

**Bedfordshire County Council and
Luton Borough Council
Minerals Development
Framework
Sustainability Appraisal Scoping Report**

ENVIRON UK LTD

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CONTENTS PAGE

1	INTRODUCTION	3
2	CONTEXT AND METHODOLOGY	6
3	THE FORMAT OF THE SCOPING REPORT	10
4	BIODIVERSITY, FLORA AND FAUNA	12
5	CULTURAL HERITAGE	16
6	LANDSCAPE	18
7	LAND USE	20
8	AIR QUALITY AND NOISE	23
9	CLIMATIC FACTORS	26
10	WATER	28
11	SOIL AND GEOLOGY	30
12	POPULATION AND SOCIAL INCLUSIVENESS	32
13	ECONOMIC GROWTH OF MINERALS AND MATERIAL ASSETS	34
14	EMPLOYMENT AND EDUCATION	35
15	HUMAN HEALTH	37
16	WASTE	38
17	TRANSPORT	40
18	ASSESSING THE EFFECTS OF THE PLAN	42
19	NEXT STEPS IN THE APPRAISAL PROCESS	46

1 Introduction

What is Strategic Environmental Assessment and Sustainability Appraisal?

- 1.1 The Strategic Environmental Assessment (SEA) Directive (*Directive 2001/42/EC on the assessment of the effects of certain plans and programmes on the environment*) was adopted in July 2001 and became English law through *Statutory Instrument 2004 No. 1633: The Environmental Assessment of Plans and Programmes Regulations 2004*. This regulation requires a SEA to be carried out on certain plans and programmes prepared by public authorities that are likely to have a significant effect upon the environment. This process is compulsory for a number of plans including Minerals Local Development Frameworks and Local Development Documents. Therefore, Bedfordshire County Council and Luton Borough Council will be carrying out an environmental assessment under the regulations. This is a formal screening determination under Paragraph 9 of the SEA Regulations referred to above.
- 1.2 In addition to the requirement to carry out an SEA, the Planning and Compulsory Purchase Act 2004 requires sustainability appraisal (SA) of all emerging Development Plan Documents and Supplementary Planning Documents. SA helps 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 core strategies against key sustainability issues for the area. The Government accepts that although these requirements are distinct, it is possible to satisfy both through a single appraisal process and has published guidance to assist authorities to do this (ODPM, 2004)¹. In accordance with this guidance a joint SA / SEA process (referred within this document as SA) will be followed for the Bedfordshire and Luton Minerals Development Framework: Minerals Core Strategy and Site Allocation Development Documents.

▪ ¹ Please note that new guidance was published shortly before this scoping report was completed (ODPM (November 2005): *Sustainability Appraisal of Regional Spatial Strategies and Local Development Documents*). This new guidance was published too late to be used in the production of this scoping report but will be used from this stage onwards in the process.

What is a scoping report?

- 1.3 SA has number of stages and these are shown in Table 1 in relation to the planning stages of a typical Mineral Development Framework.

Table 1: Stages of the SA Process

Mineral Development Framework Stages	SA / SEA Stages
Evidence gathering Preparation and submission of Minerals and Waste Development Scheme (M&WDS) Preparation of the Statement of Community Involvement (SCI).	Stage A: Setting the context, establishing the baseline and deciding on the scope.
Prepare and consult on Issues and Options.	Stage B: Developing and refining options and assessing the effects of the plan.
Prepare and consult on Preferred Options.	Stage B: Developing and refining options and assessing the effects of the plan. Stage C: Documenting the appraisal process in the SA report (prepare SA report). Stage D: Consultation with the public and statutory bodies.
Prepare Development Plan Documents for submission to the Secretary of State. Independent Examination by Inspector. Receipt of Inspector's binding report and Adoption of plan. DPD entry into the Minerals and Waste Development Framework.	Stage C: Documenting the Appraisal (prepare SA Statement).
DPD and M&WDS monitoring reported in Annual Monitoring Report.	Stage E: Monitor the effects of the plan on the environment/sustainability.

- 1.4 Scoping is the name given to Stage A of the SA process and is a way of focussing effort on the key issues in SA / SEA, and ensuring that the SA / SEA fulfils the requirements of all relevant stakeholders. Scoping has a number of stages. These stages and their purpose are outlined in Table 2. This is taken from ODPM (2004).

Table 2: Purpose of scoping stages

Scoping Stage	Purpose
Identify other plans or programmes and sustainability objectives	To document how the plan is affected by outside factors and suggest ideas for how any constraints can be addressed.
Collect baseline information	To provide an evidence base for sustainability issues, effects prediction and monitoring.
Identify sustainability issues	To help focus the SA and streamline the subsequent stages, including baseline information analysis, setting of the SA Framework, prediction of effects and monitoring.
Develop the SA framework (SA objectives)	To provide a means by which the sustainability of the plan can be appraised.
Produce scoping report	To ensure that the overall objectives of the plan are in accordance with sustainability principles and provide a suitable framework for developing options.
Consult on the scope of the SA	To consult with statutory bodies with social, environmental, or economic responsibilities to ensure the appraisal covers the key sustainability issues.

- 1.5 A scoping report gathers this information together and forms the basis of consultation with the statutory consultees (English Nature, Countryside Agency, English Heritage and the Environment Agency). Under the regulations governing SA it is compulsory to consult the statutory consultees and give them opportunity to comment on “the scope and level of detail of the assessment”. This is important because it gives an opportunity for consultees to comment on whether the assessment is focusing on the right issues.

2 Context and methodology

Development of the Bedfordshire and Luton MDF

- 2.1 The key element of the County Council's forward planning work for minerals and waste matters is the production of a county-wide minerals and waste development plan, which sets the framework for determination of planning applications. The most recent version of this is the Bedfordshire and Luton Minerals and Waste Local Plan (MWLP), which was adopted by Council in January 2005. This is a joint plan produced in partnership with Luton Borough Council, and it applies to the administrative areas of both authorities for the period to the end of year 2015. It is part of the statutory development plan, and must be taken into account by all authorities (including District Councils) in determination of planning applications.
- 2.2 The Government has now introduced comprehensive changes to the development planning system via the Planning and Compulsory Purchase Act 2004. Under the terms of this Act, the County Council is obliged to replace the adopted MWLP with a new-style plan, to be known as the "*Minerals and Waste Development Framework*" (MWDF). This work is to begin immediately, and must proceed in line with an agreed project plan, the "*Minerals and Waste Development Scheme*". The Scheme for Bedfordshire and Luton was approved by Council on 21 March 2005 and agreed by the Government Office on 13 April 2005. It formally came into effect on 25th April.
- 2.3 The MWDF consists of a number of Minerals and Waste Development Plan Documents (DPDs) including:
- Minerals core strategy (this will set out the vision, objectives and policies for minerals in Bedfordshire and Luton); and
 - Minerals site allocation plan (this will identify any specific sites that are required under the minerals core strategy).
- 2.4 It is these documents that will be subject to the SA reported in this plan. The corresponding waste documents will also be subject to a SA but this will be reported separately. The timescale of the review is set out in the Minerals and Waste Development Scheme and has been reproduced in Table 3.

Table 3: Timescale of the plan preparation

Stage	Minerals core strategy	Minerals site allocation plan
Evidence gathering	April 2005 – October 2005	April 2005 – October 2005
Issues consultation	January 2006 – February 2006	January 2006 – February 2006
Preferred options consultation	November 2006 – January 2007	November 2006 – January 2007
Submission	July 2007	July 2007
Examination	April 2008	April 2008
Receipt of Inspectors Report	September 2008	September 2008
Adoption	December 2008	December 2008

Preparation of the scoping report

2.5 The SA of the Bedfordshire and Luton MDF is being carried out by ENVIRON, CAG Consultants and the Centre for Sustainability (C4S). It will provide an independent assessment of the potential significant effects of the plan on environmental and sustainability issues. The scoping report has also been produced by ENVIRON, CAG Consultants and C4S and has been prepared according to the following government guidance:

- ODPM (September 2004): Sustainability Appraisal of Regional Spatial Strategies and Local Development Frameworks: Consultation Paper.
- ODPM (March 2005): Sustainability Appraisal of Regional Spatial Strategies and Local Development Frameworks: Interim Advice Note on Frequently Asked Questions.

Consultation

2.6 The following consultation has been carried out at the scoping stage:

Stage A: Scoping and evidence gathering

2.7 A half day consultation workshop with key stakeholder organisations including the following elements:

- Consultation on the appraisal and plan preparation process;
- Consultation on the proposed plan objectives and broad scope;
- Report on the context and baseline data;
- Discussion groups on the proposed appraisal objectives, targets and key sustainability issues; and
- Opportunities to comment on the information gathered from the other scoping activities.

2.8 For those stakeholders unable to attend the workshop, a questionnaire seeking responses to the same issues covered in the workshop.

2.9 Web-based feedback has also been used - information about the appraisal has been posted on the internet with comments invited via email or in writing. This was advertised via local newspapers and Council websites. The web pages will be retained throughout the

appraisal process and used as a mechanism for disseminating information and seeking feedback throughout the process.

- 2.10 The information from the workshop, questionnaires and email feedback has been used to inform the draft scoping report, which has included a report on the consultation undertaken.
- 2.11 ODPM guidance requires a minimum five week formal consultation period on the scoping report, As the scoping report consultation period extends over the Christmas period, this minimum five week period has been extended to six weeks (see below for dates). The guidance suggests consultation on the SA Scoping Report should include:
- The four SEA Consultation Bodies (Countryside Agency, English Heritage, English Nature and Environment Agency);
 - Economic interests and local business such as Regional Development Agency, Chambers of Commerce, economic development officers, Learning and Skills Council;
 - Social interests and community service providers such as Health Development Agency, Local Strategic Partnerships, Neighbourhood Areas Committees, officers with responsibility for access for those with disabilities, social inclusion, primary care trusts, health development agencies, education authorities, police and utilities;
 - Transport planners and providers such as highways authorities and public transport service providers; and
 - NGOs such as environmental groups, amenity societies, and voluntary services.
- 2.12 The full list of the organisations and individuals who have been consulted at the scoping stage of the SA process is given in Appendix 1. The scoping report will also be published on the dedicated web pages and feedback invited.
- 2.13 Consultation is an important part of the appraisal process and Table 4 shows what is planned for the rest of the SA.
- 2.14 The consultation on the scoping report will run from 25th November 2005 to 6th January 2006 and comments should be sent to:

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Table 4: Consultation stages

Stage	Planned consultation
Stage B: Developing and refining options and assessing effects	<p>Full day facilitated appraisal workshop - stakeholders undertake appraisals of key options. This would include the following elements:</p> <ul style="list-style-type: none"> • Information on the appraisal and LDF process; • Information on the alternative options; • Guidance on the details of undertaking an appraisal of options; • Discussion groups on the choice of options; and • Facilitated appraisal of key options in small groups. <p>Consultation on the Issues and Options report and accompanying SA report in line with the requirements of the guidance, the Local Development Regulations and the emerging Statement of Community Involvement. Three public consultation workshops to gather feedback and generate discussion on the Issues and Options report and the accompanying SA report, targeted at those communities likely to be most affected by the options identified. The workshops will be used to identify gaps and inconsistencies, as well as questioning assumptions, plus exploring the effects of the options and identifying possible mitigation measures.</p>
Stage C: Preparing the SA report	<p>Formal consultation on preferred options and accompanying SA report prior to preparation of submission draft plan.</p> <p>Formal consultation on the draft plan and accompanying SA report prior to the Examination in Public.</p> <p>In addition to the formal consultation, wider feedback on the draft plan and accompanying SA report will also be sought via the dedicated web pages.</p>
Stage D: Consulting on the DPD and SA report	<p>Following adoption, a summary would be produced of how the findings of the full SA process have been taken into account, and how sustainability considerations more generally have been integrated into the plan. This would make clear how the DPDs were changed as a result of the SA process and responses to consultation, or why no changes were made. It would also show why options were rejected. Information would also be made available on how the final SA monitoring arrangements. This would then be published alongside the final plan.</p>

- 2.15 Specific questions have been asked in each section of the Scoping Report to aid responses. These are shown below:

Questions for consultees
<ul style="list-style-type: none"> • Are any significant environmental data missing or misrepresented? • Are there any additional problems, opportunities or issues that need to be considered in the development of the plan? • Do the SEA objectives provide a reasonable framework through which to address the likely significant environmental effects of the plan? • Do you have suggestions for SEA targets that would benefit the process? • Are there additional methodologies that could be used within the SEA? • How would you or your organisation like more to be involved in the rest of the SEA process?

3 The format of the scoping report

Introduction

3.1 Data has been collected for the Scoping Report in the form of topic papers which gather together the following information for each issue:

- Policy context (review of other plans, policies, programmes and objectives);
- Baseline data review including sources of data, data gaps and trends;
- Implications for minerals planning and SA in Bedfordshire.

3.2 The topic papers are available in Appendix 2 under the following headings:

- Biodiversity, flora and fauna.
- Cultural heritage.
- Landscape.
- Land Use.
- Air quality and noise
- Climatic factors.
- Water.
- Soil and Geology.
- Population and social Inclusiveness.
- Economic growth of minerals and material assets.
- Employment and education.
- Human Health.
- Waste.
- Transport.

3.3 The next sections of the scoping report summarise this information under each heading. The rest of this section explains the rationale behind each step of the data collection process.

Policy context

3.4 As identified in Table 2 the purpose of this stage is to document how the plan is affected by outside factors and suggest ideas for how constraints can be addressed. The SEA Regulations² (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. ODPM guidance (2004) extends this to include other sustainability objectives.

² HMSO (2004) The UK Environmental Assessment of Plans and Programmes Regulations 2004 (Statutory Instrument No. 1633)

- 3.5 In order to fulfil this requirement, a review has been undertaken of other relevant plans, policies, programmes (PPPs) and objectives. The results can be found in each individual topic paper.

Baseline data review

- 3.6 The SEA Regulations require an examination of the current state of the environment and the likely evolution of the environment without the implementation of the plan (“future baseline” or “without the plan scenario”). This has been done through a desk based study with the full results reported in the topic papers in Appendix 2.
- 3.7 Data gaps have been acknowledged, and where possible trends are provided. It is expected that further data will need be gathered as the assessment process progresses, and one of the aims of producing this Scoping Report is for the consultees to help fill known data gaps, as well as identify topics which may not have been addressed in a sufficient level of detail.

Questions for consultees

- Are any significant environmental data missing or misrepresented?

Implications for minerals planning and SA

- 3.8 This section draws together the information gathered in the policy and baseline review and supplements it with information gathered during the scoping consultation. Information is provided for each topic on:
- Key issues arising from the baseline review;
 - Relevant objectives for the SA (from the policy review and the scoping consultation); and
 - The opinions of the attendees of the scoping consultation meeting as to how these issues should be addressed. These opinions are listed under the questions asked at the meeting.

Questions for consultees

- Are there any additional problems, opportunities or issues that need to be considered in the development of the plan?

4 Biodiveristy, flora and fauna

Implications for minerals planning and SA in Bedfordshire

Key issues arising from the policy context:

How the Minerals Local Development Framework should address biodiversity, flora and fauna

The plan should accept the importance of nature conservation objectives and the primacy of some designations and pay particular regard to designated 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 relevant Biodiversity Action Plans as well as the UK Biodiversity Action Plan, with minerals operations encouraged to adopt their own Biodiversity Action Plans. The restoration of old mineral working sites provides an opportunity to create some of the habitats prioritised in local Biodiversity/Habitat Action Plans.

Relevant objectives for the SA

- MLDF should be aware of status and number of endangered and vulnerable species of flora and fauna in the region – and ensure that policies are not in conflict with protection and conservation of them and their habitats.
- MLDF must be aware and account for any existing conservation areas in the county and, where there is potential interaction with mineral working, account for the maintenance and development of these as necessary.
- Targets should focus on enhancement as well as protection and activities should seek to improve nature conservation and biodiversity, and contribute to habitat creation e.g. woodland.
- Nature conservation objectives should be taken into account in all minerals planning activities which affect rural areas and in urban areas where there is wildlife of local importance.

Key issues arising from the baseline review:

How the Minerals Local Development Framework should address biodiversity, flora and fauna

- Many older mineral workings exist where after-use and restoration have never been satisfactorily resolved and where the sites are now SSSIs or County Wildlife Sites (CWS). In some cases these cover large areas and are unmanaged and any proposed

end-uses for these sites will need to be sensitive to the existing biodiversity, flora and fauna.

- There are sixteen BAP habitats, three National Nature Reserves and seventeen Local Nature Reserves in Bedfordshire and Luton. English Nature has identified Natural Area profiles for The Chilterns, The West Anglian Plain and The Greensand Ridge.
- Opportunities should be taken to enhance existing sites of importance e.g. the valley of the River Great Ouse and the ancient semi-natural woodlands as well as to mitigate any harm caused to nature conservation interests.
- The County has a number of protected, vulnerable, endangered and rare species. The placement, expansion and emissions from mineral activities should be designed in such a way so that they avoid the habitats of such species. Certain protected species may however benefit from quarrying and mineral extraction. e.g. species of reptile, moths and butterflies.
- The refurbishment of disused quarry areas can be designed to make an ideal habitat for many species.
- There are forty SSSIs in Bedfordshire and Luton however the area of designated SSSI is below the average for the East of England. The quality of SSSIs in Bedfordshire is above the English average. Developments that might impact a SSSI will need to be located and managed appropriately so as to minimise any impacts.

Key issues arising from the scoping consultation:

Are these the key sustainability issues under this topic area? or are there others?

- The existing list needs clearer expression as a set of issues rather than statements of fact:
 - where should sites be located?
 - how do you manage while working?
 - how should they be restored?
 - is there scope for increasing biodiversity value of existing sites?
- New mineral workings should be sited with care. Impacts on areas of biodiversity importance should be avoided wherever possible. These may be direct (by giving permission for extraction on important sites) or indirect (where extraction is permitted adjacent to or in close proximity to important areas). This should be on a sliding scale with work on and near internationally and nationally designated sites being avoided at all costs, through county wildlife sites and local nature reserves to unprotected sites of biodiversity interest. These should not be chosen if there is a less damaging alternative available. Where impacts are unavoidable, these should be minimised through mitigation measures. This should involve discussion with experienced ecologists and wildlife organisations. Compensatory habitat may also need to be provided. Consideration should be given to what is to happen once the alternative sites have been

used up and pressure increases to use sites of biodiversity, whether protected or otherwise;

- Need to balance the need for mineral resources and nature conservation and people's quality of life;
- Geodiversity is another key issue (see PPS9) – This could be covered within the soil and geology topic area;
- Need to avoid disrupting hydrological patterns, especially on wetland sites;
- Land identified for future extraction, or that owned by minerals companies but not in operational use, can be managed for nature conservation in the interim, providing valuable temporary refuges for wildlife;
- Need to promote integrated/holistic landscape-scale approach to restoration rather than the usual site-by-site assessment. This can provide larger areas of given habitats, as well as allowing effective management for different uses;
- Currently active sites, including those about to close, can offer the opportunity for substantial habitat creation for nature conservation. This can contribute to the Government's habitat creation targets as part of the UK Biodiversity Action Plan. In many cases, this may require reviewing current restoration plans, and seeing if habitat creation would be a viable alternative end-use. This is the subject of an England-wide project by the RSPB;
- Developments that might impact SSSI's – need to factor in consideration of any haulage routes that will be needed to service new sites or increased use of transport infrastructure.

What are the main implications of these issues for minerals and waste planning?

- Policies are needed to avoid features of high biodiversity value, designated sites but also other sites of substantive wildlife value, or isolating and breaking up habitats. Where working is proposed that would damage nature conservation interests, and the need for mineral working is considered to override the nature conservation case, then suitable high quality restoration should be proposed. The implementation of the nature conservation afteruse and its long-term management must be assured;
- During their working life (which can be >40 years), mineral sites can develop biodiversity interest in both worked and unworked areas, including the presence of protected species. Before considering resuming activities on inactive workings, need to assess any nature conservation interest that may have developed. Consider whether working can be modified to avoid damaging this interest. Suggest the inclusion of policies which encourages phasing and interim restoration to allow transient wildlife interest;
- Suggest the inclusion of a policy targeting BAP species and habitats;
- Restoration to an appropriate and well-designed and managed nature conservation habitat should be considered as a priority from the initial application stages of a new site. By doing so at an early stage, the benefits for biodiversity can be maximised. Such

an end-use will be of considerable value to local communities - both in terms of amenity and employment;

- An ecological management plan and funding, for both the site and any adjacent land that is owned should be identified as part of the after use for the site. Large areas of habitat are preferable to smaller patches of very different habitat types within one site, since these will be more appealing to key species and support larger populations.
- Liaise with the statutory conservation agency and other conservation groups from a very early stage. This consultation should be maintained throughout the duration of the project.
- Consider undertaking an environmental assessment (EA) even where there is no statutory requirement to do so. The EA process can help to ensure cost effective nature conservation benefits in both site selection and project design.
- Allow sufficient time for investigation and planning, and for surveying affected habitats and species at the right time of year, e.g. for nesting or wintering birds. Investigation needs to include consideration of transport infrastructure, e.g. will new infrastructure sever existing habitats?
- Carry out ecological surveys and impact assessment objectively: follow high scientific standards, use recognised methodology and personnel qualified in the particular field.
- Research any mitigation measures that have been described for the project thoroughly and seek professional expertise as to the best approach.

What sustainability objectives do you think should be set for each of these topic areas?

- Minerals operations should lead to net increase in biodiversity;
- Avoid allocation of land of high biodiversity value (in accordance with scale of priorities – European, national and local);
- Avoid indirect impacts on species or habitats of high biodiversity value;
- Maximise potential biodiversity value of existing minerals sites;
- Restoration to biodiversity a priority end use for mineral sites and should contribute to realising local and national biodiversity action plan targets.

5 Cultural heritage

Implications for minerals planning and SA in Bedfordshire

Key issues arising from the policy context:

How the Minerals Local Development Framework should address cultural heritage

The MDPDs should be committed to PPG 15 and PPG 16 objectives for the effective protection of the historic environment and archaeological remains through site selection.

Relevant objectives for the SA

- MLDF should seek to protect and where relevant enhance sites of archaeological interest;
- MLDF seeks to protect and enhance archaeological remains;
- Minerals development policies should aim to steer development away from archaeologically sensitive sites.

Key issues arising from the baseline review:

How the Minerals Local Development Framework should address cultural heritage

- Presence of Scheduled Monuments, therefore the plan should seek to preserve ancient monuments.
- Presence of Archaeological sites, ensure therefore mineral or waste workings protect or record archaeological sites.

Key issues arising from the scoping consultation:

Are these the key sustainability issues under this topic area? or are there others?

- Planning gain should be broader and look at a range of issues. Need to 'avoid "and mitigate" impacts;
- There is a need for full archaeological information, i.e. evaluation to be provided with applications. Need this before you can decide whether to permit or not;
- Need to recognise mineral, industrial and agricultural archaeology, the current definition of cultural heritage is too narrow;
- Scope for enhancement of cultural heritage should not be at expense of biodiversity, there is a need to ensure cultural and heritage value and after-uses are integrated with biodiversity. Enhancement of archaeological sites and features is difficult, however improvements to their management and interpretation can certainly be achieved. This issue needs to be considered as preservation of sites

within mineral workings is increasing and proper long term provision needs to be made for sites preserved in situ. There may on occasion be conflict between protecting archaeological remains and biodiversity interests. Neither should be assumed to hold primacy in all cases. The relative merits of each case must be considered and appropriate balances struck depending on the nature and value of the resources;

- Mining itself is part of national and local heritage and culture;
- The Historic Landscape, covered by neither built environment nor archaeology, is also a key issue. The identification, protection and management of this must be considered.

What are the main implications of these issues for minerals and waste planning?

- Uncertainty is a major concern – needs forward planning;
- Change in archaeological requirements over time – constantly evolving;
- Need to obtain information from relevant bodies for full assessment of sites.

What sustainability objectives do you think should be set for each of these topic areas?

- Use of archaeological information obtained from minerals extraction for wider public dissemination to provide wider awareness in the community of their heritage;
- To identify important areas of archaeology and possibly seek to avoid them, or enhance them through mineral extraction;
- A strategic approach to managing the historic environment in the face of mineral extraction is required. It needs to be based on a strategic understanding of the resource. This will provide the context for the archaeology of individual sites and allow its value and significance to be assessed more effectively.

6 Landscape

Implications for minerals planning and SA in Bedfordshire

How the Minerals Local Development Framework should address landscape

The plan should take into account PPG 17 and PPG 21 in preserving the quality of open space and hence avoiding the adverse impacts on areas like the Chilterns 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 Chilterns AONB.

Relevant objectives for the SA

- Provision of adequate (or more) landscaping included in a development proposal;
- Ensure that plan policies avoid incremental and cumulative impact on sensitive landscape areas;
- Look for opportunities to enhance the existing landscape value of the area through sensitive restoration programs.

Key issues arising from the baseline review:

How the Minerals Local Development Framework should address landscape

- Most of the mineral deposits in South Bedfordshire lie in areas of high landscape quality or immediately adjoining them. The plan should play close attention to ensuring that developments respect landscape designations.
- The plan should play close attention to ensuring that developments are in keeping with the character of the landscape and landscape management strategy as identified by the County Landscape Character Assessments.
- Proposed end-uses for the sites and restoration programmes need to be sensitive to the landscape character and designations and look for opportunities to enhance the landscape character.

Key issues arising from the scoping consultation:

Are these the key sustainability issues under this topic area? or are there others?

- Can restoration be sufficiently flexible to accommodate changes in surrounding landscape character?
- Cumulative impact of all operations on landscape needs to be considered.

- Potential to create new landscapes of value needs to have regard to what has gone before.

What are the main implications of these issues for minerals and waste planning?

- Major impact on site allocation.
- Impact on operations before, during and after extraction.

What sustainability objectives do you think should be set for each of these topic areas?

- Avoid damage to valued features of landscape.
- Avoid introduction of alien features to landscape or incorporate sufficient mitigation measures where this is unavoidable, both during and after extraction.
- Enhance landscape through restoration.
- All schemes should seek to enhance the local landscape value, with retaining of existing value to be the lowest acceptable option.

7 Land use

Implications for minerals planning and SA in Bedfordshire

Key issues from the policy context:

How the Minerals Local Development Framework should address land use and spatial planning

- 7.1 The plan must take into account various Planning Policy Statements and 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 also needs to consider how it will plan for the regional guidelines for aggregates provision in England 2001-2016 which were published in June 2003.

Relevant objectives for the SA:

- Consider the potential for incompatible development proposals and ensure that the MLDF takes account of the local and regional spatial development plans.
- To contribute to the strategic framework as recommended by the Milton Keynes and South Midlands Sub Regional Strategy.

Key issues arising from the baseline review:

How the Minerals Local Development Framework should address land use

- Pressures on land to deliver residential development may lead to challenges in protecting mineral deposits from sterilisation where they are workable and there is a demand for them.
- Limited areas designated as natural habitat and woodland exist within the County and therefore these will need to be protected.
- The county contains areas of high quality agricultural land (grades 1, 2 and 3a) that current local planning policy recommends should be avoided for development. This could lead to conflict if mineral deposits are within these areas.
- There are large active workings and further reserves of sand exist around Leighton Buzzard and chalk and lime south and west of Dunstable. These raise major issues in terms of their restoration and after use.
- Many of the sand deposits are variable in quality and are only worked intermittently as demand dictates. This means the workings will be a long-term feature in the countryside.

Key issues arising from the scoping consultation:

Are these the key sustainability issues under this topic area? or are there others?

- After-use of sites
- Restoration – tie in with other aims and objectives, such as biodiversity, leisure (PPS17) etc
- Phasing of mineral extraction – can be tied to development planning to provide sustainable solution
- Sand and brick production, if local, can be linked with the growth area to reduce transport distances
- Bullet 1 too narrow – not just a threat from residential development, other threats such as forestry, industrial
- General comment – bullet points are too judgemental
- Bullet 5 – should possibly come under landscape topic area
- Bullet 4 – coordinated strategy for restoration, i.e. greensand. Development of strategic masterplans for the planned restoration/ afteruse of concentrations of mineral sites, e.g. river valleys such as Ivel, to avoid ad hoc, piecemeal approach
- Bullet 5 – major issue, needs to be clarified
- Flooding – flood control/enhance land uses, irrigation can improve poor land
- Flooding issues in Upper Ouse Valley – consider imaginative restoration
- Loss of agricultural land, and therefore local productivity, is an issue and should be a consideration but also suggested that this shouldn't necessarily be a major constraint. The drive to avoid and restore the best and most versatile farmland is not as important as it once was – policies seeking protection and restoration of grade 1/2/3a land should be flexible. However, need to factor in the potential to grow food locally and minimise import distances, as well as impact on rural economy and jobs.
- Restored river valley sites could be used for biomass production (sustainable energy coppice).

What are the main implications of these issues for minerals and waste planning?

- Will create conflicts and pressures
- Development may need to be focused on old sites rather than sterilising new. Potential for landscaping that will mitigate visual impact of residential development and transport infrastructure will already be in place.
- Need to be used with imagination i.e. coordinated strategy, to create improvements in the long term.

- Coordinated strategy using all spheres of influence, i.e. biodiversity, historic environment, local group's not just narrow range. i.e. planners need a broader vision
- Use of land for mineral extraction is extremely low (under 0.5%) so land use may not be a particularly significant character

What sustainability objectives do you think should be set for each of these topic areas?

- None suggested.

8 Air quality and noise

Implications for minerals planning and SA in Bedfordshire

Key issues arising from the policy content:

How the Minerals Local Development Framework should address air quality:

The MDPDs should include consideration of how site management can positively contribute to air quality and noise especially through HGV management policies. They should have regard for PPS23 and PPG24 when developing policies, particularly with regard to site selection, design, site management and monitoring. Site selection should also take into account noise and air quality impacts where possible. The MDPDs also need to include air quality and noise policies with regard to dust, and emissions from machinery and vehicles.

Relevant objectives for the SA:

- Improvement of ambient air quality through ensuring air quality considerations are taken into account in all policies and supporting text;
- Ensuring that the plan does not conflict with the objectives of existing AQ Action Plans;
- Ensuring that the plan does not contribute to the designation of new AQMAs;
- Ensure the objectives and target noise levels set out in MPS 2 Annex 2 are addressed within the plan policies and proposals;
- Avoid introducing noisy developments into areas undisturbed by noise;
- Ensure adequate mitigation is encouraged.

Key issues arising from the baseline review:

How the Minerals Local Development Framework should address air quality and noise

- There are eight Air Quality Management Areas located throughout Bedfordshire County and Luton Borough. Two of these AQMAs have been designated with relation to mineral activities at Stewartby Brickworks and the rest are related to traffic.
- The main air quality issues are derived from transport within urban areas and proximity to the M1 Motorway.
- PM₁₀ exceedences can result from dust and traffic and diesel plant emissions associated with mineral extraction (according to MPS 2 Annex 1) but no problems are known to have been reported within Bedfordshire.
- Dust deposition is generally of localised concern where it can lead to nuisance complaints due to soiling.

- Continuous Noise (particularly at night) can be a localised concern from the operation of dumper trucks, the processing plant, conveyors stock piling material etc.
- Intermittent Noise (particularly at night) from HGV pass-bys, and empty HGV butts passing over potholes can be more widespread, but generally only of concern at a local scale.
- Vibration causing damage to buildings and general annoyance (particularly at night) may arise from HGV movements on public highways and haul roads in close proximity to sensitive receptors, and the operation of any processing plant or associated manufacturing facilities.
- Potential cumulative impacts may arise as mineral extraction sites tend to be concentrated in small areas and this may lead to the operation of more than one site in proximity to sensitive receptors.
- There may be long term issues due to the end use of the site. The restoration of the site to a landfill site, or a recreational facility may give rise to long-term impacts such as, noise from gas venting plant, increased HGV movements, or increased traffic from users of recreational facilities.

Key issues arising from the scoping consultation:

Are these the key sustainability issues under this topic area? or are there others?

- Dust should be considered as an air quality issue
- Agree transport is a major factor, N.B. also new A421
- Air quality problems are likely to get worse in context of growth areas N.B. Air Quality Action Zones
- The possible emissions from different waste management methods should be taken into account
- Reference to landfill issues in restoration is not appropriate – landfill should be considered as a separate issue under waste plans but agree long term restoration issues need to be considered
- Need reality check regarding available resources for addressing issues (improves credibility of whole SA process) – also consideration of relative costs now versus in the future
- As growth area progresses Leighton Buzzard will grow in size and may develop problems with PM₁₀ exceedences. Current routing of mineral haulage will contribute to this. View is too short sighted and must think of the situation 2020 and beyond.

What are the main implications of these issues for minerals and waste planning?

- Proper application of planning conditions
- Monitoring arrangements – need to be more proactive rather than relying on complaints

- Excessive air pollutants or dust may damage plants and alter the surface pH of the soil, reducing fertility. This can be controlled and should be addressed in the MWDF.
- The industry has high obligations in these areas and a good record of compliance

What sustainability objectives do you think should be set for each of these topic areas?

- See national Air Quality Standards
- As growth area progresses Leighton Buzzard will grow in size and may develop problems with PM10 exceedences. Current routing of mineral haulage will contribute to this. View is too short sighted and must think of the situation 2020 and beyond.

9 Climatic factors

Implications for minerals planning and SA in Bedfordshire

Key issues from the policy context:

How the Minerals Local Development Framework should address climatic factors

- 9.1 The MDPDs 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 plan 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 plan.

Relevant objectives for the SA

- MLDF should encourage development and innovation in renewables and energy efficiency and seek to provide impetus towards a low carbon economy;
- MLDF should encourage a reduction in motorised trips.

Key issues arising from the baseline review:

How the Minerals Local Development Framework should address climatic factors

- Potential future requirement to cool buildings in summer increasing energy use;
- Increased risk of vegetation fires in summer;
- Increased flooding risks during winter periods and the drainage of sites may become more difficult and expensive;
- Water resources reduced during summer periods, need to consider water recovery and recycling in new developments.

Key issues arising from the scoping consultation:

Are these the key sustainability issues under this topic area? or are there others?

- Mineral removal provides the opportunity for water storage to help control for run off from new developments and flash floods caused by climate change.
- Impact of transportation on local and global environment.

What are the main implications of these issues for minerals and waste planning?

- Use of flooded pits as water resource for urban areas and/or agriculture; also potential for flood control;

What sustainability objectives do you think should be set for each of these topic areas?

- None suggested.

10 Water

Implications for minerals planning and SA in Bedfordshire

Key issues arising from the policy context:

How the Minerals Local Development Framework should address water issues

- 10.1 The plan 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 plan should have regard to PPG 25, through ensuring minerals operations do not increase flood risk in sensitive areas, and through ensuring minerals operations (for instance in riverbed gravel areas) are not threatened by flooding. Liaison with the Environment Agency is needed. Efficiency in water use by mineral extraction operations should also be considered within the plans.

Relevant objectives for the SA

- MLDF will have a significant role to play in protecting and managing water resources. It is important that the issues and measures presented in the Water Framework Directive are considered in the MLDF;
- MLDF should be aware of all potential flooding and adaptation issues;
- The MLDF should be aware of where any river basin management plans are within the plan area and consider issues raised by these management plans.

Key issues arising from the baseline review:

How the Minerals Local Development Framework should address water

- Areas at risk of flooding are chiefly those adjacent to, or within a few hundred metres of the Counties rivers. Areas away from these rivers do not appear to be at risk;
- Only a small part of Bedfordshire lies within a Groundwater Source Protection Zone, and these areas need to be protected from potential impact;
- The water resource for much of Bedfordshire is under pressure from a variety of sources, in particular agriculture, and urban development in addition the entire county has been designated a nitrate vulnerable zone.

Key issues arising from the scoping consultation:

Are these the key sustainability issues under this topic area? or are there others?

- Need to separate out water quality and water supply issues;

- Clarification is required to confirm the presence of floodplains at each proposed allocation location;
- Greater emphasis is needed on the 'urban development' issue, as a drain on the water resource. Agriculture and Nitrite issue could be undertaken as a separate point with regard is water quality;
- Consider the relationship with the main rivers where possible and the potential biodiversity benefits;
- Restored river valley sites can play a role in flood alleviation;
- Potential use of sites for public water supply, although this will be dependent on location and geology.

What are the main implications of these issues for minerals and waste planning?

- Water pollution can be controlled through careful design and location of sites, management, restoration, mitigation, compensation, clear conditions and consideration of enforceability. All these need to be dealt with in the MWDF.

What sustainability objectives do you think should be set for each of these topic areas?

- Reduce the potential risk of flooding through development of ex-mineral extraction sites to enable the reduction in levels of flooding in urban areas;
- Avoidance of minerals extraction sites within Groundwater Source Protection Zones and direct to minor/non-aquifer locations;
- Improvement of water quality (issue outside of minerals plan?) Consider nitrate vulnerable areas and agricultural activities?
- Increase areas for restoration and biodiversity especially in those sites located within close proximity to urban areas.
- Seek to ensure water tables are maintained or raised, rather than lowered.

11 Soil and geology

Implications for minerals planning and SA in Bedfordshire

Key issues from the policy context:

How the Minerals Local Development Framework should address soils and geology

- 11.1 Alternative options need to be tested as part of the plan 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 the Regional Spatial Strategy.

Relevant objectives for the SA

- Ensure the objectives and targets set out in the MPGs and MPSs are addressed within the plan policies and proposals
- To minimise production of waste and to encourage efficient use of materials
- To prevent the unnecessary sterilisation of mineral resources whilst protecting areas of designated landscape or nature conservation value from development.

Key issues arising from the baseline review:

How the Minerals Local Development Framework should address soils and geology

- Balance extraction for current needs and conserve resource for future generations.
- There are groundwater bearing strata “at risk” or “likely to be at risk” in Luton and in parts of Bedfordshire. Soil and groundwater must be protected from damage by mineral activities.

Key issues arising from the scoping consultation:

Are these the key sustainability issues under this topic area? or are there others?

- Need to add the consideration of restoration potential
- Need to consider the protection of environment from transport operations;
- Geological and geomorphological feature conservation and enhancement: exposure/ retention of outcrops; opportunities for fossil search/ examination; links with Bedfordshire RIGGS group for education and research

What are the main implications of these issues for minerals and waste planning?

- None identified.

What sustainability objectives do you think should be set for each of these topic areas?

- Increase recycling.

12 Population and social inclusiveness

Implications for minerals planning and SA in Bedfordshire

Key issues arising from the policy context:

How the Minerals Local Development Framework should address social inclusion:

The MDPDs should pay due regard to the targets set for housing and help provide and contribute towards making Bedfordshire an economically prosperous place, without detracting from its environment.

Relevant objectives for the SA:

- The MLDF should ensure that the public has access to environmental information and opportunity to participate in decision-making on matters related to the environment: provision;
- The MLDF should seek to contribute to the improvement in access to services and facilities to disadvantaged people;
- The MLDF should seek to contribute to the improvement in the quality of life within Bedfordshire and Luton, particularly through the provision of sustainable sports, arts, heritage, parks and recreational facilities & activities;
- The MLDF should seek to improve citizenship and cultural integration;

Key issues arising from the baseline review:

How the Minerals Local Development Framework should address population and social inclusiveness

- The trends indicate that there are no significant issues identified in relation to population. The population is showing a steady rate of growth. Birth and death rates show no dramatic increases or decline;
- The trends indicate that there is a potential issue associated with rural deprivation. Although the county scores relatively highly on the multiple deprivation index this does not consider the spread of deprivation between wards. Rural deprivation can often be masked.

Key issues arising from the scoping consultation:

Are these the key sustainability issues under this topic area? or are there others?

- Potential for mineral workings to affect those who are less able to communicate objections (i.e. those who are less able to form action groups, make formal representations etc);
- Local liaison groups have already been set up – need to encourage greater participation;
- New populations/communities will come into being;
- People are living longer.

What are the main implications of these issues for minerals and waste planning?

- None suggested.

What sustainability objectives do you think should be set for each of these topic areas?

- None suggested.

13 Economic growth of minerals and material assets

Implications for minerals planning and SA in Bedfordshire

Key issues from the policy context:

How the Minerals Local Development Framework should address material assets

The MLDF should seek to integrate with development programmes for the local and regional area to ensure the provision of suitable local building materials.

Relevant objectives for the SA

- The MLDF should aim to avoid conflict and seek to support the provision of a more sustainable transport network;
- To ensure the provision of suitable local building materials, to meet the future demand.

Key issues arising from the baseline review:

How the Minerals Local Development Framework should address economic growth of minerals

- Need to encourage maximum recycling during road maintenance operations.
- Need to encourage maximum recycling during airport maintenance operations.

Key issues arising from the scoping consultation:

Are these the key sustainability issues under this topic area? or are there others?

- None suggested

What are the main implications of these issues for minerals and waste planning?

- None suggested.

What sustainability objectives do you think should be set for each of these topic areas?

- None suggested.

14 Employment and education

Implications for minerals planning and SA in Bedfordshire

How the Minerals Local Development Framework should address education and employment:

The plan does not have any direct links to provision of education and employment but if possible the MLDF should contribute to sustainable employment growth in the minerals sector.

Relevant objectives for the SA:

- The MLDF should contribute to employment growth in the minerals sector to meet identified employment needs and achieve a more sustainable balance between workers and jobs;
- The MLDF should support opportunities to increase vocational training;
- The MLDF should seek to contribute to the reduction of unemployment locally through training local people to respond to development needs within the region.

Key issues arising from the baseline review:

How the Minerals Local Development Framework should address employment and education

- Luton has the highest percentage of unemployment with the greater percentage indicated as long-term unemployed;
- The percentage of employment in the mining and quarrying sector is very low (0.23%) in comparison to other industry sectors in Bedfordshire and Luton, however it is equal to the percentage employed in the sector for England and Wales;
- Restoration of sites previously used within the minerals extraction industry offers the opportunity for the provision of recreation and educational facilities.

Key issues arising from the scoping consultation

Are these the key sustainability issues under this topic area? or are there others?

- Local employment must continue to be a major priority for the sub-region and the strategy must support and protect local jobs ;
- Employment is a key sustainability issue, the question is how to encourage society to employ more people rather than machines using fossil fuels;
- Need to recognise employment benefits of nature conservation after uses.

What are the main implications of these issues for minerals and waste planning?

- None suggested

What sustainability objectives do you think should be set for each of these topic areas?

- Assisting local workforces to get to jobs, e.g. from Luton by providing a shuttle service.

15 Human health

Implications for minerals planning and SA in Bedfordshire

Key issues arising from the policy context:

How the Minerals Local Development Framework should address health:

- 15.1 The MDPDs should take account of the needs to conserve green areas for informal and formal recreation, and to site development away from communities, where possible, in order to minimise those affected by air (inc. dust), noise, and vibration.

Relevant objectives for the SA:

- Ensure that the plan contributes where possible to improvements in access to and the quality of health services;
- Limit the impact on air pollution and noise levels in the local area.

Key issues arising from the baseline review:

How the Minerals Local Development Framework should address human health

- 15.2 There are no significant issues identified in relation to human health. The population is generally in good health with a low percentage not in good health. Of the population not in good health a moderate percentage has limiting long-term illness. In Luton this affects a greater percentage of the population of working age compared with other areas of the county.

Key issues arising from the scoping consultation:

- Opportunities to increase recreational activities (i.e. restoration to parkland etc);
- Pollution potential, e.g. brickworks using brick clay cause emissions – link to air quality;
- Less advantaged communities may be less willing to communicate ill health;
- Potential for anxiety as a result of mineral working (e.g. will it become a landfill?);
- Creating new wildlife habitats provides public benefits; including amenity for local people, improved quality of life and enhanced health and well being. Time spent in natural environments is known to increase people's ability to recover from stress, illness and injury. Accessible green space also encourages regular physical activity which provides considerable benefits for public health;
- Health implications of transporting minerals, especially by road and through congested towns. Vehicle routes may have an impact on community severance.

16 Waste

Implications for minerals planning and SA in Bedfordshire

Key issues from the policy context:

How the Minerals Local Development Framework should address waste

The plan should take into account the waste reduction, recovery and recycling targets contained within 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 plan considering efficient resource use and use of recycled / secondary materials.

Relevant objectives for the SA

- Include facilities to cater for the recycling, reuse or recovery of unwanted aggregate.
- Identify and encourage the increased use of recycled waste aggregate in the construction industry;
- Reduce quantities and where unavoidable ensure waste is dealt in a way that contributes to sustainable development;
- Ensure future development is balanced against the capacity of the region to sustainably deal with the waste produced;
- Ensure waste management practices do not compromise quality of environment.

Key issues arising from the baseline review:

How the Minerals Local Development Framework should address waste

- Large amounts of commercial and industrial waste are imported into Bedfordshire;
- Large amounts of municipal waste are imported into Bedfordshire;
- There is an opportunity to minimise recycled and secondary aggregates at source using the Demolition Protocol.

Key issues arising from the scoping consultation:

Are these the key sustainability issues under this topic area? or are there others?

- Need to minimise waste generation within the County (relevant for the WLDF);
- Importation of waste into the county should not continue (relevant for the WLDF);
- Excessive production leading to the generation of waste (relevant for the WLDF);

- The employment impacts of different methods of managing waste should be taken into account. For example, some methods are capital intensive and others are labour intensive and the latter might be more appropriate for areas where there is significant unemployment (relevant for the WLDF);
- Land fill should not be an option for future use of these sites. Alternative waste strategies should be developed. Use of land for landfill is a poor use of a scarce resource. The sorting and reprocessing of waste materials in industrial areas is a more appropriate use of land and should not have detrimental impacts on neighbouring occupiers (relevant for the WLDF);
- Highway safety implications of hazardous waste importation into County (relevant for the WLDF);

What are the main implications of these issues for minerals and waste planning?

- Importation of hazardous waste? Requires appropriate site location. Site issues (relevant for the WLDF);
- No reason why municipal waste should be imported from elsewhere – other local authorities should ‘consume their own smoke’(relevant for the WLDF);
- New site required (Waste Development Plan?) (relevant for the WLDF);
- No new waste site is likely to arise from new mineral production for foreseeable future – existing sites utilised where possible (relevant for the WLDF);

What sustainability objectives do you think should be set for each of these topic areas?

- hazardous waste (relevant to the WLDF):
 - only imported if suitable facility;
 - nationwide proximity issues;
 - reduced as much as possible;
- municipal waste (relevant to the WLDF):
 - is appropriate void available for this waste?;
 - reduce imported waste;
 - what is the lifetime for the site? (is it sustainable?);
- recycled and secondary aggregates:
 - what percentage of demolition waste can be recycled/re-used? (is this measurable?)

17 Transport

Implications for minerals planning and SA in Bedfordshire

Key issues from the policy context:

How the Minerals Local Development Framework should address transport

- 17.1 The plan should consider transport in site selection and aim to reduce the impact of minerals transport on communities. The plan should also aim to facilitate a shift in transport of freight from road to rail and water.

Relevant objectives for the SA

- The MLDF should be conscious of the important role in relation to transport and travel. Must go beyond physical infrastructure considerations and look at the broad transport implications of all priorities, policies and objectives;
- The MLDF should encourage developments including those associated with restoration, that reduce the need to travel by private car and enable the use of sustainable transport options;
- The MLDF should look for opportunities to increase the amount of aggregates that can be transported by rail or inland waterways, rather than road;
- The MLDF should look for opportunities to provide materials to local markets thus reducing the need to travel.

Key issues arising from the baseline review:

How the Minerals Local Development Framework should address transport

- Potential need for mineral resources for major infrastructure improvements and housing developments;
- Identify opportunities for use of railways and waterways for mineral movements;
- Consider the potential for changes in transport patterns, modes and vehicle type depending on the end use of the site;
- Identify opportunities to maximise on site recycling through planning requirements.

Key issues arising from the scoping consultation:

Are these the key sustainability issues under this topic area? or are there others?

- Impact of extraction on local and strategic road network;
- Rail distribution centres?;

-
- Minimising empty running;
 - Reducing mileage through local production and distribution;
 - Highways authorities competing to get trucks off their roads (local versus strategic);
 - Cherry-picking criteria not just economic;
 - Routing is an important issue;
 - Where new houses are built near quarries new local infrastructure must provide for existing movements that may not be residential;
 - Potential to offload onto smaller trucks.

What are the main implications of these issues for minerals and waste planning?

- None suggested

What sustainability objectives do you think should be set for each of these topic areas?

- Limit mineral delivery mileage within the County and Luton;
- Identify opportunities for rail and water freight;
- HGVs on rail with loads rather than loads in wagons;
- All parties agreeing routing (LA, HA, haulier) at County/Unitary level or higher (sub-regional).

18 Assessing the effects of the plan

Introduction

18.1 As identified in Table 2 the purpose of this stage is to provide a means by which the sustainability of the plan can be appraised. This is done through the design of a SA framework. The SA Framework provides a way in which sustainability effects can be described, analysed and compared. It is central to the SA process. An SA Framework consists of objectives which may be expressed in the form of targets, the achievement of which should be measurable using identified indicators. The sustainability objectives are distinct from the objectives of the plan, though they may in some cases overlap with them (ODPM, 2004). The selection of objectives / indicators within the SA framework has come from:

- Objectives which were suggested by the review of other plans, programmes, policies and objectives and the baseline review and topic papers;
- Objectives which were suggested by consultees and are reported in “Sustainability appraisal of the Bedfordshire & Luton Minerals & Waste Development Framework: Report of Scoping Consultation” (September 2005); and
- A review of SA objectives and indicators used in other recently published minerals related SA reports as well as a review of the SA objectives used in RSS14. However, the decision has been made not to directly use the SA objectives from RSS14 in this appraisal. The main reason for this is that they have not been designed specifically to measure the impacts of a minerals plan. Therefore, SA objectives have been chosen that are more relevant to a minerals plan and its likely impacts.

18.2 The SA topics cover a wide range of sustainability issues and it is important to note that at this point in the SA process no topics listed under the SEA regulations have been scoped out i.e. removed from consideration. This may happen as the assessment progresses and the plan becomes more developed, depending on what the plan includes. It is also important to note that these objectives and indicators are a first draft and may be modified as a result of changing baseline information and the SA consultation process.

SA Framework

18.3 The SA framework is shown in

Table 5. Many objectives were suggested through the consultation and document review. Not all of these have been included. Some have been rationalised and others have been modified / left out in order to provide a relatively succinct and practical set of SA objectives.

Table 5: SA framework

SEA Topic	SA Objectives	SA Indicators. Does the plan...
Biodiversity, flora and fauna	<ul style="list-style-type: none"> To protect and where appropriate enhance sites designated for their ecological value. To protect and enhance the wider biodiversity of the County. Maximise potential biodiversity value of existing minerals sites. Ensure restoration to biodiversity end use for mineral sites and contributes to realising local and national BAP targets. 	<ul style="list-style-type: none"> Include actions that directly or indirectly affect Natura 2000 sites, SSSIs or other designated sites? Include actions that will cause habitat loss or fragmentation? Include actions that help to reach targets or compromise targets of BAPs? Include actions to ensure restoration to biodiversity is a priority where appropriate?
Cultural heritage	<ul style="list-style-type: none"> To protect and where appropriate enhance sites of archaeological and cultural interest. To protect archaeological remains. Improve opportunities for education and interpretation of archaeological remains where appropriate. 	<ul style="list-style-type: none"> Include actions that could impact upon remains, sites and monuments valued for their cultural heritage? Include actions to improve education and interpretation of archaeological remains?
Landscape	<ul style="list-style-type: none"> To protect and where appropriate enhance sites designated for their landscape value. Avoid damage to valued features of landscape and avoid incremental and cumulative impacts on sensitive landscapes. Enhance landscape through restoration. 	<ul style="list-style-type: none"> Cause changes to designated areas which threatens the reason for their designation? Cause changes to the landscape / that (in themselves or cumulatively with other proposals) 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? Include actions which will enhance landscape through restoration? Change the amount of accessible greenspace available?
Land use	<ul style="list-style-type: none"> Integrate with development plans to ensure the provision of minerals. 	<ul style="list-style-type: none"> Include actions that ensure the plan contributes to sustainable levels of economic growth by maintaining a supply of minerals that meets the need of the development industry.
Air quality and noise	<ul style="list-style-type: none"> Safeguard air quality and reduce the number of people affected by noise from minerals development. 	<ul style="list-style-type: none"> Change the amount of pollution caused by mineral working? Encourage suitable mitigation measures?
Human health, population and social inclusion	<ul style="list-style-type: none"> Reduce the impact of the minerals industry on people's health and quality of life. 	<ul style="list-style-type: none"> 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 impact on certain communities (either through permitting more reserves affecting

		the same community or by lengthening the time period of permission)?
Economic growth – minerals and material assets	<ul style="list-style-type: none"> Ensure a sustainable contribution is made to the sub regional aggregate apportionment. 	<ul style="list-style-type: none"> Help ensure that a sustainable contribution is made to the sub regional aggregate apportionment?
Water	<ul style="list-style-type: none"> To maintain and enhance water resources and quality. Improve flood management and risk. 	<ul style="list-style-type: none"> Include actions that could increase / reduce the risk of effects on groundwater and surface water quality and quantity? Include measures that could increase / decrease the potential for flooding?
Transport	<ul style="list-style-type: none"> Reduce the mileage travelled by minerals. Reduce nuisance caused to communities by minerals transport. Encourage a modal shift away from road freight. 	<ul style="list-style-type: none"> Cause a change in traffic flows or the nature of traffic (an increase in HGVs for example) that affects communities or areas valued for their environmental importance? Include actions to help to protect important distribution network nodes (e.g. rail facilities). Include actions that would encourage a shift from road freight to rail freight? Include actions that change mileage travelled per tonne?
Waste	<ul style="list-style-type: none"> Reduce waste produced from minerals development. Increase the proportion of secondary and recycled aggregates produced. 	<ul style="list-style-type: none"> Change the amount of waste produced per tonne of mineral? Include actions that change the mix of aggregates produced between primary materials and secondary / recycled materials?
Climate change	<ul style="list-style-type: none"> Reduce the distance that minerals are transported. 	<ul style="list-style-type: none"> Reduce the distance that minerals are transported?
Soils and geology	<ul style="list-style-type: none"> Protect and where appropriate enhance geodiversity. Protect mineral reserves from sterilisation. 	<ul style="list-style-type: none"> Include actions that improve or remove geodiversity? Include actions that help to protect mineral reserves (i.e. through the imposition of Mineral Consultation Areas or Mineral Safeguarding Areas).
Employment and education	<ul style="list-style-type: none"> Support employment in the minerals industry. 	<ul style="list-style-type: none"> Include actions that change the number of people directly employed in the minerals industry?

Questions for consultees

- Do the SEA objectives provide a reasonable framework through which to address the likely significant environmental effects of the plan?

19 Next steps in the appraisal process

Introduction

- 19.1 This section of the Scoping Report outlines how the remaining stages of the SA will be carried out focusing on the methodology of the assessment and how it will be reported.

Appraisal of the plan objectives

- 19.2 Once the plan objectives have been formulated they will be tested against the SEA objectives and indicators in a matrix as suggested in ODPM guidance (2004). The purpose of this is to ensure that they are compatible with the objectives of sustainable development.

Appraisal of policies

- 19.3 The appraisal of policies will be carried out using the matrix suggested in Annex 8 of the ODPM guidance (2004). In order to make the scoring of effects more transparent a colour code will be used. This colour code is shown below.

Green	Option actively encouraged in its current form as it would resolve an existing issue / maximise opportunities.
Blue	Option would have a neutral or an uncertain effect.
Orange	Option would need some changes in order to have a positive effect on issues identified.
Red	The option would exacerbate existing problems and cannot be suitably mitigated. Consider exclusion of option.

(Source: Carroll, B. et al (2002))

- 19.4 The use of the matrix enables an expert judgement led assessment to be made of:
- Whether the effect is neutral, negative or positive in terms of the colour coding system established above;
 - The likely time scale of the effects (Short, medium or long term);
 - The permanence of the effect (Permanent or Temporary);
 - Reversibility of the effect; and
 - The magnitude of the effect using the following:
 - Minor – the change is limited in scale in comparison to the baseline variations.
 - Moderate – the change is noticeable in comparison to the baseline variations.
 - Major – the change is extremely noticeable in comparison to the baseline variations and could have far reaching consequences (major green effects and

major red effects will be considered significant under the terms of the SEA Directive).

Appraisal of potential site options

- 19.5 Site selection and appraisal is an important part of the SA process for minerals. As sites are proposed by developers they will be mapped on the Bedfordshire County Council Geographic Information System (GIS). Environmental constraints maps are also currently being prepared. Once sites are identified a number of exclusionary criteria can be used in order to exclude sites which do not meet minimum criteria. Such exclusionary criteria could include:
- The site is within a nationally designated area for biodiversity and would cause permanent loss or irreparable damage to designated sites; and
 - The site is entirely within a designated area and would cause long term permanent loss or irreparable damage to designated sites of international importance (this includes landscape designations and other historic conservation designations).
- 19.6 By overlaying the two sets of maps, a sieve mapping process can be undertaken which will enable the most sustainable sites to be chosen for further assessment. A number of layers will be produced featuring differing levels of constraints.
- 19.7 Site options will be assessed using a simplified version of the SA framework which focuses more on the direct effects a site can have on environmental and sustainability criteria. This simplified version of the SA framework is shown in Table 6. This is a modified version of government guidance on the environmental appraisal of aggregates provision (Arup, 2002).

Table 6: Appraisal of site options

Topic	Objective	Criteria
Biodiversity and earth science	Create habitat and improved site biodiversity. Protect designated (e.g. SSSIs) and non-designated sites of importance.	To what extent are land based resource blocks constrained by designated areas e.g. National Nature Reserves, SSSIs, and SACs etc.? To what extent does the proposed site threaten the qualities of designated areas?
Archaeology and cultural heritage	Protect designated and non-designated sites of importance.	To what extent are land based resource blocks constrained by designated sites or Conservation Areas? To what extent does the proposed site threaten the qualities of designated areas?
Landscape	Protect designated and non-designated areas of landscape, or other amenity value. Consider alternatives to mineral extraction in resource areas of high landscape value. Maintain and enhance access and enjoyment.	To what extent are land based resource blocks constrained by designated areas e.g. National Parks etc.? To what extent does the proposed site threaten the qualities of designated areas?
Land take	Minimise area of land take per tonne of aggregate produced.	What is the likely area of land take per tonne of aggregate?

Topic	Objective	Criteria
	Assess and evaluate level of restorability.	To what extent do land based resource blocks conflict with areas of best and most versatile agricultural land?
Human health and amenity	Maintain or enhance quality of life for residents. Consider proximity of mineral workings to settlements. Minimise nuisance from minerals workings and HGV movements.	To what extent do land based resource blocks conflict with current or planned residential areas? What level of nuisance or cumulative effect on quality of life or human health is likely to occur as a result of the proposed site?
Transportation	Promote the proximity principle in the supply of aggregates to minimise lorry movements and mileage required. Encourage best use of available transport mode options for aggregate supply. Protect distribution network nodes, especially those for more preferred modes of transport (wharves, railheads, etc).	What is the distance the aggregate is likely to travel to reach the consumer? Which mode of transport (rail, road or water) is most likely to be used in the transportation of the aggregate? Is the site near to the strategic highway network?
Extent of remaining landbank	Promote practices which protect remaining proven landbank and conserve primary aggregate resources. Protect sites used for mineral working. Prevention of resource sterilisation.	To what extent does the proposed site minimise impacts on existing landbanks? i.e. contribute to landbanks through reserves.
Conservation and protection of resources	Minimise the use of resources, such as water, energy etc., in the production of aggregates. Minimise the impact upon resources, such as water bodies, through the provision of aggregates.	To what extent are resources used or impacted upon for the extraction of the aggregate?
Waste management	Minimise the amount of waste produced per tonne of aggregate.	How much waste is likely to be produced per tonne of aggregate?
Other planning considerations	Avoid permitting workings, especially sand and gravel extraction, within the buffer area around airports as suggested by the CAA Guidance CAP680 (13km radius). Consider all other planning constraints in an objective and unprejudiced manner.	To what extent are resource blocks affected by other constraints e.g. CAA Guidance CAP680?

- 19.8 A simplified matrix will also be designed to record the results of the site appraisal. This will use the same colour code as for policy appraisal.

Proposed format of Sustainability Appraisal Report

A preliminary list of contents for the SA Report has been drawn up based upon the issues identified during the scoping exercise and with regard to the requirements of The Planning and Compulsory Purchase Act (2004) and The Environmental Assessment of Plans and Programmes Regulations, 2004. The contents list is presented in Table 7.

Table 7: Anticipated Contents of the SA Report

Section of SA Report	Contents
Summary and outcomes	Non-technical summary What difference has the process made? How to comment on the report
Appraisal Methodology	Approach adopted for the SA When the SA was carried out Who carried out the SA? Who was consulted, when and how?
Background	Purpose of the SA and the SA Report Plan objectives and outline of contents Compliance with the SEA Directive/ Regulations
Sustainability objectives, baseline and context	Links to other strategies, plans and programmes and sustainability objectives Description of the baseline characteristics and the predicted future baseline Difficulties and limitation of baseline data The SA Framework, including objectives, targets and indicators Main social, environmental and economic issues and problems identified
Plan issues and options	Main strategic options considered and how they were identified Comparison of the social, environmental and economic effects of the options How social, environmental and economic issues were considered in choosing the preferred options Other options considered, and why these were rejected Proposed mitigation measures
Plan Policies	Significant social, environmental and economic effects of the preferred policies How social, environmental and economic problems were considered in developing the policies Proposed mitigation measures Uncertainties and risks
Implementation	Links to other tiers of plans and programmes and the project level considerations (e.g. Environmental Impact Assessment, and/ or design guidance, etc) Proposals for monitoring

Questions for consultees

- Are there additional methodologies that could be used within the SEA?
- How would you or your organisation like more to be involved in the rest of the SEA process?

References

Arup (2002): *Good practice guidance on the Environmental Appraisal of the Provision of Aggregates*. Published by the ODPM.

Carroll, B. et al (2002): *Sustainability Threshold Assessment: An approach to inform decision-making*. Summary Guidance for Agency staff). Published by the Environment Agency.

ODPM (2004): *Sustainability Appraisal of Regional Spatial Strategies and Local Development Frameworks Consultation Paper*. Published by the ODPM.

Appendix 1: Organisations consulted at the scoping stage

Stakeholders

A list of key stakeholders was drawn up for the purposes of the scoping consultation, all of whom were invited to the workshop. The list consisted of:

- representatives from various departments of Bedfordshire County Council;
- representatives from various departments of Luton Borough Council;
- representatives from Bedford Borough Council, Mid-Bedfordshire District Council and South Bedfordshire District Council;
- representatives from the following statutory and other public agencies
 - English Heritage
 - English Nature
 - The Environment Agency
 - Government Office for the East of England
 - The Highways Agency
 - East of England Development Agency
 - East of England Regional Assembly
 - The Countryside Agency
 - Bedfordshire Heartlands Primary Care Trust;
- the chairs of the five Local Strategic Partnerships in Bedfordshire;
- representatives of the British Aggregates Association and Quarry Products Association; and
- representatives of the following non-governmental organisations
 - Bedfordshire & Luton Friends of the Earth
 - Council for the Protection of Rural England
 - Bedfordshire Wildlife Trust
 - Bedfordshire Rural Communities Charity
 - Royal Society for the Protection of Birds.

Scoping workshop

The following people attended the scoping workshop on Tuesday 13 September 2005:

- Colin Bambury, Highways Agency;
- Sarah Barker, Luton Borough Council;

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- Simon Briggs, Arnold White Estates Ltd;
 - Michael Brookes, English Nature;
 - Andrew Brown, Bedfordshire County Council;
 - Cllr Tony Brown, Mid Beds District Council;
 - Elizabeth Burt, Luton Borough Council;
 - John Comont, Bedfordshire County Council;
 - Alice Davies, Royal Society for the Protection of Birds;
 - Tim Deal, Lafarge Aggregates;
 - Tim Earthy, Bedfordshire County Council;
 - Joanna Faul, Bedfordshire County Council;
 - Adam Ireland, Environment Agency;
 - Melanie MacLeod, Bedfordshire County Council;
 - Leslie-Ann Mather, Bedfordshire County Council;
 - Charlotte Morbey, Bedfordshire County Council;
 - Stephen Morris, Luton Borough Council;
 - Martin Tidy, Bedford Borough Council;
 - Martin Towlson, Council for the Protection of Rural England;
 - Cllr Tricia Turner, Mid Beds District Council;
 - Cllr Tom Wootton, Bedfordshire County Council; and
 - Nick Horsley, WBB Minerals (representative of the Quarry Products Association).

Questionnaires

6 completed questionnaires were received, from representatives of:

- East of England Regional Assembly;
- Countryside Agency;
- RSPB;
- Bedfordshire Rural Communities Charity;
- Bedford Partnership Board; and
- British Aggregates Association.

Appendix 2 Topic papers

(Please see separate document for the full set of Topic Papers)