Mineral extraction and ancillary works, such as the construction of haul roads, bunds, accommodation, processing and storage areas and lagoons can damage artefacts and sites of cultural and archaeological heritage.

### Issues for the plan and the SA
- There is potential for Roman remains to be found in Cotswolds Water Park if further mineral extraction sites are located here. Advice should be sought from the County Archaeologist and English Heritage.

<table>
<thead>
<tr>
<th>SEA Topic</th>
<th>Potential sustainability effects</th>
<th>Issues for the plan and the SA</th>
</tr>
</thead>
<tbody>
<tr>
<td>heritage</td>
<td>Indirect effects include:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• The general reduction in archaeological landscape ‘legibility’ caused by the interruption of features that extend beyond the extraction area;</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Dewatering and the disruption to drainage regimes may affect the preservation of waterlogged archaeological deposits and destroy a site’s palaeo-environmental potential, often far beyond the actual extraction ‘footprint’;</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Subsidence or ground settlement on upstanding monuments and historic buildings due to sub-surface mining;</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Dust arising from workings can have a detrimental impact on historic buildings, especially if dust particles are chemically active; and</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• The long-term setting and character of an historic monument, archaeological landscape or listed building might be affected by the extraction. Apart from visual aspects, this may detract from amenity uses resulting from the disruption of rights of way and access, increased noise and heavy traffic. Site setting may also be affected in different ways by the secondary use of mineral workings for waste recycling.</td>
<td></td>
</tr>
<tr>
<td>Landscape</td>
<td>Changes to topography or changes to or the removal of elements in the landscape (e.g. trees, slopes, and field boundary vegetation) may give rise to changes in the character of the landscape and how it is experienced.</td>
<td>• Future minerals development may have to be accommodated within AONBs.</td>
</tr>
<tr>
<td></td>
<td>Visual effects arise where a development causes changes in the composition and extent of available views, as a result of changes to the landscape.</td>
<td>• The SA needs to consider the implications of the plan on landscape within Wiltshire and Swindon.</td>
</tr>
<tr>
<td></td>
<td>Potential landscape / visual effects during extraction include:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Introduction of potentially discordant feature into the landscape resulting in visual intrusion and changes to landscape character, e.g. quarry face, soil stockpile, plant, lighting, signage; and</td>
<td></td>
</tr>
</tbody>
</table>
**SEA Topic** | **Potential sustainability effects** | **Issues for the plan and the SA**
--- | --- | ---
| | Excavation and associated working resulting in loss of landscape feature e.g. topographical changes, loss of vegetation (woodland, hedges), interruption of field patterns (hedge/wall removal) which causes changes in landscape character. Potential effects of post restoration include: | |
| | • Introduction of new landscape features; | |
| | • Creation of landscape with different character to that which existed prior to mineral working (correlates with introduction of new features; and | |
| | • Changes in character of views associated with different landscape character. | |
4 SA/SEA Objectives and Framework

4.1 Introduction
Current guidance on SA/SEA of mineral plans advocates the use of objectives in the assessment process. This appraisal framework includes broad sustainability objectives, sub-objectives and assessment questions.

To facilitate legibility and ease of understanding and use, the sustainability objectives have been set out in the form of an Appraisal Framework. This approach is recommended in Government good practice guidance on carrying out environmental and sustainability appraisals.

4.1.1 SA/SEA Topic
The sustainability objectives outlined in the Appraisal Framework have been arranged under SA/SEA topics. The topics that have been selected relate to the topics listed in:

- Annex I of Directive 2001/42/EC of the European Parliament on ‘the assessment of the effects of certain plans and programmes’ (the SEA Directive); and

4.2 SA/SEA Framework
Table 9 shows the SA/SEA Appraisal Framework that has been developed. It includes a series of high level objectives which are supported by more detailed sub-objectives and assessment questions. These have been used to focus the assessment process on the key sustainability issues.

4.3 Compatibility between SA/SEA Objectives and Plan Objectives
The Development Control Policies DPD does not contain any specific plan objectives that can be assessed against the SA Objectives.

A compatibility assessment of the Core Strategy DPD Objectives and the SA Objectives was completed in the Submission SA Report for the Core Strategy. This document can be accessed on Wiltshire County Council’s website.
### Table 9: Sustainability Appraisal Framework

<table>
<thead>
<tr>
<th>Scoped in Appraisal questions. SA/SEA objectives. Does the policy...</th>
<th>SA/SEA sub-objectives</th>
<th>SA/SEA Assessment Questions. Would the plan in association with other plans and programmes...</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Help make suitable housing available and affordable for everyone</td>
<td>Make a positive sustainable contribution by minimising negative impacts to meet Wiltshire and Swindon's sub-regional apportionment</td>
<td>Help ensure that a sustainable contribution is made to the sub regional aggregate apportionment?</td>
</tr>
<tr>
<td>2 Promote stronger more vibrant communities</td>
<td>Maintain or where possible enhance the quality of life for people affected by mineral working and or ancillary development Ensure that both the positive and negative impacts are identified for the proximity of mineral workings and or ancillary development to settlements and individual properties Minimise nuisance and health impacts (noise, dust, fumes and vibration) from mineral workings and HGV site traffic Encourage high standards of restoration using progressive techniques to bring benefits to local communities Promote healthy exercise, especially daily exercise by providing access to countryside spaces and areas.</td>
<td>Cause a change in the number of people directly affected by mineral working (living in close proximity to a mineral site or an access route) whose impact cannot be mitigated? Cause a cumulative beneficial or adverse impact on certain communities (either through permitting more reserves affecting the same community or by lengthening the time period of permission)? Provide incentives and opportunities for operators to use alternative transport modes to transport minerals? Cause changes in traffic flows or the nature of traffic (an increase in HGVs for example) in any part of Wiltshire and Swindon that could alter the character of the landscape or townscape? Ensure appropriate standards of restoration, including progressive restoration techniques in order to bring benefits to local communities and the environment?</td>
</tr>
<tr>
<td>3 To foster a vibrant, varied economy, with particular emphasis on supporting regeneration projects in market towns</td>
<td>Promote methods for protecting valuable mineral reserves Promote dialogue between all local authorities to ensure valuable mineral resources are not sterilised by non minerals development</td>
<td>Help to protect mineral reserves (i.e. through the establishment of Mineral Consultation Areas or Mineral Safeguarding Areas)? Help to promote dialogue between all local authorities to ensure valuable mineral resources are not sterilised</td>
</tr>
<tr>
<td>Scoped in Appraisal questions. SA/SEA objectives. Does the policy...</td>
<td>SA/SEA sub-objectives</td>
<td>SA/SEA Assessment Questions. Would the plan in association with other plans and programmes...</td>
</tr>
<tr>
<td>---</td>
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</tr>
<tr>
<td>4</td>
<td>Encourage a switch from transporting freight by road to rail or water</td>
<td>Encourage the best use of existing transport mode options for mineral supply Protect important distribution network nodes (e.g. rail facilities) Enhance and promote opportunities for sustainable transport options for mineral supply</td>
</tr>
<tr>
<td>5</td>
<td>Protect habitats and species</td>
<td>To enhance the biodiversity resource and if possible prevent damage to geodiversity. Avoid key biodiversity and geodiversity features. Actively seek to protect and enhance biodiversity and geodiversity in each development. Encourage the restoration and the creation of habitats and geodiversity features Avoid minerals development that would impact directly and indirectly on designated sites and species of international, national, county, or local importance, BAP habitats and species and other habitats of notable ecological value (e.g. brownfield sites) Consider alternatives to mineral extraction in resource areas of high ecological value To explore, encourage and promote alternatives to mineral extraction in resource areas that fall within Strategic Nature Areas identified in the SW Regional Nature Map. Maximise the potential for habitat creation through positive restoration of mineral workings Ensure that the risk of bird-strike is kept to an absolute minimum through implementing appropriate</td>
</tr>
<tr>
<td>Scoped in Appraisal questions. SA/SEA objectives. Does the policy...</td>
<td>SA/SEA sub-objectives</td>
<td>SA/SEA Assessment Questions. Would the plan in association with other plans and programmes...</td>
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<td>---</td>
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</tr>
<tr>
<td>mitigation and site management measures</td>
<td></td>
<td>strike? Provide a major opportunity for habitat creation and enhancement?</td>
</tr>
<tr>
<td>6 Promote the conservation and wise use of land</td>
<td>Minimise the area of land take per tonne of mineral (aggregate) produced if appropriate. Assess and evaluate early in the development phase the ability to restore the land use for mineral working and ancillary development to a high standard and ensure restored sites are properly managed in the long term future To minimise the loss of soil resources and to encourage the re-use of soils locally</td>
<td>Change the area of land take per tonne of mineral produced? Improve the planning of site restoration by considering restoration and mitigation throughout the life of the site not just at the end? Consider the long term aftercare and after-use of mineral sites? Cause significant loss of soils due to site development and usage?</td>
</tr>
<tr>
<td>7 Protect and enhance landscape and townscape</td>
<td>Protect designated and non designated areas of landscape or other amenity value Reduce visual intrusion from mineral workings and / or ancillary development Ensure all mineral sites and areas affected by mineral working are restored to a high standard Consider alternatives to mineral working in resource areas of high landscape value or areas of tranquillity Maintain and wherever possible enhance access and overall amenity of the countryside to residents and visitors (NB: Townscape objectives are covered under the</td>
<td>Cause changes to designated areas which threatens the reason for their designation? Cause changes to the landscape / townscape that are completely at variance with the character of the area? Change the number of people that are affected by the visual impact of minerals development? Cause changes in traffic flows or the nature of traffic (an increase in HGVs for example) in any part of Wiltshire and Swindon or Swindon that could alter the character of the landscape? (Note: no methodology currently exists to adequately model this)</td>
</tr>
<tr>
<td>Scoped in Appraisal questions. SA/SEA objectives. Does the policy...</td>
<td>SA/SEA sub-objectives</td>
<td>SA/SEA Assessment Questions. Would the plan in association with other plans and programmes...</td>
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<tr>
<td>community section.)</td>
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</tr>
<tr>
<td>8</td>
<td>Value and protect diversity and local distinctiveness including rural ways of life</td>
<td>Minimise significant impacts on the countryside from all stages of mineral working and / or ancillary development. Protect local rural communities and rural ways of life. Protect and improve the quality of countryside in proximity to mineral working and / or ancillary development. Protect and enhance rights of way, open space and common land and maintain access to the countryside. Protect the best and most versatile agricultural land.</td>
</tr>
<tr>
<td>9</td>
<td>Maintain and enhance cultural and historical assets</td>
<td>Preserve and enhance archaeological sites, historic building, Conservation Areas, historic parks and gardens and other locally important features and areas and their settings.</td>
</tr>
<tr>
<td>10</td>
<td>Reduce vulnerability to flooding</td>
<td>Reduce risk of flooding. Minimise risk of flood pollution from minerals workings.</td>
</tr>
<tr>
<td>11</td>
<td>Keep water consumption within local carrying capacity limits (taking account of climate change)</td>
<td>Minimise any adverse impacts on water resources at all stages of mineral working through effective site design and management. Protect and where possible improve surface, groundwater and drinking water quality.</td>
</tr>
<tr>
<td>12</td>
<td>Reduce waste produced by mineral development</td>
<td>Minimise the amount of waste produced per tonne of saleable mineral.</td>
</tr>
<tr>
<td>Scoped in Appraisal questions. SA/SEA objectives. Does the policy...</td>
<td>SA/SEA sub-objectives</td>
<td>SA/SEA Assessment Questions. Would the plan in association with other plans and programmes...</td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td><strong>13</strong> Minimise the use of non-renewable resources and where possible promote the use of renewable resources</td>
<td>To reduce reliance upon primary, land-won minerals in favour of increasing the contribution made by secondary and / or recycled materials</td>
<td>Include actions that change the mix of aggregates produced between primary materials and secondary / recycled materials?</td>
</tr>
<tr>
<td><strong>14</strong> Minimise land, water, air, light, noise, and generic pollution</td>
<td>Minimise the impact of mineral workings through implementing effective measures to control emissions to air (including particulates), dust, noise, groundwater, surface water and soils To protect and improve the quality of water resources</td>
<td>Change the amount of pollution caused by mineral working? Encourage suitable mitigation measures (e.g. the establishment of Dust Management Plans for all mineral sites)?</td>
</tr>
<tr>
<td><strong>15</strong> Minimise the impacts on climate change</td>
<td>Reduce greenhouse gas emissions from site operations and transportation Minimise the vulnerability of minerals extraction operations to climate change</td>
<td>Reduce the amount of greenhouse gas emissions?</td>
</tr>
</tbody>
</table>
5 Development Control Options Development (2005-2007)

5.1 Assessment of Issues and Options (November 2005)
In November 2005, a Development Control Policies Issues and Options report, jointly prepared by Wiltshire County Council and Swindon Borough Council, was placed on public consultation, alongside an Issues and Options Paper for the Core Strategy DPD. The report sets out the key ‘Issues and Options’ that the County and Borough Councils considered would influence land use planning for minerals over the plan period. It provided a basis for initial consultations on the issues to be addressed by the Minerals Development Control Policy framework in Wiltshire and Swindon.

A response form was produced alongside the Issues and Option report inviting the public and other stakeholders to participate in the process. The form included a range of questions on the key issues presented in the document. It also included space and a question inviting respondents to identify any additional issues to be addressed in the preparation of the Development Control Policies.

The Issues and Options report highlighted problems with the current Minerals Local Plan. The main concern being that the Plan was formulated in the late 1990s in accordance with a now outdated system of guidance and statutory regulation. In addition, the existing policy framework was described as overly complex, unwieldy, repetitive and negatively worded. It was decided that this no longer fitted in with the more streamlined approach advocated by the new planning provisions. This led WCC and SBC to review their existing minerals policy base and reduce the number of policies used and in addition alter the style of the policies used.

The Issues and Options report outlined all of the current policies and considered three procedural options for taking each of these forward in the evolving DPD. These options were to:

- Continue with the policy;
- Modify/update the policy; or
- Delete the policy.

Due to the procedural nature of these options it was not possible to undertake a sustainability assessment at this stage.

Bearing in mind the comments made above with regard to the complexity of the original options, WCC and SBC made the decision to delete or modify/update their policies rather than continue with the existing set of policies. By streamlining their policies WCC and SBC were able to consider the latest issues and guidance on sustainability and the environment.

5.2 Assessment of Preferred Options (June 2006)
The Issues and Options were progressed to take into account the consultation results from the Issues and Options public consultation. They were also subject to internal consultation within the County and Borough Councils, in particular the County Ecologist and Development Control Officers.

During the evolution of the Development Control Policies, WCC and SBC continued to consider various options. In May 2006 a version of the Development Control Policies (Preferred Options) at a relatively advanced stage of development was assessed in detail by C4S. This assessment also included consideration of five alternative options that had been outlined by WCC and SBC.
The likely effect of each policy upon each of the sustainability objectives was considered and mitigation measures were suggested. Discussions between WCC and C4S in late May 2006 then led to minor changes to the preferred policies. Details of the Preferred Options Sustainability Appraisal – June 2006 are available on the Wiltshire County Council website\(^{28}\).

The assessment of the policies, covering five themes (Key Criteria for Considering Minerals Development Proposals; Controlling the Impact of Minerals Development; The Protection and Enhancement of Wiltshire and Swindon’s Natural Assets; Sustainable Minerals Transportation; and the Restoration, Aftercare and After-use of Minerals Workings), focused on the identification and assessment of significant effects. On the whole, the findings of the SA suggested that the emerging Development Control Policies (Preferred Options) would make positive contributions to the achievement of SA objectives.

Where conflicts were identified, possible measures to offset adverse effects were considered, with recommendations provided in the final column of the matrices. The majority of C4S’s recommendations have been adopted through continuous improvement of the policies, and consequently remaining recommendations relate mostly to mitigation and monitoring.

5.3 Assessment of Revised Preferred Options (August 2007)

The preferred options assessed in June 2006 were progressed into revised preferred options in August 2007. These preferred options were revised as a result of further work by WCC and further SA investigations. The revised preferred options also took into account the consultation comments on preferred options.

The likely effect of each policy upon each of the sustainability objectives was considered and mitigation measures were suggested as appropriate.

Details of the Revised Preferred Options Sustainability Appraisal- August 2007 are available on the Wiltshire County Council website\(^{29}\).

At this stage, 11 policies were assessed, with the SA recording that the emerging Revised Development Control Policies (Preferred Options) would make significant contributions to the progression of SA Objectives, with improvements having been made over the previous Preferred Options approach.

Where conflicts were identified, possible measures to offset adverse effects were considered, with recommendations provided in the final column of the matrices. The majority of the recommendations from the SA work have been as part of the ongoing plan making process and have been adopted through continuous improvement of the policies.


6.1 Methodology of the Assessment

As with the earlier assessments from 2006 and 2007, this assessment of the Submission Draft Document explored the likely effects of each policy upon each of the sustainability objectives, using the scoring criteria outlined below (Figure 8). Also, the supporting text to the individual policy options was assessed for any further implications this may have on sustainability.

<table>
<thead>
<tr>
<th>Colour</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Green  (G)</td>
<td>Option actively encouraged in its current form as it would resolve an existing issue / maximise opportunities. (Where these are considered to be significant it is reported in the text).</td>
</tr>
<tr>
<td>White  (?)</td>
<td>Option would have an uncertain effect.</td>
</tr>
<tr>
<td>Blue   (B)</td>
<td>Option would have a neutral effect.</td>
</tr>
<tr>
<td>Orange (O)</td>
<td>Option would need some changes in order to have a positive effect on issues identified.</td>
</tr>
<tr>
<td>Red    (R)</td>
<td>The option would exacerbate existing problems and cannot be suitably mitigated. Consider exclusion of option. (Considered to be significant).</td>
</tr>
</tbody>
</table>


Figure 8: Assessment Criteria

The effects have been investigated in terms of:
- Timescale (short/medium/long term);
- Likelihood (high/medium/low likelihood of occurrence);
- Scale (local/regional/national); and
- Permanence (permanent or temporary).

Cumulative, synergistic and secondary effects were also assessed and are discussed in Section 6.3. In addition, inter-relationships and cross boundary effects are included in Section 6.4 and 6.5.

6.2 Summary of the Assessment and Recommendations

Table 10 summarises the assessment of the vision, objectives and policies of the Submission Draft Document. The table summarises the sustainability effect that has been forecast in the medium term (10-20 years). Details of the Submission Draft Sustainability Assessment are contained in Appendix D.

The following sub-sections summarise the significant effects of each policy area. The findings suggest that the policies in the Submission Draft will make contributions to the progression of SA objectives.

Where conflicts were identified, possible measures to offset adverse effects were considered, with recommendations provided in the final column of the matrices. The majority of the recommendations have been as part of the ongoing plan making process and have been adopted through continuous improvement of the policies. Consequently remaining recommendations provided in this report relate mostly to mitigation and monitoring.
<table>
<thead>
<tr>
<th>SA Objective</th>
<th>Suitable housing</th>
<th>Vibrant communities</th>
<th>Vibrant economy</th>
<th>Freight transportation</th>
<th>Habitats and species</th>
<th>Land conservation</th>
<th>Landscape</th>
<th>Rural ways of life</th>
<th>Cultural assets</th>
<th>Flooding</th>
<th>Water consumption</th>
<th>Waste</th>
<th>Minerals resources</th>
<th>Pollution</th>
<th>Climate change</th>
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<tbody>
<tr>
<td>Policy MDC3: Managing the Impact on Surface Water and Groundwater resources</td>
<td>B</td>
<td>G</td>
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<td>G</td>
<td>?</td>
</tr>
<tr>
<td>Policy MDC6: Biodiversity and Geological Interest</td>
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<td>B</td>
<td>B</td>
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<tr>
<td>Policy MDC7: The Historic Environment</td>
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Table 10: Summary of Submission Draft Assessment (Medium Term)
6.2.1 Key Criteria for Ensuring Sustainable Minerals Development

**Policy MDC1: Key Criteria for Ensuring Sustainable Minerals Development**

Proposals for minerals development must contribute to the delivery of sustainable development in Wiltshire and Swindon by ensuring that the social, economic and environmental benefits of minerals development are maximised, and adverse impacts – including cross-boundary and cumulative impacts – are kept to an acceptable minimum. All proposals for minerals development will be assessed using the following key criteria:

- The need for the development;
- The extent to which adverse environmental impacts associated with the development will be minimised and managed through an integrated mitigation strategy which has been developed through early and effective consultation with key stakeholders, including local communities and the Councils, prior to the submission of a planning application;
- The extent to which the development ensures protection and enhancement of biodiversity, geodiversity and the historic and cultural environment;
- The extent to which mineral waste generated on site is minimised, and where possible, the reception, processing and distribution of alternatives to primary aggregates is facilitated;
- The extent to which the visual / landscape impact of any structures and buildings is minimised in terms of the appropriate use of scale and form;
- The extent to which the development avoids loss of best and most versatile agricultural land and ensures the protection of soil resources throughout the life of the development;
- The extent to which the development ensures the efficient use of water resources on site and the extent that the adverse impacts on the water environment and flood risk can be avoided and / or mitigated;
- The extent to which the proposal facilitates sustainable transport;
- The quality and appropriateness of the restoration, aftercare and after-use proposals, considering the contribution that could be made to the UK, South West and/or Wiltshire, Swindon and Cotswold Water Park Biodiversity Action Plan targets, the South West Nature Map and Great Western Community Forest.

The Submission Draft sets out Policy MDC1 as the preferred policy for ensuring sustainable minerals development (see Box above). During the life of the plan this policy would have a positive effect on twelve of the sustainability objectives. No negative effects have been identified.

The forecast positive effects are summarised below:

- A sustainable contribution towards the local, regional and national needs for aggregate minerals will be made;
- The impacts of minerals developments on communities will be avoided and / or mitigated;
- The policy may reduce the impact of minerals developments on habitats and species through the avoidance and / or mitigation of impacts and taking into account the UK, South West and/or Wiltshire, Swindon and Cotswold Water Park Biodiversity Action Plan targets, South West Nature Map and Great Western Community Forest when proposing appropriate restoration and after uses;
- The policy should ensure the protection of historic and cultural assets;
There is potential for minerals freight to be moved by more sustainable transport modes and / or for more efficient transportation by road;

- The policy should ensure efficient use of water resources on site;
- This policy has the potential to reduce unnecessary land take and unnecessary extraction of primary minerals resources;
- The policy should minimise pollution on the environment; and
- Reduced landscape impacts associated with buildings and structures.

The forecast uncertain effects are summarised below:

- The creation of employment opportunities (in new minerals developments) and the development of local markets for minerals may enhance local economy. In addition, after-uses that are of economic benefit to the local community (i.e. uses that create local jobs) may be considered as part of the restoration process; and
- The effect of the policy on greenhouse gas emissions is uncertain. Minerals extraction, processing and manufacture, for example, cement production and batching plants contribute to greenhouse gases from site operations and minerals transportation. However a shift to more sustainable modes of transportation may reduce these impacts.

### 6.2.2 Managing the Impacts of Minerals Development

**Policy MDC2: Managing the Impacts of Minerals Development**

Applications for minerals development in Wiltshire and Swindon will only be permitted where it can be demonstrated that the proposal avoids and / or adequately mitigates, significant adverse impacts associated with the following environmental considerations:

- Noise levels;
- Dust levels;
- Air emissions;
- Lighting;
- Vibration levels.

Proposals for mineral development should be accompanied, where necessary, by an assessment of the impact of the proposal in terms of noise, dust, air emissions, lighting, and vibration. Where a need for mitigation is identified by the assessment and / or through consultation with key stakeholders, mitigation measures should be clearly defined and submitted as part of the development proposal, where necessary incorporating appropriate separation distances to safeguard residential amenity.

All plant and machinery associated with the mineral development will be limited to the life of the mineral reserve it serves, except where it can be demonstrated that the adverse impacts associated with retaining the plant and machinery can be effectively managed.

The Submission Draft sets out Policy MDC2 for managing the impacts on of minerals development (see Box above). During the life of the plan this policy would have a positive effect on five of the sustainability objectives. No negative effects have been identified although cumulative impacts may occur.

The forecast positive effects are summarised below:

- Significant adverse impacts associated with noise and dust levels, air emissions, lighting and vibration levels will be avoided and / or mitigated;
- The policy should minimise the effects of pollution on the environment (including local rural communities); and
- Reduced impact on habitats and species from dust, vibration, noise and air emissions; as well on cultural and historical assets.

The forecast uncertain effects are summarised below:
- Uncertainty remains as to how this policy will affect water consumption. The avoidance and mitigation of other environmental impacts may reduce the impact of the minerals development upon water quality although dust suppression techniques will result in an increase in water use;
- The policy may help to reduce impacts upon landscape through implementation of avoidance and / or mitigation measures;
- The policy may encourage a switch to more sustainable transport methods e.g. rail or water, and road transport delivery optimisation due to the policy’s requirement to minimise impacts on air quality. The effect is uncertain as a switch to rail and water is dependent on the location and availability of these modes;
- The need to avoid and / or mitigate for air emissions, dust, noise and vibration impacts may reduce the use of non-renewable resources; and
- The effect of the policy on climate change is also uncertain. Minerals extraction, processing and manufacture, for example, cement production and batching plants will contribute to climate change by emitting greenhouse gases from site operations and minerals transportation. However a shift to more sustainable modes of transportation may reduce these impacts.

6.2.3 Managing the Impact of Surface Water and Groundwater

Policy MDC3: Managing the Impact on Surface Water and Groundwater Resources

Proposals for minerals development will only be permitted where it can be demonstrated that appropriate controls will be made available to protect and, where appropriate, enhance the water environment. This includes making provisions to ensure the protection and maintenance of:
  - The quality of groundwater, water courses and other surface water; and
  - The volume / levels of groundwater, water courses and other surface water

Flood Risk Assessments will be required for minerals development proposals in areas at risk of flooding or likely to contribute to flooding elsewhere, as appropriate to the nature and scale of the development, and must take into account cumulative effects with other existing or proposed development. Where a risk of flooding is identified through FRA, proposals must include measures to ensure the avoidance of and / or mitigation of that risk.

Where appropriate, development proposals will also be required to include provisions for the efficient use of water resources on site and the use of Sustainable Urban Drainage Systems (SUDS).

The Submission Draft sets out Policy MDC3 as the preferred policy for managing the impacts of minerals development on surface water and groundwater (see Box above). During the life of the plan this policy would have a positive effect on six of the sustainability objectives. No negative or uncertain effects have been identified.
The forecast positive effects are summarised below:

- Protection of surface water and groundwater should reduce the risk of loss of water supplies through contamination or hydrological disruption;
- The protection of water courses will reduce the risk of recreational resources becoming contaminated by polluted water or lost;
- Minimising the risk of flooding will protect the quality of life in local communities is protected;
- The efficient use of water resources on site and in any ancillary developments will keep water consumption to a minimum;
- This policy would reduce the impact of climate change upon the availability of water resources, and flood risk; and
- The protection of surface water and ground water should ensure the protection of aquatic habitats and species, and the protection of the water environment from pollution incidents.

6.2.4 Safeguarding Minerals Resources, Rail-head Facilities and Minerals Recycling Facilities

Policy MDC4: Safeguarding Minerals Resources, Rail-head Facilities and Minerals Recycling Facilities

Proposals for development within Mineral Consultation Areas and Mineral Safeguarding Areas, as defined on the Proposals Map, that may prevent or adversely affect current or possible future mineral extraction and/or associated ancillary operations, rail-head facilities, and mineral recycling facilities within Wiltshire and Swindon will be opposed unless:

- An appropriate quantity of mineral can be reasonably extracted prior to or in phase with the proposed non-mineral development such that the extraction does not unreasonably prevent or hinder the non-minerals development; or
- It can be proven that the mineral deposit is unlikely to be worked due to its quality or quantity; or
- The development is of a temporary nature and can be completed and the site restored to a condition that does not inhibit extraction within the timescale that the mineral is likely to be needed; or
- There is an overriding need for the proposed non-minerals development to commence without delay.

The Submission Draft sets out Policy MDC4 as the preferred policy for managing safeguarding minerals resources, rail-head facilities and minerals recycling facilities (see Box above). This policy would have a locally positive effect on two of the sustainability objectives. No negative effects have been identified.

The forecast positive effects are summarised below:

- Safeguarding active and proposed minerals sites and developing future sites reduces the risk of a reduced supply of aggregate in the short to medium term; and
- Retaining railheads would support the continued transportation of aggregates by rail.
The forecast uncertain effects are summarised below:

- This policy may safeguard potential sites for recycling facilities. This in turn may lead to an increase in the amount of minerals being recycled and a reduction in the amount of primary materials required;
- This policy may protect landscape until either mineral operations take place or an overriding need for other development happens as no development can take place;
- The effect of the policy on climate change is uncertain. Minerals extraction, processing and manufacture, for example, cement production and batching plants will contribute to climate change by emitting greenhouse gases from site operations and minerals transportation; and
- This policy may help to protect mineral resources, and ensure that mineral resources are not sterilised by non mineral developments.

6.2.5 Protection and Enhancement of Wiltshire and Swindon’s Landscape Character

<table>
<thead>
<tr>
<th>Policy MDC5: Protection and Enhancement of Wiltshire and Swindon’s Landscape Character</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proposals for minerals development should include an assessment of the adverse impacts upon Wiltshire and Swindon’s landscape character and the landscape character of adjacent areas, as deemed appropriate to the scale and nature of the development, and in particular in relation to the following designated areas:</td>
</tr>
<tr>
<td>- The New Forest National Park;</td>
</tr>
<tr>
<td>- The Cranborne Chase and West Wiltshire Downs Area of Outstanding Natural Beauty;</td>
</tr>
<tr>
<td>- The Cotswolds Area of Outstanding Natural Beauty; and</td>
</tr>
<tr>
<td>- The North Wessex Downs Area of Outstanding Natural Beauty.</td>
</tr>
<tr>
<td>The assessment should be informed by the Wiltshire Landscape Character Assessment, as a minimum, and where the proposed development falls within or in proximity to an AONB or in proximity to the New Forest National Park, the relevant Management Plan.</td>
</tr>
<tr>
<td>Proposals for minerals development should include appropriate provisions to protect and, where possible, enhance the quality and character of the countryside and landscape. Proposals in proximity to settlements must safeguard their character, setting and rural amenity through the implementation of mitigation measures that incorporate an acceptable separation distance, landscaping and planting, appropriate to the existing landscape setting and that is consistent with the proposed after-use of the site.</td>
</tr>
</tbody>
</table>

The Submission Draft sets out Policy MDC5 as the preferred policy for the protection and enhancement of Wiltshire and Swindon’s landscape character (see Box above). During the life of the plan this policy would have a positive effect on four of the sustainability objectives. No negative effects have been identified.

The forecast positive effects are summarised below:

- Through the protection of designated areas there would be a reduced impact on the habitats and species within these areas;
- This policy would have a positive impact on rural ways of life and landscape as it should protect, maintain and enhance countryside quality and areas of designated landscape importance; and
There is the potential for a reduction in pollution impacts from primary extraction in these areas.

The forecast uncertain effects are summarised below:

- The impact of this policy on cultural assets would be dependent on the existence of such assets within the designated areas;
- The effect of the policy on climate change is uncertain. Minerals extraction, processing and manufacture, for example, cement production and batching plants will contribute to climate change by emitting greenhouse gases from site operations and minerals transportation;
- The impacts of minerals developments on local communities in designated areas may reduce, however, there may be more minerals workings in non-designated areas; and
- This policy may reduce land available for minerals development.

### 6.2.6 Biodiversity and Geological Interest

**Policy MDC6: Biodiversity and Geological Interest**

Proposals for minerals development in Wiltshire and Swindon must be accompanied by an objective assessment of the potential effects of the development on areas of biodiversity and/or geological interest, taking into account cumulative impacts with other development and the potential impacts of climate change.

Proposals must maintain and / or enhance internationally and nationally designated features of biodiversity and/or geological interest, species of principal importance and the following features of local and regional and international importance:

- European Protected Species
- Wiltshire’s Biodiversity Action Plan habitats and species
- County Wildlife Sites (including Semi Natural Ancient Woodlands).
- Regionally Important Geological and Geomorphological Sites
- Local Nature Reserves
- The Great Western Community Forest

Proposals for minerals development will only be permitted where adverse impacts will be:

- a) Avoided; or
- b) Where an adverse impact cannot be avoided, the impact will be adequately mitigated; or
- c) Where adverse impacts cannot be avoided or adequately mitigated, compensation will result in the maintenance or enhancement of biodiversity/geodiversity.

The Submission Draft sets out Policy MDC6 as the preferred policy for the protection of biodiversity and geological interest (see Box above). During the life of the plan this policy would have a positive effect on five of the sustainability objectives. No negative effects

The forecast positive effects are summarised below:

- Through the protection of designated sites there may be a reduced impact on habitats and species within these areas, and on landscape character;
This policy should help protect sites of biodiversity and geological conservation value which provide leisure and health benefits to the community; and

This policy should help minimise pollution levels via the requirement for mitigation.

The forecast uncertain effect is summarised below:

- The effect of the policy on climate change is uncertain. Minerals extraction, processing and manufacture, for example, cement production and batching plants will contribute to climate change by emitting greenhouse gases from site operations and minerals transportation.

6.2.7 The Historic Environment

Policy MDC7: The Historic Environment

In the interest of protecting the rich historical character of Wiltshire and Swindon, proposals for minerals development will be permitted where it can be demonstrated that areas of archaeological or cultural heritage importance and their settings can be protected, enhanced and/or preserved.

Proposals affecting sites of known or potential archaeological importance must be accompanied by an archaeological evaluation. Based on the findings of the initial evaluation, preservation of in situ of nationally important remains may be necessary, or developers will be required to agree to a scheme of further archaeological mitigation prior to commencement of the development or as part of the overall development scheme. In the interests of recording, preserving and the future management of important archaeological features affected by a proposal the Councils may seek contributions from the developer in the form of a legal agreement.

Proposals affecting the setting of the World Heritage Site of Stonehenge and Avebury will not be permitted.

The Submission Draft sets out Policy MDC7 as the preferred policy for the protection of the Historic Environment (see Box above). During the life of the plan this policy would have a positive effect on three of the sustainability objectives. No negative effects have been identified.

The forecast positive effects are summarised below:

- The maintenance of the historic environment will help to enhance the quality of life experienced by communities; and
- Cultural and historical assets would be protected from minerals development.

The forecast uncertain effect is summarised below:

- The effect of the policy on climate change is uncertain. Minerals extraction, processing and manufacture, for example, cement production and batching plants will contribute to climate change by emitting greenhouse gases from site operations and minerals transportation.
6.2.8 Sustainable Transportation of Minerals

Policy MDC8: Sustainable Transportation and Minerals Development

Minerals development will only be permitted where it is demonstrated that the proposals facilitate sustainable transport by:

- Minimising transportation distances;
- Maximising the use of rail or water to transport minerals where practicable and environmentally acceptable;
- Ensuring a proposal has direct access or has suitable links with the Wiltshire HGV Route Network or primary route network;
- Establishing mineral site transport plans, where deemed necessary; and
- Mitigating or compensating for any adverse impact on the safety, capacity and use of a highway, railway, canal route, cycleway or public right of way, through improvements to the appropriate network where necessary.

Where appropriate, applications for mineral development will need to be accompanied by a Transport Assessment. The Transport Assessment will need to:

- Consider the impact of the development upon the highway network (and where relevant the local railway, canal route, cycleway or public right of way), in the local area;
- Consider the potential cross boundary impacts and cumulative impacts of the development with other local developments; and
- Identify any mitigation or compensatory works directly related to the development that may need to be funded by the developer in conjunction with the proposal.

The Submission Draft sets out Policy MDC8 as the preferred policy for the sustainable transportation of minerals (see Box above). This policy would have a positive effect on five of the sustainability objectives. No negative effects have been identified.

The forecast positive effects are summarised below:

- This policy should encourage a switch to more sustainable modes of minerals transportation, and avoidance of peak time movements of minerals vehicles in congested areas;
- Reduced congestion and accident risks on roads due to potential transfer to more sustainable forms of transport and more efficient road transportation;
- The potential for reduced pollution levels, greenhouse gas levels, energy and resource use due to more efficient road transportation and the use of more sustainable transport modes. It is, however, unlikely to be a significant positive impact as aggregate transport does not dominate road traffic.

The forecast uncertain effects are summarised below:

- The optimised use of existing transport infrastructure may result in the reduced need to develop further roads and therefore reduced impacts on land conservation and landscape. There may, however, be the need to extend or increase the number of Rail Aggregate Depots; and
- Although cultural assets are not directly covered by this policy they may indirectly be protected by a reduction in road transportation.
6.2.9 Restoration, Aftercare and After-use Management of Minerals Workings

Policy MDC9: Restoration, Aftercare and After-use Management of Minerals Development

Proposals for minerals development will be permitted where it can be demonstrated that a high quality and appropriate restoration scheme will enable the long term maintenance and enhancement of the environment after the minerals development has ceased and at the earliest practicable opportunity.

The proposals must demonstrate that:

1)  
   I. The restoration scheme incorporates phased restoration of the site that will minimise the period of operations in sensitive areas to protect settlements and residential amenity, taking into account the phasing and operations of nearby developments;
   II. Measures will be taken to ensure that soil quality will be adequately protected and maintained throughout the life of the development and in particular during stripping, storage and management of soils, subsoils and overburden arisings as a result of site operations.
   III. There is an available supply of appropriate materials to be used for restoration purposes, as required to implement the proposed restoration scheme.
   IV. The restoration scheme will not impede the successful adoption of the proposed after-use and will offer flexibility for a range of potential after-uses.

2)  
   I. The aftercare scheme incorporates an aftercare period of at least five years commensurate with the proposed after-use; and
   II. Those responsible for the ongoing management and aftercare of restored sites have been identified and agreed.

3)  
   I. Where the proposed after-use will achieve habitat creation it aims to deliver the objectives of the relevant National, Regional or Local Biodiversity Action Plan, and where applicable, contribute to the delivery of the South West Nature Map and/or the Great Western Community Forest;
   II. The after-use will be compatible with the wider context of the site in terms of the character of the surrounding landscape (informed by the Wiltshire Landscape Character Assessment), existing land uses in the area, having considered the relative potential benefits of alternatives after-uses in local, regional or national terms;
   III. The site is designed for a primary after-use that will simplify and minimise long-term management; and
   IV. The after-use will benefit the local and/or wider community.

The Submission Draft sets out Policy MDC9 as the preferred policy for the management, restoration, aftercare and after-use of minerals workings (see Box above). This policy would have a positive effect on seven of the sustainability objectives. No negative effects have been identified.

The forecast positive effects are summarised below:

- After-use and after-care is envisaged to benefit local communities by providing health benefits due to the encouragement of physical activity,
educational opportunities and the contribution to the regeneration of sustainable communities;

- Habitats and species diversity should benefit by encouraging habitat development in line with the UK, South West and/or Wiltshire, Swindon and Cotswold Water Park Biodiversity Action Plan targets;
- May be able to increase the amount of water available for consumption by using appropriate restoration techniques;
- Phased restoration should minimise the area of land disturbed at any one time;
- This policy will encourage the consideration of after uses that will benefit the local economy; and
- Effective restoration and the development of an after use should restore open space and amenity land.

The forecast uncertain effects are summarised below:

- Opportunities may exist to incorporate features to reduce flood risk or provide water storage; and
- Appropriate restoration planning may be able to aid climate change adaptation e.g. additional water storage or by the provision of habitats.

### 6.2.10 Restoration within Airfield Safeguarding Areas

**Policy MDC10: Restoration within Airfield Safeguarding Areas**

Proposals for minerals development within the following Airfield Safeguarding Areas, as identified on the Proposals Map, will be permitted when the applicant can demonstrate that the proposed extraction and after-use will not cause an unacceptable risk of bird strike:

- Boscombe Down;
- Colerne;
- Fairford;
- Hullavington Barracks;
- Keevil Airfield;
- RAF Lyneham;
- Middle Wallop;
- Netheravon;
- South Cerney; and
- Upavon (Trenchard Lines).

The Submission Draft sets out Policy MDC10 as the preferred policy for the restoration of minerals workings within Airfield Safeguarding Areas (see Box above). The effect of this policy remains uncertain. The following negative impact upon water consumption has been identified:

- As large areas of Wiltshire and Swindon are covered by Airfield Safeguarding Areas the potential for water storage for irrigation, fisheries, etc is minimised potentially leading to further pressure on the depleting flows in the Wylye and Malmesbury Avon rivers.
The following uncertainties have been identified as large areas of Wiltshire and Swindon are covered by Airfield Safeguarding Areas:

- Opportunities for wetland habitat creation are reduced. Alternative habitats supporting the Biodiversity Action Plans (BAPs) such as amenity grassland, unimproved neutral grassland, scrub habitat, woodlands, and hedgerow habitat could be used in restoration proposals;
- Opportunities to lower flood risk by creating flood water storage may be reduced; and
- It is likely that climate change will exacerbate problems with water resources in the area. The reduced availability of water storage facilities (for irrigation, fisheries, etc.) in the summer months, and to reduce flood risk in the winter months) may affect the ability for the local community to adapt to the impacts of climate change.

6.3 Cumulative, Synergistic and Secondary Effects

6.3.1 Cumulative Effects

Cumulative effects are those effects which, though they may be small in relation to one policy, may combine across a whole plan (or in association with other plans) to produce an overall effect which is more significant.

Cumulative effects arising from the Draft Submission Document have been identified by considering the effects on the receptors for each sustainability topics. The results are summarised below:

- A minor negative cumulative impact has been identified for the SA objective Water Consumption as a result of Policy MDC 10. The impacts of the policy on the SA Objectives are forecast to be uncertain, however, there is the potential for there to be slight adverse cumulative effects in relation to habitats and species, climate change, land conservation, cultural assets, vibrant economy and communities, minerals resources flooding and water consumption if the impacts are not adequately avoided or mitigated.
- In relation to freight transportation, habitats and species, landscape, rural ways of life, vibrant communities and pollution, there is the potential for positive cumulative effects to arise due to several policies having a positive effect upon the SA Objective.

6.3.2 Synergistic Effects

Synergistic effects are those effects where the combined effect is greater than the sum of the individual effects. An example is where a habitat is fragmented by several relatively small actions to the point where it is finally unable to support a particular species.

There is potential for positive synergistic effects on biodiversity and water management if long-term partial and full restoration schemes in close proximity to one another are implemented.

No negative synergistic effects have been identified in relation to the Submission Draft Document.
6.3.3 Secondary Effects

Secondary or indirect effects are effects that are not a direct result of the plan, but occur away from the original effect or as a result of a complex pathway (ODPM, 2005).

The Submission Draft Document may cause secondary effects as a result of minerals extraction activities affecting the water table which may then affect biodiversity interests such as in the Cotswold Water Park. As the Natura 2000 site ‘North Meadow and Clattinger Farm’ could be affected, the Habitats Regulations Assessment has investigated this issue.

Secondary effects may also result if minerals extraction occurs in an area not yet exploited. Secondary effects could include an increase in local traffic flows.

6.4 Inter-relationships

The SEA topics cannot be considered in isolation from one another, as there are a variety of inter-relationships that exist. Air quality is a topic which cuts across most of the other SEA topics, with proven links between air quality and human health (respiratory problems). It can also have indirect effects on biodiversity, soil and water quality, and the condition of heritage assets, whilst there is a more direct link between traffic emission causing poor air quality and the emissions of CO₂.

The development of new minerals sites have shown inter-related effects on criteria such as noise, climatic factors and air quality (from introducing mineral operations and associated traffic into a new area), and water and soil (from introducing pollutant emissions). Biodiversity, landscape and townscape may also suffer from the introduction of mineral operations into new areas.

Positive effects can also occur from inter-relationships, for example, if protection is given to landscape quality and/or soil, then habitats and species may be indirectly protected.

6.5 Cross Boundary Effects

Where mineral extraction activities in Wiltshire and Swindon are based close to the borders of other local authorities there are likely to be effects felt in these areas. The Cotswold Water Park, for example, crosses three county boundaries.

In cases of very close proximity, it is possible that all the direct effects forecast for the plan area (air quality, noise, water quality etc.) could be felt in the neighbouring authority. Where there is a greater distance involved effects could still be encountered, for example increased traffic associated with minerals haulage, and changes in hydrology.

6.6 Difficulties Encountered

There has often been an insufficient level of detail to make it possible to forecast the likely effects of implementing the policies, due to the site locations being unclear. Consequently, there remains uncertainty as to how the Submission Draft Document would affect sustainability issues.

The uncertainties are likely to be reduced as more detail is provided to the overall Minerals Development Framework through the development of the Site Allocations DPD.
7 Mitigation and Enhancement

7.1 Introduction
The SEA Regulations require that measures should be considered to prevent, reduce or offset any significant adverse effects that have been identified during the assessment process. This is a key part of the SEA process, and this SA Report. Further to this, guidance recommends that consideration should also be given to proactive avoidance of adverse effects and enhancement of beneficial effects (DfT, 2004a).

No significant negative effects have been identified in the minerals plan due to its structure and intent to provide the most sustainable solution possible. Section 7.2 details the wider mitigation and enhancement measures that have been proposed through the assessment.

It is probable that some mitigation/enhancement measures may be delivered by parties other than the minerals planning authorities. Indeed, several administrative jurisdictions and stakeholders may be involved. The co-operation of these other interests is needed to ensure that the mitigation/ enhancement or monitoring measure is successfully implemented.

7.2 Proposed Mitigation and Enhancement Measures
Table 11 below summarises the proposed mitigation and enhancement measures. These measures are more appropriate for lower level planning documents and for incorporation into environmental assessments of mineral projects. These mitigation measures will therefore be cascaded down to the SA/SEA work that will be undertaken on the Site Allocations DPD.
## Table 11: Proposed Mitigation and Enhancement Measures

<table>
<thead>
<tr>
<th>No</th>
<th>SEA Topic</th>
<th>Proposed Mitigation or Enhancement Measure</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Suitable housing</td>
<td>None</td>
</tr>
</tbody>
</table>
| 2  | Vibrant communities        | Care should be taken to reduce community severance issues and reduce risks of accidents by minimising HGV traffic through rural and urban communities where this is practicable.  
Introduce additional pedestrian crossings to areas with known severance issues.  
Mineral development design and associated mitigation should not reduce the accessibility of open space and recreation opportunities.  
The incorporation of a buffer zone between residents and minerals workings.  
Landscaping to create bunds and use of native vegetation for screening purposes.  
Restricting the hours of site operation.  
Dust suppression measures, such as wheel and body washing, sheeting of lorries prior to leaving the site and spraying of internal haul roads.  
The phasing of operations to reduce the impact on local residents.  
A community communication plan should be in place, allowing for early consultation to be undertaken with new local communities who will be affected by minerals developments. |
| 3  | Vibrant economy            | None                                                                                                      |
| 4  | Freight transportation     | Support use of larger vehicles to reduce CO₂ emissions per tonne and time deliveries of materials to avoid congestion at peak hours.  
Encourage the move towards using alternatively fuelled vehicles on minerals sites including bio-diesel.  
The oldest vehicles tend to have the highest greenhouse gas emissions per kilometre. Actions that remove the oldest vehicles from the fleet will tend to reduce greenhouse gas emissions. |
<table>
<thead>
<tr>
<th>5</th>
<th>Habitats and species</th>
<th>Sensitive planning/timing (i.e. considering breeding periods of birds) of any minerals development site construction and maintenance work will help to reduce adverse impacts on biodiversity. Design and manage minerals development sites and other infrastructure so as to minimise loss of biodiversity and deliver biodiversity benefits, e.g. by habitat creation, planting new hedges, trees, ponds. Use of lighting at night should be minimised to reduce disturbance on sensitive habitats and species. Monitoring of habitats and species.</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>Land conservation</td>
<td>None.</td>
</tr>
<tr>
<td>7</td>
<td>Landscape</td>
<td>New and upgraded lighting that minimises light spillage should be used on minerals sites, particularly in the more rural areas. Use of lighting at night should be minimised to reduce impacts on the landscape. Where trees have been removed due to safety or access issues, replacement trees of similar age and species should be planted in an acceptable nearby location. Visual barriers such as earth bunds or native vegetation should be used to reduce intrusion. Construction Environmental Management Plans (CEMP) should ensure that soil damage and loss is minimised during the construction process and that soils supporting valuable habitats should be reinstated at the end of construction. Buffer zone between residents and minerals workings.</td>
</tr>
<tr>
<td>8</td>
<td>Rural ways of life</td>
<td>None.</td>
</tr>
<tr>
<td>9</td>
<td>Cultural assets</td>
<td>None.</td>
</tr>
<tr>
<td>10</td>
<td>Flooding</td>
<td>Explore the possibilities of using smaller expanses of water that would not cause an unacceptable risk of bird strike such as fragmented ponds to act as water storage and reduce flood risk.</td>
</tr>
</tbody>
</table>

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30 [www.goodquarry.com](http://www.goodquarry.com) comments that the minimum distance between workings and residents which has been permitted or suggested varies considerably from less than 25-50m for opencast coal, up to 400m for sand and gravel and 300-900m for limestone workings. The effectiveness of distance as a means of control varies with topography and local environmental sensitivity. The width of buffer zones will need to determined having regard to the potential impact of the development and the nature of the site or the existence of physical features capable of reducing the impact of development.
<table>
<thead>
<tr>
<th></th>
<th>Water consumption</th>
<th>Consider providing new ponds, ditches etc. as part of mineral development scheme provision. Use of sustainable urban drainage systems (SUDS) and reedbeds in minerals developments should be investigated and encouraged. Sites should monitor water consumption and encourage the recycling of water on site e.g. minimise the amount of water abstracted from surface waters by recycling the water on site, and return pumped water from the dewatering process back into the groundwater system somewhere else on the site to maintain the groundwater resource.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Waste</td>
<td>Minimisation, reuse and recycling minerals waste should be encouraged by the plan.</td>
</tr>
<tr>
<td></td>
<td>Resources</td>
<td>Use of energy efficient plant and equipment and the use of site generated renewable energy if possible. Site production and other wastes should be minimised.</td>
</tr>
<tr>
<td></td>
<td>Pollution</td>
<td>Air quality should be managed in accordance with MPS 2 appendix on dust. Require best practice in relation to minimising pollution emissions to air. Development and implementation of an Environmental Management System. Ensure sites provide adequate oil interceptors etc. Construction Environmental Management Plans (CEMP) should ensure that adverse impacts on water resources are minimised during the construction process. Require best practice in relation to minimising pollution emissions to water. Require minerals operators to develop and implement Environmental Management Systems and adopt CEEQUAL benchmarking.</td>
</tr>
<tr>
<td></td>
<td>Climate change</td>
<td>Require applicants to show best practice in reducing greenhouse gas emissions such as reducing fuel consumption per tonne of aggregate extracted or tonne-km transported e.g. through use of larger vehicles. Monitor water consumption and encourage the recycling of water on site e.g. minimise the amount of water abstracted from surface waters by recycling the water on site, and return pumped water from the dewatering process back into the groundwater system somewhere else on the site to maintain the groundwater resource. Explore the possibilities of using smaller expanses of water that would not cause an unacceptable risk of bird strike such as fragmented ponds to act as water storage and reduce flood risk.</td>
</tr>
</tbody>
</table>
8 Monitoring

8.1 Introduction
The SEA Directive requires monitoring of the significant environmental effects of the plan. A monitoring system is being designed by C4s to fulfil the following requirements:

- To provide baseline data for the next SEA and to provide a picture of how the environment / sustainability criteria of the area are evolving;
- To monitor the significant effects of the plan;
- To monitor any unforeseen effects of the plan; and
- To ensure that action can be taken to reduce / offset the significant effects of the plan.

Monitoring already plays a large role in the performance management of the Wiltshire County Council and Swindon minerals planning process, with the performance of a variety of indicators being tracked against targets. There is also considerable monitoring activity being carried out at local authority level, and by bodies such as the Environment Agency and Regional Aggregate Working Parties (RAWP). Where relevant, use will be made of these existing monitoring processes for the monitoring proposed as part of this SEA.

Targets, Indicators and associated monitoring are based on the Minerals and Waste Development Framework: Annual Monitoring Report (AMR) 2005/06 and the most recent monitoring data updates from Wiltshire County Council. The Waste Development Control DPD and Sustainability Indicators and Targets have also been considered to reduce the overall level of monitoring data required by the local authorities and for ease of data collection, though in some cases different targets will be required.

8.2 Monitoring Measures
No significant effects have been identified in the Submission Draft due to its intent to provide the most sustainable solution possible. The monitoring proposed refers to measures to monitor the effects of the Submission Draft on the SA Framework. This will allow for monitoring of any unforeseen effects of the plan. However the monitoring programme itself will not be finalised until the Final Development Control Policies Document is adopted. By then the monitoring requirements may have changed, either as a result of changes to the plan or due to other external influences on the baseline situation.

A joint SEA monitoring framework may be developed across Wiltshire that may influence the monitoring arrangements for the MWDF.

Some monitoring measures are described below in Table 12 are based on the current monitoring regime in the AMR. These measures are likely to change as the plan develops and these will be documented in the SA/SEA Statement, see Section 9.2.

Table 13 shows an example framework for an implementation plan for monitoring. The table also provides examples of some additional monitoring measures that could be included in the monitoring framework. The activities to be included in the final monitoring framework will be decided after:

- The monitoring measures have been finalised; and
- The responses from consultees have been evaluated, and any changes to the mitigation measures in Section 6 have been made.

A monitoring implementation plan will be published in the SA/SEA Statement, alongside the adopted Development Control Policies DPD.
### Table 12: Potential Monitoring Measures

**Minerals Core Output Indicators (based on the AMR)**

<table>
<thead>
<tr>
<th>Effect or indicator to be monitored</th>
<th>Information required</th>
<th>Information source</th>
<th>Information quality, gaps (&amp; solution)</th>
<th>When to take remedial action</th>
<th>Remedial action to take</th>
</tr>
</thead>
<tbody>
<tr>
<td>5a Production of Land Won Aggregates</td>
<td>Mineral sites output figures</td>
<td>From minerals industry (Commercially confidential information)</td>
<td>Not currently available</td>
<td>To be determined</td>
<td>To be determined</td>
</tr>
<tr>
<td>5b Production of Secondary Recycled Aggregates</td>
<td>Construction, demolition and excavation waste data</td>
<td>DCLG / RAWP</td>
<td>Not currently identified</td>
<td>To be determined</td>
<td>To be determined</td>
</tr>
<tr>
<td>7 Flood Protection and Water Quality</td>
<td>Number of developments permitted contrary to the advice of the Environment Agency.</td>
<td>Environment Agency</td>
<td>Currently monitored</td>
<td>To be determined</td>
<td>To be determined</td>
</tr>
<tr>
<td>8 Changes in areas and populations of biodiversity importance</td>
<td>BAP species monitoring</td>
<td>Natural England Specialist groups i.e. RSPB, wetlands trusts etc</td>
<td>To be determined</td>
<td>To be determined</td>
<td>To be determined</td>
</tr>
<tr>
<td>9 Renewable energy capacity installed by type</td>
<td>Renewable energy capacity by mineral site</td>
<td>Planning Process Minerals sites</td>
<td>To be determined</td>
<td>To be determined</td>
<td>To be determined</td>
</tr>
<tr>
<td>Effect or indicator to be monitored</td>
<td>Information required</td>
<td>Information source</td>
<td>Information quality, gaps (&amp; solution)</td>
<td>When to take remedial action</td>
<td>Remedial action to take</td>
</tr>
<tr>
<td>------------------------------------</td>
<td>----------------------</td>
<td>--------------------</td>
<td>----------------------------------------</td>
<td>----------------------------</td>
<td>-------------------------</td>
</tr>
<tr>
<td>1 Provision of 7 year aggregates landbank</td>
<td>Remaining commercially extractable minerals at each active or site that can be reactivated</td>
<td>From minerals operators (Commercially confidential information)</td>
<td>To be determined</td>
<td>To be determined</td>
<td>To be determined</td>
</tr>
<tr>
<td>2 Number of advertised departures from the Minerals Local Plan approved by the MPA, as a percentage of total permissions granted</td>
<td>From Minerals Planning Process</td>
<td>Development Control / Policy Monitoring Process Wiltshire County Council and Swindon Borough Council</td>
<td>To be determined</td>
<td>To be determined</td>
<td>To be determined</td>
</tr>
<tr>
<td>4 Proportion of planning/enforcement appeals where the MPA’s decision is overturned at appeal</td>
<td>From Minerals Planning Process</td>
<td>Development Control / Policy Monitoring Process Wiltshire County Council and Swindon Borough Council</td>
<td>To be determined</td>
<td>To be determined</td>
<td>To be determined</td>
</tr>
<tr>
<td>6b Percentage of minerals exported outside the region (Minerals version of waste LOI)</td>
<td>Quantity of minerals exported from the region</td>
<td>From minerals developers (Commercially confidential information)</td>
<td>To be determined</td>
<td>To be determined</td>
<td>To be determined</td>
</tr>
<tr>
<td>7b Percentage of minerals imported from outside the region (Minerals version of waste LOI)</td>
<td>Quantity of minerals imported to the region</td>
<td>From minerals developers (Commercially confidential information)</td>
<td>To be determined</td>
<td>To be determined</td>
<td>To be determined</td>
</tr>
<tr>
<td>11 BV111- Percentage satisfied with the planning service</td>
<td>Satisfaction Survey Data</td>
<td>Wiltshire County Council and Swindon Borough Council</td>
<td>To be determined</td>
<td>To be determined</td>
<td>To be determined</td>
</tr>
<tr>
<td>14 Enforcement complaints concerning minerals development</td>
<td>No of complaints</td>
<td>Planning Enforcement Officer Wiltshire County Council and Swindon Borough Council</td>
<td>To be determined</td>
<td>To be determined</td>
<td>To be determined</td>
</tr>
<tr>
<td>16 Number of Liaison Groups</td>
<td>No of liaison groups for minerals sites that have met at least once</td>
<td>Planning Enforcement Officer Wiltshire County Council and Swindon Borough Council</td>
<td>To be determined</td>
<td>To be determined</td>
<td>To be determined</td>
</tr>
<tr>
<td>Relocation of plant machinery (Same as waste target)</td>
<td>Number of applications</td>
<td>Wiltshire County Council and Swindon Borough Council</td>
<td>To be determined</td>
<td>To be determined</td>
<td>To be determined</td>
</tr>
<tr>
<td>Modification of Conditions (Same as waste target)</td>
<td>Number of applications</td>
<td>Wiltshire County Council and Swindon Borough Council</td>
<td>To be determined</td>
<td>To be determined</td>
<td>To be determined</td>
</tr>
<tr>
<td>Installation of plant machinery (Same as waste target)</td>
<td>Number of applications</td>
<td>Wiltshire County Council and Swindon Borough Council</td>
<td>To be determined</td>
<td>To be determined</td>
<td>To be determined</td>
</tr>
<tr>
<td>Other – removal of redundant railway embankment, recycling materials for lime (Same as waste target)</td>
<td>Number of applications</td>
<td>Wiltshire County Council and Swindon Borough Council</td>
<td>To be determined</td>
<td>To be determined</td>
<td>To be determined</td>
</tr>
</tbody>
</table>
Other monitoring measures could include such indicators as:

- Noise levels at sensitive receptors (e.g.; houses, schools and hospitals);
- Levels of use of recycled aggregates; and
- Achievement of Biodiversity Action Plan targets where these may relate to minerals activities.

Measures could also be less quantitative, and could include, for example, monitoring to ensure that any Environmental Impact Assessment of major projects incorporate the recommendations made in the SEA.

An example of a monitoring plan that could be developed for inclusion the SA/SEA Statement is shown in Table 13.
### Table 13: Example Monitoring Plan

<table>
<thead>
<tr>
<th>Monitoring activity to be undertaken</th>
<th>Organisation responsible for monitoring</th>
<th>Frequency of monitoring</th>
<th>Monitoring results presentation</th>
<th>Status/Problems encountered</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1 Promote Healthy Exercise, Especially Daily Exercise</strong>&lt;br&gt;No adverse effects upon existing rights of way and recreational areas of open space&lt;br&gt;Number of rights of way affected by development of minerals proposals that have not been replaced by means of an equally acceptable route.</td>
<td>Wiltshire Council and Swindon Borough Council</td>
<td>Annual</td>
<td>Total km of rights of way lost (permanent and temporary) to mineral extraction?&lt;br&gt;Total km of rights of way significantly diverted by mineral extraction?&lt;br&gt;Total km of rights of way regained because of restoration activities?&lt;br&gt;Area of new leisure amenity land created from minerals restoration?</td>
<td>Not identified</td>
</tr>
<tr>
<td><strong>2 Enable Access to Learning, Training, Skills and Knowledge</strong>&lt;br&gt;Improvement in public awareness of the need for minerals and involvement in minerals planning process.&lt;br&gt;Change in awareness of the public perception of minerals and greater public involvement in planning process through stakeholder engagement processes</td>
<td>Wiltshire Council and Swindon Borough Council</td>
<td>Annual</td>
<td>Minerals outreach events in areas of mineral activity?&lt;br&gt;Percentage of population inputting to mineral planning process?</td>
<td>Not identified</td>
</tr>
<tr>
<td><strong>3 Promote Stronger More Vibrant Communities</strong>&lt;br&gt;Change in the number of people, and quality of life, significantly affected by minerals development.</td>
<td>Wiltshire Council and Swindon Borough Council</td>
<td>Annual</td>
<td>Persons identified by the planning process to have a lower quality of life through nuisance or other issues identified by minerals development.</td>
<td>Not identified</td>
</tr>
<tr>
<td><strong>4 Give People in the Country Access to Satisfying Work Opportunities, Paid or Unpaid</strong></td>
<td>Wiltshire Council and Swindon Borough Council/ Individual</td>
<td>Annual</td>
<td>Increase/decrease in employment in minerals extraction and processing&lt;br&gt;Increase/decrease in employment in services</td>
<td>Not identified</td>
</tr>
<tr>
<td>Change in employment levels resulting from minerals development and restoration.</td>
<td>Minerals Developers</td>
<td>supporting minerals extraction and processing. Increase/decrease in employment in minerals site restoration and after use activities.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>---</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>5 Meet Needs Locally</strong>&lt;br&gt; Increase in the number of minerals developments able to supply local needs and work jointly with the recycling sector to support local waste recycling needs.</td>
<td>Wiltshire County Council and Swindon Borough Council/ Individual Minerals Developers</td>
<td>Annual</td>
<td>Numbers of local dimension stone quarries. Numbers of minerals developments with associated recycling facilities.</td>
<td></td>
</tr>
<tr>
<td><strong>6 Balance the Need for Growth with the Protection of the Environment (Wiltshire County Council Corporate Objective)</strong>&lt;br&gt; Increase in the capacity of minerals developments proportionate to local/regional growth. Increase in developments with sustainable development integrated into to design principles</td>
<td>Wiltshire County Council</td>
<td>Annual</td>
<td>Capacity of minerals developments versus identified apportionment of regional supply.</td>
<td></td>
</tr>
<tr>
<td><strong>7 Reduce Vulnerability of the Economy to Climate Change and Harness Opportunities Arising</strong>&lt;br&gt; Increase in the quantity of minerals recycled and reused.</td>
<td>Wiltshire County Council and Swindon Borough Council/ Individual Minerals Developers</td>
<td>Annual</td>
<td>Reduction of waste minerals to landfill Change in the quantity of waste minerals diverted to landfill Use of flood risk assessments</td>
<td></td>
</tr>
<tr>
<td><strong>8 To Improve Our Roads and Make Them Safer (Wiltshire County Council corporate objective)</strong>&lt;br&gt; Reduction in the amount of minerals transported by road. Reduce the number of minerals vehicle</td>
<td>Wiltshire County Council and Swindon Borough Council/ Individual Minerals Developers</td>
<td>Annual</td>
<td>Amount of minerals moved by rail Amount of minerals moved by waterway Amount of minerals moved by road Increase/ decrease in overall road movements</td>
<td></td>
</tr>
</tbody>
</table>
movements by road.

| 9 Protect Habitats and Species | Wiltshire County Council and Swindon Borough Council/Individual Minerals Developers | Annual | Change in area (ha) of habitat that contributes towards UK, regional or local BAP habitat and species targets, as a result of minerals development
Changes in populations of selected BAP species. Effectiveness of submitted mitigation schemes during/post restoration (measured as reported population levels for such species)
Number of applications for minerals development submitted with protected species surveys and mitigation schemes where necessary.
Percentage of minerals development proposals achieving a net gain in biodiversity
Change in the area of internationally, nationally, and locally important biodiversity sites in a favourable condition as a result of minerals development | Not identified |

| 10 Promote the Conservation and Wise Use of Land | Wiltshire County Council and Swindon Borough Council | Annual | Change in the quantity of greenfield land developed for minerals development. | Not identified |

| 11 Protect and enhance the landscape and townscape | Wiltshire County Council and Swindon Borough Council | Annual | Number of people affected by the visual impact of minerals development
Number of minerals developments resulting in significant harm to the enjoyment of the right of way network
Area of AONB or other (internationally, nationally, or locally) designated land lost and | Not identified |
| Number of public rights of way severed by minerals development and not diverted by means of an acceptable and equally extensive route |  | number of sites adversely affected as a result of minerals development.  
Proportion of designated landscapes in favourable condition  
Change in countryside character and quality as a result of minerals development  
Change in traffic flows or nature of traffic from minerals development that alter the character of the landscape |
|---|---|---|
| **12 Value and protect diversity and local distinctiveness including rural ways of life**  
No loss of rights of way, open space, common land or access to the countryside.  
No net loss of the best and most versatile agricultural land.  
An increase in areas valued for their tranquillity | Wiltshire County Council and Swindon Borough Council | Annual  
Change in areas valued for their tranquillity as a result of minerals development  
Number of public rights of way blocked by waste development and not diverted by means of an acceptable and equally extensive route.  
Loss of Agricultural land grades 1, 2 and 3a. |
| **13 Maintain and enhance cultural and historical assets**  
Increase proportion of minerals developments that protect of enhance sites of historical and cultural interest  
Change in traffic flows from minerals development that affects sites and monuments of historic or cultural value | Wiltshire County Council and Swindon Borough Council/ English Heritage | Annual  
Change in no. and condition of sites or monuments of historic or cultural value affected by minerals development. |
| **14 Reduce vulnerability to flooding**  
Decrease risk from flooding | Environment Agency | Annual  
Number of mineral development proposals permitted which would have an unacceptable adverse impact on land drainage or increase a flooding risk.  
Number of sites identified that may be able to |
<table>
<thead>
<tr>
<th>Date</th>
<th>Objective</th>
<th>Accountability</th>
<th>Metric</th>
<th>Target</th>
</tr>
</thead>
<tbody>
<tr>
<td>15</td>
<td>Reduce non renewable energy consumption and greenhouse emissions (see 17 and 19)</td>
<td>Wiltshire Council and Swindon Borough Council</td>
<td>Annual</td>
<td>Change in minerals transportation by road. Pollution emissions (including greenhouse gases) as a result of minerals development</td>
</tr>
<tr>
<td></td>
<td>Decrease greenhouse gas emissions as a result of minerals development, including from the transport of minerals.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>Keep water consumption within local carrying capacity limits (taking account of climate change)</td>
<td>Wiltshire County Council and Swindon Borough Council/ Statutory water Companies</td>
<td>Annual</td>
<td>Number of minerals developments that pose an unacceptable risk to the quality and flow of surface and groundwater.</td>
</tr>
<tr>
<td></td>
<td>Decrease impacts from the effects of climate change</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Improve the quality of the water environment</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Increase water efficiency in minerals developments</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>17</td>
<td>Reduce the rate of landfill, increase recycling and open waste to energy facilities in Wiltshire (Wiltshire County Council Corporate Objective)</td>
<td>Wiltshire Council and Swindon Borough Council</td>
<td>Annual</td>
<td>Increase the amount of resources recovered from minerals wastes.</td>
</tr>
<tr>
<td></td>
<td>100% of approved minerals developments to carry out waste audits and maximise the recovery of resources from minerals waste.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18</td>
<td>Minimise the use of non-renewable resources and where possible promote the use of renewable resources (see 17 and 15)</td>
<td>Wiltshire Council and Swindon Borough Council</td>
<td>Annual</td>
<td>Proportion of energy needs being met from renewable sources Change in the re-use and recycling of mineral materials</td>
</tr>
<tr>
<td></td>
<td>To improve and promote minerals waste</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Minimisation</td>
<td>Wiltshire Council and Swindon Borough Council</td>
<td>Annual</td>
<td>Changes in traffic flows or the nature of traffic as a result of minerals development. Percentage of minerals facilities developed within 1km of the primary route network. Percentage of minerals facilities within 1km of a railhead or wharf.</td>
<td>Not identified</td>
</tr>
<tr>
<td>---</td>
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<td>---</td>
<td>---</td>
</tr>
<tr>
<td>Increase the use of renewable energy</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Minimise land, water, air, light, noise, and generic pollution</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

80
9 Next Steps

9.1 Adoption of the Plan
The Submission Draft Document will be submitted in July 2008 to Government via
the Government Office for the South West (GOSW) and the Planning Inspectorate.
This SA report accompanies the Submission Draft of the Development Control
Policies DPD. At this stage, the Government Office has six weeks to review the Plan
and make any comments as part of the independent examination of the Plan before
the DPD proceeds to the Examination Stage.

Representations may be made by the public during the six week period, and all
comments will be taken into account by the Planning Inspectorate. A further SA could
be necessary, depending on the Inspectorate’s recommendations. Commencement
of the Examination in Public is due in 2008 and will consider matters of procedure,
conformity and consistency with regard to the DPD.

Final Adoption of the Minerals Development Control Policies DPD is scheduled to
occur in late 2008.

9.2 SEA Statement
The SA/SEA Statement will be published with the Adopted Plan in late 2008, and as
with the SA Report it must be made available to the three Statutory Environmental
Bodies and also the public. The purpose of the Statement is to update the
environmental information available with the final Plan to outline how the
environmental assessment and consultation have influenced the adopted Plan.

The Statement will document any additions, amendments or deletions to the Plan
which have resulted from the findings of, and consultation on, the various SA Reports
that have been produced. This will provide detail on how the plan was modified to
take account of the issues raised, and if no changes are made in response to an
issue, reasons will be given.

At this stage information will also be provided to explain why the alternatives carried
forward into the Plan have been accepted, and why other reasonable alternatives
were rejected prior to the Plan being submitted.

The monitoring measures proposed in this SA Report will be finalised in the
Statement. This may involve the identification of new monitoring measures or
amendments to those already proposed, and if the Plan has been altered to avoid
predicted significant effects, it may be that some proposed monitoring measures can
be removed from the monitoring programme.
**Glossary**

**AA**
Appropriate Assessment is part of the HRA process.

**Alternatives**
These are different ways if achieving the plan objectives. Also referred to as options.

**AONB**
Area of Outstanding Natural Beauty. A landscape area of high natural beauty which has special status, and within which major development will not be permitted, unless there are exceptional circumstances. Designated under the 1949 National Parks and Access to the Countryside Act.

**AQMA**
Air Quality Management Area. An area identified by local authorities where statutory UK air quality standards are being, or are expected to be breached up to the end of 2005.

**CEMP**
Construction Environmental Management Plans. It outlines general environmental management practices and procedures to be followed during construction.

**Conservation Area**
An area designated under the Planning (Listed Buildings And Conservation Areas) Act 1990 as being of special architectural or historic interest, the character and interest of which it is desirable to preserve and enhance.

**Cumulative Effects**
The effects that result from changes caused by a project, plan, programme or policy in association with other past, present or reasonably foreseeable future plans and actions. Cumulative effects are specifically noted in the SEA Directive in order to emphasize the need for broad and comprehensive information regarding the effects.

**EMS**
Environmental Management System. A means for companies or organisations of ensuring effective implementation of an environmental management plan or procedures and compliance with environmental policy objectives and targets.

**Indicator**
A means by which change in a system or to an objective can be measured.

**DCLG**
Department for Communities and Local Government, formerly the ODPM.

**DPD**
Development Plan Document. A Local Development Document which forms part of the statutory development plan, including the Core Strategy, Proposals Map and Area Action Plans.

**HRA**
Habitat Regulations Assessment. Required to identify likely impacts on Natura 2000 sites.

**LDF**
Local Development Framework. The portfolio of Local Development Documents which sets out the planning policy framework for the district.

**LDS**
Local Development Scheme. A three year project plan setting out a planning authority's programme for the preparation of Local Development Documents, reviewed annually in the light of the
Annual Monitoring Report.

MWDF Minerals and Waste Development Framework. The equivalent of the LDF but containing a portfolio of minerals and waste local development documents.

MWDS Minerals and Waste Development Scheme. The equivalent of the LDS but concerned with the preparation of minerals and waste local development documents.

Mitigation Measures to avoid, reduce or offset the significant adverse effects of the plan on sustainability.

MLDD Minerals Local Development Document

Monitoring Activities undertaken after the decision is made to adopt the plan or programme to examine its implementation. For example, monitoring to examine whether the significant sustainability effects occur as predicted or to establish whether mitigation measures are implemented.


Objective A statement of what is intended, specifying the desired direction of change.

ODPM Office of the Deputy Prime Minister.

Options See Alternatives.

PPG Planning Policy Guidance. Guidance documents which set out national planning policy.


Ramsar Sites Wetlands of international importance designated under the Ramsar Convention (1971).

RAWP Regional Aggregate Working Party. Provide technical advice in relation to the supply of, demand for construction aggregates, including sand, gravel and crushed rock.

RPG Regional Planning Guidance. Guidance prepared by the South West Regional Assembly and issued by the Secretary of State, which will be replaced by the Regional Spatial Strategy.

RSS Regional Spatial Strategies. Guidance documents which set out regional planning policy. They are being reviewed and updated and are replacing RPGs.
SA  Sustainability Appraisal. A form of assessment used in the UK (primarily for Regional Planning Guidance and development plans) since the late 1990s. Sustainability Appraisal considers social and economic effects as well as environmental effects.


SAM  Scheduled Ancient Monument. A nationally important archaeological site included in the Schedule of Ancient Monuments maintained by the Secretary of State for the Environment under the Ancient Monuments and Archaeological Areas Act 1979.

Scoping  The process of deciding the scope and level of detail of the SEA. This also includes defining the environmental / sustainability effects and alternatives that need to be considered, the assessment methods to be used, the structure and contents of the Environmental / Sustainability Report.

Screening  The process of deciding whether a plan or programme requires SEA or an appropriate assessment.

SEA  Strategic Environmental Assessment. A systematic method of considering the likely effects on the environment of policies, plans and programmes.

SEA Directive  Directive 2001/42/EC "on the assessment of the effects of certain plans and programmes on the environment".


SSSI  Site of Special Scientific Interest. The best sites for wildlife and geological features in England as designated under the Wildlife and Countryside Act 1981.

Target  A specified desired end, stated usually within a specified time-scale.
References & Bibliography


