

**Bedfordshire County Council and Luton  
Borough Council Minerals Development  
Framework**

**Sustainability Appraisal of the Issues and  
Options**

**Appendix 1: Issues Appraisal Tables**

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Issue 1: Time period of plan coverage	Comparison of options
SA Questions. Does the plan...	The comparison of the options illustrates the relative merits of the individual options and at this stage does not infer that any of the options will be chosen to be the final preferred option.
<p>Issues raised during consultation:</p> <p><b>2018</b>  Shorter end date avoids having to identify sites prematurely.  Support end date 2018 as this gives greater accuracy to demand levels.  2018 should be adopted as figures of requirement may change in the interim.  Our view is that the policy should end in 2018 as this is nearer the government policy of 2016 (for aggregates provision) and things would have changed significantly by that date.</p> <p><b>2021</b>  2021 is consistent with the East of England Plan and PPS12, gives more of a strategic view and because it would give an opportunity to plan for social, economic and environmental impacts. Careful phasing of site allocations is important with longer timescales. The plan monitor and manage approach will allow adjustments to be made to the DPD in any event. It is assumed that adjoining authorities will also wish to align their Minerals DPDs with the RSS and thereby achieve a regional consistency to mutual benefit.  It is important from a sustainability viewpoint that an adequate supply of local materials is available to satisfy the needs of the Milton Keynes and South Midlands Growth Area. In the light of this the end date for the minerals strategy should be 2021 or even later, perhaps up to 2031 to satisfy the second 'wave' of growth post 2021.  Other issues are that the 10-year Plan period is a minimum, rather than a maximum requirement and it would allow for potential slippage in the MDD programme, thereby ensuring a Plan period of "at least 10 years", from the date of adoption.  The concern raised by the County of the unreliability of minerals demand forecasts beyond 2016 can be resolved through an interim review.</p> <p><b>Other dates (2016)</b>  The QPA considers that an end date of 2016 should be used, as this corresponds to the Government's existing forecasts for aggregates provision.</p> <p><b>Other dates (2031)</b>  2031 would satisfy the second 'wave' of growth post 2021 of the MKSM growth area.</p>	
<p><b>Assumptions:</b></p> <ul style="list-style-type: none"> <li>• There are no spatial data associated with these alternative time periods.</li> <li>• The assessment assumes that a greater number of sites will be required for the longer time periods but the numbers of sites likely to be needed for each alternative is not known.</li> <li>• The assessment is unable to predict the magnitude and significance of potential impacts and therefore, gives only a general indication of the relative performance of each alternative.</li> </ul>	
<p>Biodiversity</p> <ul style="list-style-type: none"> <li>• Include actions that directly or indirectly affect Natura 2000 sites, SSSIs or other designated sites?</li> <li>• Include actions that will cause habitat loss or fragmentation?</li> <li>• Include actions that help to reach targets or</li> </ul>	<p>The Bedfordshire and Luton BAP, Rebuilding Biodiversity has a timescale extending until 2010 and is prepared for a 10 year timeframe. This may sit better with the timeframe proposed for option B in order to facilitate the planning and coordination of biodiversity initiatives.</p> <p>The 2021 timescale ties in with the East of England Plan - East of England Priority Habitat Targets which are prepared on a ten year cycle which is similar to the Local BAP timescale. This may facilitate initiatives such as site restoration planning for biodiversity</p> <p>However, the difference between the two options depends on the mix of sites developed (this is currently unknown) and careful phasing</p>

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<b>SA Questions. Does the plan...</b>	<b>The comparison of the options illustrates the relative merits of the individual options and at this stage does not infer that any of the options will be chosen to be the final preferred option.</b>
<ul style="list-style-type: none"> <li>compromise targets of BAPs?</li> <li>Include actions to ensure restoration to biodiversity is a priority where appropriate?</li> </ul>	of site impacts will be more important with a longer timescale.
Archaeology and cultural heritage	
<ul style="list-style-type: none"> <li>Include actions that could impact upon remains, sites and monuments valued for their cultural heritage?</li> <li>Include actions to improve education and interpretation of archaeological remains?</li> </ul>	The majority of the sites investigated are in Areas of Archaeological Significance. The difference between the two options depends on the mix of sites developed and this is currently unknown.
Landscape	
<ul style="list-style-type: none"> <li>Cause changes to designated areas which threatens the reason for their designation?</li> <li>Cause changes to the landscape / that (in themselves or cumulatively with other proposals) are completely at variance with the character of the area?</li> <li>Change the number of people that are affected by the visual impact of minerals development?</li> <li>Include actions which will enhance landscape through restoration?</li> <li>Change the amount of accessible greenspace available?</li> </ul>	Many of the sites are in character areas that are sensitive to mineral development. The difference between the two options depends on the mix of sites developed and the location of sensitive receptors in relation to these sites. This is currently unknown. If either of the options include site MD24 Sundon Quarry, care must be taken to ensure that the development is in the public interest, and would have no detrimental effect on the special character of the Chilterns AONB.
Land use	
<ul style="list-style-type: none"> <li>To what extent does the option help achieve the objectives of the wider development framework (i.e. contribution to amenity, landscape, biodiversity objectives through restoration).</li> </ul>	Option B provides the opportunity to plan more effectively for the long term growth planned in the Milton Keynes and South Midlands Growth Area and support the provision of a clear, agreed sub-regional strategy for the period 2001-2021 for this growth area.  Option A is nearer the government policy of 2016 (for aggregates provision) and there is the potential for significant changed by this date.
Air quality and noise	

Issue 1: Time period of plan coverage	Comparison of options
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<ul style="list-style-type: none"> <li>Change the amount of pollution caused by mineral working?</li> <li>Encourage suitable mitigation measures?</li> </ul>	Many of the sites bring mineral development closer to populations and give rise to secondary issues regarding transport. The difference between the two options depends on the mix of sites developed and the location of sensitive receptors in relation to these sites. This is currently unknown.
Human health, population and social inclusion	
<ul style="list-style-type: none"> <li>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?</li> <li>Cause a cumulative impact on certain communities (either through permitting more reserves affecting the same community or by lengthening the time period of permission)?</li> </ul>	Many of the sites bring mineral development closer to populations and give rise to secondary issues regarding transport. The difference between the two options depends on the mix of sites developed and the location of sensitive receptors in relation to these sites. This is currently unknown.
Economic growth – minerals and material assets	
<ul style="list-style-type: none"> <li>Help ensure that a sustainable contribution is made to the sub regional aggregate apportionment?</li> </ul>	<p>Option B provides the opportunity to plan more effectively for the long term growth planned in the Milton Keynes and South Midlands Growth Area and support the provision of a clear, agreed sub-regional strategy for the period 2001-2021 for this growth area.</p> <p>Option A is nearer the government policy of 2016 (for aggregates provision) and there is the potential for significant changed by this date.</p>
Conservation and protection of water resources	
<ul style="list-style-type: none"> <li>Include actions that could increase / reduce the risk of effects on groundwater and surface water quality and quantity?</li> <li>Include measures that could increase / decrease the potential for flooding?</li> </ul>	Many of the sites bring mineral development closer to flood zones and aquifers. The difference between the two options depends on the mix of sites developed and the location of sensitive receptors in relation to these sites. This is currently unknown.
Transport	
<ul style="list-style-type: none"> <li>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?</li> <li>Include actions to help to protect important distribution network nodes (e.g. rail facilities).</li> </ul>	Many of the sites bring mineral development closer to populations and give rise to issues regarding transport. The difference between the two options depends on the mix of sites developed and the location of sensitive receptors in relation to these sites. This is currently unknown.

Issue 1: Time period of plan coverage	Comparison of options
<b>SA Questions. Does the plan...</b>	<b>The comparison of the options illustrates the relative merits of the individual options and at this stage does not infer that any of the options will be chosen to be the final preferred option.</b>
<ul style="list-style-type: none"> <li>• Include actions that would encourage a shift from road freight to rail freight?</li> <li>• Include actions that change mileage travelled per tonne?</li> </ul>	
Waste	
<ul style="list-style-type: none"> <li>• Change the amount of waste produced per tonne of mineral?</li> <li>• Include actions that change the mix of aggregates produced between primary materials and secondary / recycled materials?</li> </ul>	This issue is not significant as the waste and the mineral development frameworks will have the same end date.
Climate change	
<ul style="list-style-type: none"> <li>• Reduce the distance that minerals are transported?</li> </ul>	Many of the sites bring mineral development closer to populations and give rise to issues regarding transport. The difference between the two options in terms of miles transported depends on the mix of sites developed and the location of sensitive receptors in relation to these sites. This is currently unknown.
Soils and geology	
<ul style="list-style-type: none"> <li>• Include actions that improve or remove geodiversity?</li> <li>• Include actions that help to protect mineral reserves (i.e. through the imposition of Mineral Consultation Areas or Mineral Safeguarding Areas).</li> </ul>	MCAs will be set within the plan regardless of the plan's duration. The difference between the two options depends on the mix of sites developed and the location of sensitive receptors in relation to these sites. This is currently unknown.
Employment and economy	
<ul style="list-style-type: none"> <li>• Include actions that change the number of people directly employed in the minerals industry?</li> </ul>	Option B gives a greater degree of certainty to minerals companies, perhaps ensuring less volatility to local employment in the sector.
<b>Summary:</b> On balance Option B would appear to perform better against the sustainability criteria than Option A. However, this is in the absence of any site specific information. Therefore, it is recommended that any decision made regarding the timescale of plan coverage is undertaken with a consideration of the potential number and location of sites to be developed within the plan period.	

## Issue 2: Aims and Objectives

## Comparison of aims and commentary on objectives

### SA Questions. Does the plan...

The comparison of the options illustrates the relative merits of the individual options and at this stage does not infer that any of the options will be chosen to be the final preferred option.

#### Issues raised during consultation:

- PPS9 the Core Strategy should present a spatial vision and strategic objectives, with an accompanying core policy, for the conservation, restoration and enhancement of important BAP habitats and species.
- Advocate that reference to the protection of the environment and the contribution that minerals development can make to local and national biodiversity targets through restoration led development be added to the wording of the first aim.
- The objectives of the framework could be split into those of common relevance and those that are specific to individual mineral types, some of which, as in the case of industrial sand, may be site specific.
- An objective of the framework should be to make provision for the steady and adequate supply of the identified nationally scarce industrial sands for the framework period.
- Third bullet point: the aims and objectives should also take into account the emerging East of England Plan.
- Specific reference should be made to protecting the residential amenity of residents currently the aims and objectives sections merely “minimise adverse environmental impacts”.
- Under ‘objectives’, second bullet point, this objective ought to be more specific, it makes a rather bland and meaningless statement as it stands and adds little to the formulation of the framework. Could be revised to “To make appropriate provisions for the supply of minerals in Bedfordshire and Luton in accordance with national and regional policy, whilst protecting and enhancing the environment e.g. through sympathetic restoration.’
- Mineral workings can also expose important geological faces, and for this reason recommend that geodiversity is also added the last objective, thus: ‘To ensure the appropriate restoration and after-use of mineral workings, taking particular account of biodiversity, geodiversity and public amenity needs.’
- The first of the two alternative aims is supported as this makes explicit reference to regional policy and the Sustainable Communities growth agenda, which are both extremely relevant for the future of the Marston Vale.
- In relation to objectives, an additional objective is proposed: To seek the end to minerals extraction within the Marston Vale. This is considered to be appropriate as it is apparent from emerging regional policy and approved sub-regional policy that there is a conflict between the identification of the northern Marston Vale as a Growth Area and focus for new development, and the continued extraction of minerals (and subsequent use of such sites for landfill). The Milton Keynes – South Midlands Sub-Regional Strategy refers in paragraph 75 to “resolving land use and environmental conflicts which may have an impact on the growth area strategy”.
- The aims suggested do not reflect strongly enough the importance of the environment, pre and post extraction, and this should be a central theme. This is particularly the case with the first of the aims and whilst we recognise that there is more reflection on the environment in option 2, the wording is such that there could be a net negative impact to the environment particularly with the use of words such as ‘as far as possible’ and ‘where possible’. We would suggest that the core strategy should feature an amalgamation of the two aims for example reading: ‘To make appropriate provisions for the supply of minerals in Bedfordshire and Luton in accordance with national and regional policy in the most sustainable manner, whilst protecting and enhancing the environment.’
- The aim of the Core Strategy document should directly flow from Policy ENV15 in the draft East of England Plan and the relevant priorities for Bedfordshire & Luton identified in Part B of the Milton Keynes & South Midlands Sub-Regional Strategy which include resolving land use and environment conflicts which may have an impact on the growth area strategy. We therefore support the first alternative aim set out at paragraph 4.19 of the Issues Paper.
- Each of the objectives should include identify and safeguard appropriate landbanks, to make appropriate provisions and safeguard, where necessary, for the working of other mineral types; to specify and safeguard preferred sites.
- We would therefore suggest an additional bullet point for objectives: • To resolve land use and environmental conflicts likely to impact on the growth area Strategy.

**Issue 2: Aims and Objectives**

**Comparison of aims and commentary on objectives**

**SA Questions. Does the plan...**

**The comparison of the options illustrates the relative merits of the individual options and at this stage does not infer that any of the options will be chosen to be the final preferred option.**

- The Aims and Objectives of the consultation document fail to recognise the pressing need to accommodate the growth agenda.
- The future role of mineral sites, former mineral sites and potential mineral sites and their relationship with and contribution to the Communities Plan and growth agenda should be referred to.
- The final bullet-point should be much more robust in seeking to achieve net gains in biodiversity, informal public open space/access land, rights-of-way and other public amenities compared with that which subsisted before the commencement of working.
- It is considered there should be two additional aims and objectives for the framework: a) To promote the reuse and recycling of building and associated materials to minimise the pressure on new mineral supply sources. b) To regard and treat redundant buildings, other built forms and their associated materials as mineral sources and use them prudently accordingly.
- The aims should be altered to reflect the importance of local plans at the parish level. Many parishes are currently developing parish plans which could provide a useful guide to local feelings and ideas about mineral development. The current aims mention only 'national and regional policy'.
- Second version of the aim brings out the importance of maintaining a good environment more concretely than the version which relies heavily on the concept of sustainability which is more open to different interpretations.
- The subject of restoration and after use of mineral workings needs to be addressed in a more positive manner.

Biodiversity	
<ul style="list-style-type: none"> <li>• Include actions that directly or indirectly affect Natura 2000 sites, SSSIs or other designated sites?</li> <li>• Include actions that will cause habitat loss or fragmentation?</li> <li>• Include actions that help to reach targets or compromise targets of BAPs?</li> <li>• Include actions to ensure restoration to biodiversity is a priority where appropriate?</li> </ul>	<p><u>Comments on Aims:</u>                      Aim A makes no direct reference to biodiversity and only references sustainability.                      Aim B does not make any direct reference to biodiversity but refers to the environment specifically. However, comments made are considered weak in relation to protection and enhancement of biodiversity. This does not reflect the spirit of PPS9.</p> <p><u>Comments on Objectives:</u>                      The objectives discuss "minimising adverse environmental impacts" and "making use of opportunities to improve the environment and make other sustainability gains". The references to improving the environment are more in the spirit of PPS9 and strengthen both the alternative aims. However, in order to fully adhere to PPS9 the plan should include policies on that take a strategic approach to the conservation, enhancement and restoration of biodiversity and geology, and recognise the contributions that sites, areas and features, both individually and in combination, make to conserving these resources. It may be useful in the section dealing with biodiversity to present strategic biodiversity objectives that can set the framework for this policy. This should deal positively in particular with restoration and outline how mineral sites can contribute to ecological networks.</p>
Archaeology and cultural heritage	
<ul style="list-style-type: none"> <li>• Include actions that could impact upon remains, sites and monuments valued for their cultural heritage?</li> <li>• Include actions to improve education and interpretation of archaeological remains?</li> </ul>	<p><u>Comments on Aims:</u>                      Aim A makes no direct reference to archaeology and cultural heritage and only references sustainability.                      Aim B does not make any direct reference to archaeology and cultural heritage but refers to the environment specifically. However, comments made are considered weak in relation to protection and enhancement of archaeology and cultural heritage.</p> <p><u>Comments on Objectives:</u></p>

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SA Questions. Does the plan...	The comparison of the options illustrates the relative merits of the individual options and at this stage does not infer that any of the options will be chosen to be the final preferred option.
	The objectives discuss “minimising adverse environmental impacts” and “making use of opportunities to improve the environment and make other sustainability gains”. The references to improving the environment are more in the spirit of environmental protection and strengthen both the alternative aims.
Landscape	
<ul style="list-style-type: none"> <li>• Cause changes to designated areas which threatens the reason for their designation?</li> <li>• Cause changes to the landscape / that (in themselves or cumulatively with other proposals) are completely at variance with the character of the area?</li> <li>• Change the number of people that are affected by the visual impact of minerals development?</li> <li>• Include actions which will enhance landscape through restoration?</li> <li>• Change the amount of accessible greenspace available?</li> </ul>	<p><u>Comments on Aims:</u>            Aim A makes no direct reference to landscape and only references sustainability.            Aim B does not make any direct reference to landscape but refers to the environment specifically. However, comments made are considered weak in relation to protection and enhancement of landscape and is not consistent with the protection and enhancement of landscape character.</p> <p><u>Comments on Objectives:</u>            The objectives discuss “minimising adverse environmental impacts” and “making use of opportunities to improve the environment and make other sustainability gains”. The references to improving the environment are more in the spirit of environmental protection and strengthen both the alternative aims. A landscape character assessment process has been ongoing in the County for a number of years and this process has outlined development guidelines for each character type in the county, many of which are currently affected by mineral development. In addition to the aims of the plan overall, it would be useful if the plan makes a commitment that minerals development should adhere as far as possible to landscape character guidelines and that restoration in particular of sites should be integrated with the landscape character assessment process.</p>
Land use	
<ul style="list-style-type: none"> <li>• To what extent does the option help achieve the objectives of the wider development framework (i.e. contribution to amenity, landscape, biodiversity objectives through restoration).</li> </ul>	<p><u>Comments on Aims:</u>            Aim A makes reference to the sustainable communities’ growth agenda and directs planning policy towards ensuring that appropriate levels of minerals are available to support the growth agenda.            Aim B takes a more conservative approach whilst still supplying minerals in accordance with local and regional growth.</p> <p><u>Comments on Objectives:</u>            The objectives set the framework for the plan to make appropriate provisions for material by setting aggregate landbanks and making appropriate provision for other material.</p>
Air quality and noise	
<ul style="list-style-type: none"> <li>• Change the amount of pollution caused by mineral working?</li> <li>• Encourage suitable mitigation measures?</li> </ul>	<p><u>Comments on Aims:</u>            Aim A makes no direct reference to air quality and noise and only references sustainability.            Aim B does not make any direct reference to air quality and noise but refers to the environment specifically.</p> <p><u>Comments on Objectives:</u>            The objectives discuss “minimising adverse environmental impacts” and “making use of opportunities to improve the environment and</p>

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<b>SA Questions. Does the plan...</b>	<b>The comparison of the options illustrates the relative merits of the individual options and at this stage does not infer that any of the options will be chosen to be the final preferred option.</b>
	make other sustainability gains". The references to improving the environment are more in the spirit of environmental protection and strengthen both the alternative aims.
Human health, population and social inclusion	
<ul style="list-style-type: none"> <li>• 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?</li> <li>• Cause a cumulative impact on certain communities (either through permitting more reserves affecting the same community or by lengthening the time period of permission)?</li> </ul>	<p><u>Comments on Aims:</u> Neither of the aims refer directly to any social aims, for example the health of the population or issues related to social inclusion. However, it could be argued that Aim A makes an indirect reference with the use of the phrase development in the most "sustainable manner".</p> <p><u>Comments on Objectives:</u> The objectives do not refer directly to any social aims, for example the health of the population or issues related to social inclusion. This omission should be rectified.</p>
Economic growth – minerals and material assets	
<ul style="list-style-type: none"> <li>• Help ensure that a sustainable contribution is made to the sub regional aggregate apportionment?</li> </ul>	<p><u>Comments on Aims:</u> Aim A makes reference to the sustainable communities' growth agenda and directs planning policy towards ensuring that appropriate levels of minerals are available to support the growth agenda which are reflected in the sub regional apportionment. Aim B takes a more conservative approach whilst still supplying minerals in accordance with local and regional growth.</p> <p><u>Comments on Objectives</u> The objectives set the framework for the plan to make appropriate provisions for material by setting appropriate aggregate landbanks and making appropriate provision for other material. The issues and options process will test options that meet the sub regional apportionment and some that don't in order to test what the most sustainable option is.</p>
Conservation and protection of water resources	
<ul style="list-style-type: none"> <li>• Include actions that could increase / reduce the risk of effects on groundwater and surface water quality and quantity?</li> <li>• Include measures that could increase / decrease the potential for flooding?</li> </ul>	<p><u>Comments on Aims:</u> Aim A makes no direct reference to protection of the water environment and only references sustainability. Aim B does not make any direct reference to protection of the water environment but refers to the environment specifically. However, comments made are considered weak in relation to protection of the water environment protection and is not consistent with water quality objectives and appropriate planning policy.</p> <p><u>Comments on Objectives:</u> The objectives discuss "minimising adverse environmental impacts" and "making use of opportunities to improve the environment and make other sustainability gains". The references to improving the environment are more in the spirit of environmental protection and strengthen both the alternative aims.</p>

Issue 2: Aims and Objectives	Comparison of aims and commentary on objectives
SA Questions. Does the plan...	The comparison of the options illustrates the relative merits of the individual options and at this stage does not infer that any of the options will be chosen to be the final preferred option.
Transport	
<ul style="list-style-type: none"> <li>• 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?</li> <li>• Include actions to help to protect important distribution network nodes (e.g. rail facilities).</li> <li>• Include actions that would encourage a shift from road freight to rail freight?</li> <li>• Include actions that change mileage travelled per tonne?</li> </ul>	<p><u>Comments on Aims:</u> Neither of the aims refers directly to any transport related issues. However, it could be argued that Aim A makes an indirect reference with the use of the phrase development in the most “sustainable manner”.</p> <p><u>Comments on Objectives:</u> Transport is a key impact of mineral development and the objectives recognise this.</p>
Waste	
<ul style="list-style-type: none"> <li>• Change the amount of waste produced per tonne of mineral?</li> <li>• Include actions that change the mix of aggregates produced between primary materials and secondary / recycled materials?</li> </ul>	<p><u>Comments on Aims:</u> Neither of the aims refers directly to any waste/recycling related issues. However, it could be argued that Aim A makes an indirect reference with the use of the phrase development in the most “sustainable manner”.</p> <p><u>Comments on Objectives:</u> Aggregate recycling is not referred to in any of the objectives. Objective 4 on conserving mineral resources could be amended to include encouraging the use of recycled / secondary materials.</p>
Climate change	
<ul style="list-style-type: none"> <li>• Reduce the distance that minerals are transported?</li> </ul>	<p><u>Comments on Aims:</u> Neither of the aims refers directly to any transport related issues. However, it could be argued that Aim A makes an indirect reference with the use of the phrase development in the most “sustainable manner”.</p> <p><u>Comments on Objectives:</u> Transport is a key impact of mineral development and the objectives recognise this. However, the objectives refer to the environmental impact of transport and not specifically to reducing the distance travelled. This would be a useful addition, recognising the important of climate change.</p>
Soils and geology	
<ul style="list-style-type: none"> <li>• Include actions that improve or remove geodiversity?</li> <li>• Include actions that help to protect mineral</li> </ul>	<p><u>Comments on Aims:</u> Aim A makes no direct reference to soils and geology. However, the reference to sustainability could be extended to include the protection of mineral reserves.</p>

Issue 2: Aims and Objectives	Comparison of aims and commentary on objectives
<b>SA Questions. Does the plan...</b>	<b>The comparison of the options illustrates the relative merits of the individual options and at this stage does not infer that any of the options will be chosen to be the final preferred option.</b>
reserves (i.e. through the imposition of Mineral Consultation Areas or Mineral Safeguarding Areas).	<p>Aim B does not make any direct reference to soils and geology but refers to the environment specifically. However, it makes no reference to the protection of mineral reserves.</p> <p><u>Comments on Objectives:</u> The objectives discuss “minimising adverse environmental impacts” and “making use of opportunities to improve the environment and make other sustainability gains”. The references to improving the environment are more in the spirit of environmental protection and strengthen both the alternative aims.</p>
Employment and economy	
<ul style="list-style-type: none"> <li>• Include actions that change the number of people directly employed in the minerals industry?</li> </ul>	<p><u>Comments on Aims:</u> Neither of the aims refer directly to any social or economic aims. However, it could be argued that Aim A makes an indirect reference with the use of the phrase development in the most “sustainable manner”.</p> <p><u>Comments on Objectives:</u> No direct references are made to employment but the plan does aim to make appropriate provision for material.</p>
<p>Summary: It may be useful to combine the two aims, including recognition that the delivery of the environmental element of sustainability needs to be through protection and enhancement. Useful additions to the objectives include recognition of the social impacts of mineral development, an objective to reduce the distance travelled in recognition of the importance of climate change and recognition of the importance of encouraging use of recycled/secondary materials. It is felt that in individual subject chapters in the Core Strategy a fuller framework could be given in particular to the biodiversity and landscape agendas, perhaps including more specific strategic objectives.</p>	

Issue 4: Landbanks for aggregates and industrial sands	Comparison of options
SA Questions. Does the plan...	The comparison of the options illustrates the relative merits of the individual options and at this stage does not infer that any of the options will be chosen to be the final preferred option.
<p>Issues raised during consultation:</p> <p>There was a mix of views expressed during the public consultation. Some people feeling that the lowest figure was appropriate because it would limit the short term effects on the environment from site allocations. Other felt that the government's apportionment figure was important especially due to the growth n development expected from the growth areas. At the stakeholder event, the following opinions were expressed by the group:</p> <ul style="list-style-type: none"> <li>• The planning system should aim to meet the sub regional apportionment figure.</li> <li>• More recycling needs to be encouraged in all cases.</li> <li>• A lower figure would have knock on sustainability effects for other parts of the region.</li> <li>• The split of the landbank needs to be based on available evidence and the likely market demand in the future.</li> <li>• It was felt that current evidence supports a 60/40 split between concreting aggregate and building sands.</li> <li>• 50/50 split would lead to an under supply of concreting aggregates which are less predictable than building sands and more likely to under yield.</li> <li>• 70/30 split would lead to an oversupply, meaning sites would take longer to work and communities would be exposed to negative effects for longer.</li> </ul>	
<p>Assumptions: In total 11 options have been selected for testing through the sustainability appraisal (this equals the 10 options included in the issues and options paper plus the option of not splitting the landbank which has been included in this appraisal for completeness. These options are very complex. However, the two important factors influencing the outcome of the appraisal are:</p> <ul style="list-style-type: none"> <li>• How much concreting aggregate will be provided through each option (specifically through quaternary sand and gravels); and</li> <li>• Will the option assist Bedfordshire County Council and Luton Borough Council meet their sub-regional apportionment?</li> </ul>	
Biodiversity and earth science	
<ul style="list-style-type: none"> <li>• Include actions that directly or indirectly affect Natura 2000 sites, SSSIs or other designated sites?</li> <li>• Include actions that will cause habitat loss or fragmentation?</li> <li>• Include actions that help to reach targets or compromise targets of BAPs?</li> <li>• Include actions to ensure restoration to biodiversity is a priority where appropriate?</li> </ul>	<p>A single landbank would mean that there is no need to allocate sites for mineral development thus avoiding impacts on species and habitats in Bedfordshire. However, it may lead an under supply of concreting materials which may lead to substitution from other areas (which may be more sensitive in terms of ecological designations).</p> <p>Option A reduces the overall need for material if sales are used as a basis for the landbank rather than the sub regional apportionment (which is higher), thus minimising impacts on species and habitats in Bedfordshire. However, the fact that the apportionment has not been met may lead in future years to a shortage of concreting sands and gravels (especially with rates of development in MKSM area likely to increase). This may lead in future years to substitution from other areas with the sustainability effects as outlined above.</p> <p>Option B1 - 50:50 split minimises the need for concreting material thus avoiding impacts on species and habitats in Bedfordshire. This may lead to a shortage of concreting sands and gravels leading to substitution from other areas with the sustainability effects as outlined above.</p> <p>Option B2 – 70:30 split and Option B3 – 71:29 split have almost the largest total requirement for concreting material, almost all of which will come from quaternary deposits. This will have effects on those sites in the river valleys many of which are sensitive ecologically. However, as already discussed in the assessment of other options, this might give rise to opportunities for strategic habitat creation.</p>

**Issue 4: Landbanks for aggregates and industrial sands**

**Comparison of options**

**SA Questions. Does the plan...**

**The comparison of the options illustrates the relative merits of the individual options and at this stage does not infer that any of the options will be chosen to be the final preferred option.**

All the options in C will meet the sub regional apportionment and are a good basis for planning for the future development of the sub region including the development needed in the growth areas. The options do not maximise the overall aggregate needed, however, so will not require the largest number of site allocations. Sites will still be needed for quaternary sand and gravel so there will be site by site effects. The 60/40 split is a good middle ground that can be adapted if the proportions of building sand and concreting aggregate shift, thus minimising the risk of under and oversupply which both have sustainability impacts. The split represented by C3, however, may lead to some undersupply of concreting aggregates leading to substitution from other areas with the sustainability effects as outlined above.

Option D reduces the overall need for material if sales are used as a basis for the landbank rather than the sub regional apportionment (which is higher). However, the fact that the apportionment has not been met may lead in future years to a shortage of concreting sands and gravels (especially with rates of development in MKSM area likely to increase). This may lead in future years to substitution from other areas with the sustainability effects as outlined above.

**Archaeology and cultural heritage**

- 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?

A single landbank would mean that there is no need to allocate sites for mineral development thus avoiding impacts on archaeology and cultural heritage in Bedfordshire. However, it may lead an under supply of concreting materials which may lead to substitution from other areas (this may lead to effects on cultural heritage from longer distance transport of materials through HGVs passing through village centres potentially damaging listed buildings etc).

Option A reduces the overall need for material if sales are used as a basis for the landbank rather than the sub regional apportionment (which is higher), thus minimising impacts on archaeology and cultural heritage in Bedfordshire. However, the fact that the apportionment has not been met may lead in future years to a shortage of concreting sands and gravels (especially with rates of development in MKSM area likely to increase). This may lead in future years to substitution from other areas with the sustainability effects as outlined above.

Option B1 - 50:50 split minimises the need for concreting material thus avoiding impacts on archaeology and cultural heritage in Bedfordshire. This may lead to a shortage of concreting sands and gravels leading to substitution from other areas with the sustainability effects as outlined above.

Option B2 – 70:30 split and Option B3 – 71:29 split have almost the largest total requirement for concreting material, almost all of which will come from quaternary deposits. This will have effects on those sites in the river valleys many of which are will be sensitive in terms of archaeology and cultural heritage.

All the options in C will meet the sub regional apportionment and are a good basis for planning for the future development of the sub region including the development needed in the growth areas. The options do not maximise the overall aggregate needed, however, so will not require the largest number of site allocations. Sites will still be needed for quaternary sand and gravel so there will be site by site effects. The 60/40 split is a good middle ground that can be adapted if the proportions of building sand and concreting aggregate shift, thus minimising the risk of under and oversupply which both have sustainability impacts. The split represented by C3, however, may lead to some undersupply of concreting aggregates leading to substitution from other areas with the sustainability effects as outlined above.

Issue 4: Landbanks for aggregates and industrial sands	Comparison of options
SA Questions. Does the plan...	The comparison of the options illustrates the relative merits of the individual options and at this stage does not infer that any of the options will be chosen to be the final preferred option.
	Option D reduces the overall need for material if sales are used as a basis for the landbank rather than the sub regional apportionment (which is higher). However, the fact that the apportionment has not been met may lead in future years to a shortage of concreting sands and gravels (especially with rates of development in MKSM area likely to increase). This may lead in future years to substitution from other areas with the sustainability effects as outlined above.
Landscape	
<ul style="list-style-type: none"> <li>• Cause changes to designated areas which threatens the reason for their designation?</li> <li>• Cause changes to the landscape / that (in themselves or cumulatively with other proposals) are completely at variance with the character of the area?</li> <li>• Change the number of people that are affected by the visual impact of minerals development?</li> <li>• Include actions which will enhance landscape through restoration?</li> <li>• Change the amount of accessible greenspace available?</li> </ul>	<p>A single landbank would mean that there is no need to allocate sites for mineral development thus avoiding impacts on landscapes in Bedfordshire. However, it may lead an under supply of concreting materials which may lead to substitution from other areas (and effects on landscape in those areas).</p> <p>Option A reduces the overall need for material if sales are used as a basis for the landbank rather than the sub regional apportionment (which is higher), thus minimising impacts on landscapes in Bedfordshire. However, the fact that the apportionment has not been met may lead in future years to a shortage of concreting sands and gravels (especially with rates of development in MKSM area likely to increase). This may lead in future years to substitution from other areas with the sustainability effects as outlined above.</p> <p>Option B1 - 50:50 split minimises the need for concreting material thus avoiding impacts on landscapes in Bedfordshire. This may lead to a shortage of concreting sands and gravels leading to substitution from other areas with the sustainability effects as outlined above.</p> <p>Option B2 – 70:30 split and Option B3 – 71:29 split have almost the largest total requirement for concreting material, almost all of which will come from quaternary deposits. This will have effects on those sites in the river valleys many of which are sensitive in terms of their landscape character. Care also needs to be taken that these sites are not all developed into wetland in the long term as this will have impacts on the character of the river valleys in the county.</p> <p>All the options in C will meet the sub regional apportionment and are a good basis for planning for the future development of the sub region including the development needed in the growth areas. The options do not maximise the overall aggregate needed, however, so will not require the largest number of site allocations. Sites will still be needed for quaternary sand and gravel so there will be site by site effects. The 60/40 split is a good middle ground that can be adapted if the proportions of building sand and concreting aggregate shift, thus minimising the risk of under and oversupply which both have sustainability impacts. The split represented by C3, however, may lead to some undersupply of concreting aggregates leading to substitution from other areas with the sustainability effects as outlined above.</p> <p>Option D reduces the overall need for material if sales are used as a basis for the landbank rather than the sub regional apportionment (which is higher). However, the fact that the apportionment has not been met may lead in future years to a shortage of concreting sands and gravels (especially with rates of development in MKSM area likely to increase). This may lead in future years to substitution from other areas with the sustainability effects as outlined above.</p>
Land use	

**Issue 4: Landbanks for aggregates and industrial sands**

**Comparison of options**

**SA Questions. Does the plan...**

**The comparison of the options illustrates the relative merits of the individual options and at this stage does not infer that any of the options will be chosen to be the final preferred option.**

<ul style="list-style-type: none"> <li>To what extent does the option help achieve the objectives of the wider development framework (i.e. contribution to amenity, landscape, biodiversity objectives through restoration).</li> </ul>	<p>A single landbank would mean that there is no need to allocate sites for mineral development thus avoiding impacts on the environment and communities of Bedfordshire. However, mineral development may have benefits such as habitat creation and enhancement of floodplain capacity. This option would also fail to support the growth agenda by undersupplying concreting materials.</p> <p>Option A would fail to support the growth agenda by undersupplying concreting materials.</p> <p>Option B1 - 50:50 split, would fail to support the growth agenda by undersupplying concreting materials.</p> <p>Option B2 – 70:30 split and Option B3 – 71:29 might give rise to opportunities for strategic habitat creation and would support the growth agenda through the provision of adequate concreting materials.</p> <p>All the options in C will meet the sub regional apportionment and are a good basis for planning for the future development of the sub region including the development needed in the growth areas. The 60/40 split is a good middle ground that can be adapted if the proportions of building sand and concreting aggregate shift, thus minimising the risk of under and oversupply which both have sustainability impacts. The split represented by C3, however, may lead to some undersupply of concreting aggregates.</p> <p>Option D would fail to support the growth agenda by undersupplying concreting materials.</p>
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**Air quality and noise**

<ul style="list-style-type: none"> <li>Change the amount of pollution caused by mineral working?</li> <li>Encourage suitable mitigation measures?</li> </ul>	<p>Options which minimise the need for new sites (single landbank, Option A, Option B1 and Option D1, D2 and D3) will minimise the pollution caused by mineral development in Bedfordshire from local sites. However, if substitution were to take place with other counties this would increase the amount of distance material has to travel and increase air pollution.</p>
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**Human health, population and social inclusion**

<ul style="list-style-type: none"> <li>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?</li> <li>Cause a cumulative impact on certain communities (either through permitting more reserves affecting the same community or by lengthening the time period of permission)?</li> </ul>	<p>Options which minimise the need for new sites (single landbank, Option A, Option B1 and Option D1, D2 and D3) will minimise the effects on local communities in Bedfordshire from mineral development. However, as discussed these options may lead to substitution from other areas with sustainability effects on those communities and effects on communities along transport routes.</p> <p>The options which continue the oversupply of building sand (B1, C3 and D3) could mean that the sites on the Greensand Ridge will take longer to work out thus prolonging their effect on communities.</p>
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**Economic growth – minerals and material**

Issue 4: Landbanks for aggregates and industrial sands	Comparison of options
SA Questions. Does the plan...	The comparison of the options illustrates the relative merits of the individual options and at this stage does not infer that any of the options will be chosen to be the final preferred option.
assets	
<ul style="list-style-type: none"> <li>Help ensure that a sustainable contribution is made to the sub regional aggregate apportionment?</li> </ul>	Only option C ensures this.
Conservation and protection of water resources	
<ul style="list-style-type: none"> <li>Include actions that could increase / reduce the risk of effects on groundwater and surface water quality and quantity?</li> <li>Include measures that could increase / decrease the potential for flooding?</li> </ul>	Options which minimise the need for new sites (single landbank, Option A, Option B1 and Option D1, D2 and D3) will minimise the effects on water resources from mineral development. However, these options may lead to an under supply of concreting materials which may lead to substitution by Woburn Sands for some fractions which require higher water requirements to make cement (this may be a minor issue). There is also the potential for river valley sites to contribute, through appropriate restoration, to surface water management (e.g. flood storage).
Transport	
<ul style="list-style-type: none"> <li>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?</li> <li>Include actions to help to protect important distribution network nodes (e.g. rail facilities).</li> <li>Include actions that would encourage a shift from road freight to rail freight?</li> <li>Include actions that change mileage travelled per tonne?</li> </ul>	Sites which minimise the need for new sites (single landbank, Option A, Option B1 and Option D1, D2 and D3) will minimise the local traffic effects caused by mineral development in Bedfordshire from local sites. However, if substitution were to take place with other counties this would increase the amount of distance material has to travel and increase air pollution and other traffic impacts.
Waste	
<ul style="list-style-type: none"> <li>Change the amount of waste produced per tonne of mineral?</li> <li>Include actions that change the mix of aggregates produced between primary materials and secondary / recycled materials?</li> </ul>	The options which continue the oversupply of building sand could be argued to be having a negative effect on waste as they represent building sands being diverted to lower-value uses, such as bulk fill. This would be poor resource husbandry, and may also act as a disincentive for aggregate recycling (i.e. the surplus building sand may “crowd-out” use of recycled aggregates. These options are B1, C3 and D3.

Issue 4: Landbanks for aggregates and industrial sands	Comparison of options
SA Questions. Does the plan...	The comparison of the options illustrates the relative merits of the individual options and at this stage does not infer that any of the options will be chosen to be the final preferred option.
Climate change	
<ul style="list-style-type: none"> <li>Reduce the distance that minerals are transported?</li> </ul>	Sites which minimise the need for new sites (single landbank, Option A, Option B1 and Option D1, D2 and D3) and risk substitution with other counties would increase the amount of distance material has to travel and increase CO <sub>2</sub> emissions.
Soils and geology	
<ul style="list-style-type: none"> <li>Include actions that improve or remove geodiversity?</li> <li>Include actions that help to protect mineral reserves (i.e. through the imposition of Mineral Consultation Areas or Mineral Safeguarding Areas).</li> </ul>	The options which continue the oversupply of building sand could be argued to be having a negative effect on waste as they represent building sands being diverted to lower-value uses, such as bulk fill. This would be poor resource husbandry, and may also act as a disincentive for aggregate recycling (i.e. the surplus building sand may “crowd-out” use of recycled aggregates. These options are B1, C3 and D3).
Employment and economy	
<ul style="list-style-type: none"> <li>Include actions that change the number of people directly employed in the minerals industry?</li> </ul>	This is not a significant issue for the options.
<p>Summary: Overall it is felt that Option C has the most positive sustainability effects and crucially ensures that the sub regional apportionment is met (ensuring the County is self sufficient as far as possible in terms of supplying building materials) and that concreting aggregate is neither under or over supplied. Out of the C options it is felt that the 60/40 split is a good middle ground that can be adapted if the proportions of building sand and concreting aggregate shift, thus minimising the risk of under and oversupply which both have sustainability impacts.</p> <p>Options which minimise the need for new sites (single landbank, Option A, Option B1 and Option D1, D2 and D3) will minimise the environmental and community effects caused by mineral development in Bedfordshire from local sites. However, if substitution were to take place with other counties they would cause other sustainability effects such as increase in distance travelled and effects on sensitive receptors in other counties.</p>	

<b>Issue 6: Strategic approach to site selection</b> <b>6.1. A Presumption against working the Upper Ouse Valley</b>	<b>Comparison of aims and commentary on objectives</b>
<b>SA Questions. Does the plan...</b>	<b>The comparison of the options illustrates the relative merits of the individual options and at this stage does not infer that any of the options will be chosen to be the final preferred option.</b>
<p>Issues raised during consultation:</p> <ul style="list-style-type: none"> <li>• The basis of site selection should be based on the impacts particularly impacts on residential amenity.</li> <li>• Some consultees favour a plan that does not simply seek to concentrate mineral working in one area. While it is recognised that minerals can only be mined where they occur there is definite resentment among communities affected – sometimes for generations – by mineral extraction.</li> <li>• A long term strategy for site selection would be preferable to “Cherry Picking”. In the longer term it may be that if the current demand for aggregates continues the presumption against mineral extraction in the upper Ouse Valley should be reviewed.</li> <li>• The new planning strategy should concentrate on the intensification of existing sites first provided that this strategy does not result in intolerably poor environmental conditions and/or environmental damage at these locations.</li> <li>• There needs to be a balance between concentration of extraction and dispersal to ease the pressure on concentrated areas.</li> <li>• A long – term strategy would appear the best, most sustainable option, especially in the light of the growth proposals and the need for a consistent and local supply over the next thirty years or so.</li> <li>• It would seem that it is neither appropriate to concentrate all extraction around Leighton Buzzard, nor to scatter such extraction over a wide area, a balanced approach between the two would appear the most sustainable option but evidence is needed to back this idea up.</li> <li>• EN would not support the relocation of mineral working in the upper Ouse Valley, where there are particular concentrations for wildlife habitats. As a general comment, restoration of mineral sites in river valleys often results in a surfeit of open water features or the site is returned to agriculture. The greatest biodiversity gains are from restoration that provides a variety of natural features that also include flood meadow grassland, dry grassland, wet woodlands, swamp etc.</li> <li>• Future working of the Greensand Ridge should be planned so there is no detrimental impact on statutory or other wildlife sites. Restoration of sites should be targeted to creating heathland and acid grassland which are priority BAP habitats.</li> <li>• There should be an approach which concentrates concreting sand and gravel production at strategic sites, within those preferred valley locations, rather than a policy of dispersal of a larger number of sites around the county.</li> </ul>	
<ul style="list-style-type: none"> <li>• Include actions that directly or indirectly affect Natura 2000 sites, SSSIs or other designated sites?</li> <li>• Include actions that will cause habitat loss or fragmentation?</li> <li>• Include actions that help to reach targets or compromise targets of BAPs?</li> <li>• Include actions to ensure restoration to biodiversity is a priority where appropriate?</li> </ul>	<p>Not resuming mineral working will protect the existing biodiversity, flora and fauna. The Upper Ouse Valley is a sensitive area. Site MD46 has a County Wildlife Site on it. Most of the others are flood plain grassland. The sites identified are less intensively farmed and are therefore likely to have more biodiversity value. There are also some Priority Species sites in the Upper Ouse valley. Two of the 5 sites in the Upper Ouse Valley have significant objections from the County Ecologist and English Nature due to their proximity to sensitive SSSI sites (MD46 and 37).</p> <p>However, not working the Upper Ouse Valley may result in a loss of significant habitat creation opportunities as identified by the BAP. For example, the introduction of wetlands may lead to richer habitats than are currently on site. It is designated as a Biodiversity Opportunity Area at the moment and minerals workings may provide funding to promote this.</p> <p>Not resuming development in the Upper Ouse Valley will lead to other clusters receiving more development and consequently additional</p>

<b>Issue 6: Strategic approach to site selection</b> <b>6.1. A Presumption against working the Upper Ouse Valley</b>	<b>Comparison of aims and commentary on objectives</b>
<b>SA Questions. Does the plan...</b>	<b>The comparison of the options illustrates the relative merits of the individual options and at this stage does not infer that any of the options will be chosen to be the final preferred option.</b>
	pressure being placed on the sensitive areas around these clusters, particularly affecting the River Ivel where sites could have effects on an NNR, SSSIs and CWSs.
Archaeology and cultural heritage	
<ul style="list-style-type: none"> <li>● Include actions that could impact upon remains, sites and monuments valued for their cultural heritage?</li> <li>● Include actions to improve education and interpretation of archaeological remains?</li> </ul>	<p>The Upper Ouse Valley is likely to include certain classes of sites that are very rare such as an Ancient Monuments (site MD46 in particular). Not resuming mineral development in this area is positive in this respect.</p> <p>Not resuming development in the Upper Ouse Valley will lead to other clusters receiving more development and consequently additional pressure being placed on the sensitive areas around these clusters, many of which also affect Areas of Archaeological Interest.</p>
Landscape	
<ul style="list-style-type: none"> <li>● Cause changes to designated areas which threatens the reason for their designation?</li> <li>● Cause changes to the landscape / that (in themselves or cumulatively with other proposals) are completely at variance with the character of the area?</li> <li>● Change the number of people that are affected by the visual impact of minerals development?</li> <li>● Include actions which will enhance landscape through restoration?</li> <li>● Change the amount of accessible greenspace available?</li> </ul>	The landscape value of the valley is higher than other parts of the county (all of the sites put forward in this area are within an Area of Great Landscape Value). Not resuming mineral development in this area is positive in this respect.
Land use	
<ul style="list-style-type: none"> <li>● To what extent does the option help achieve the objectives of the wider development framework (i.e. contribution to amenity, landscape, biodiversity objectives through restoration).</li> </ul>	Development of the Upper Ouse Valley would help to achieve biodiversity objectives through restoration and help plan strategically for flood defence. In this option these benefits are missed.
Air quality and noise	

Issue 6: Strategic approach to site selection 6.1. A Presumption against working the Upper Ouse Valley	Comparison of aims and commentary on objectives
SA Questions. Does the plan...	The comparison of the options illustrates the relative merits of the individual options and at this stage does not infer that any of the options will be chosen to be the final preferred option.
<ul style="list-style-type: none"> <li>Change the amount of pollution caused by mineral working?</li> <li>Encourage suitable mitigation measures?</li> </ul>	This is not considered to be a significant issue.
Human health, population and social inclusion	
<ul style="list-style-type: none"> <li>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?</li> <li>Cause a cumulative impact on certain communities (either through permitting more reserves affecting the same community or by lengthening the time period of permission)?</li> </ul>	<p>Cluster 4 is located in a rural area to the North West of Bedford, the villages most likely to be negatively impacted by minerals developments are Oakley, Harrold, Carlton, Odell and Felmersham, Stevington, and Bromham. These are likely to be negatively impacted by nuisance issues mainly caused by vehicle movements to the sites. Not developing sites in this area would mean that these impacts are minimised.</p> <p>However, not resuming development in the Upper Ouse Valley will lead to other clusters receiving more development. Mineral development will also have a significant effect on human health and amenity in other areas.</p>
Economic growth – minerals and material assets	
<ul style="list-style-type: none"> <li>Help ensure that a sustainable contribution is made to the sub regional aggregate apportionment?</li> </ul>	This would only be an issue if no other sites had been proposed (other than those in the Upper Ouse Valley). This is not the case.
Conservation and protection of water resources	
<ul style="list-style-type: none"> <li>Include actions that could increase / reduce the risk of effects on groundwater and surface water quality and quantity?</li> <li>Include measures that could increase / decrease the potential for flooding?</li> </ul>	Development in the Upper Ouse Valley would create an opportunity to alleviate flood problems in the long term. In this option this benefit would be missed.
Transport	
<ul style="list-style-type: none"> <li>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?</li> <li>Include actions to help to protect important distribution network nodes (e.g. rail facilities).</li> </ul>	<p>Road transport is the most likely form of transportation in the Upper Ouse Valley. The local road network in Upper Ouse is generally poor (narrow roads which go through villages – one exception is MD48, which could gain access to A6 on short length of local road, without having to go through any villages. As most of the sites would need to use secondary roads to reach a strategic road this would have a negative impact on local villages as it is not possible to completely route HGV vehicles away from village roads.</p> <p>MD 18 and 46 are close to a mainline railway however there is no existing loading or unloading facilities for aggregates near the cluster.</p>

Issue 6: Strategic approach to site selection 6.1. A Presumption against working the Upper Ouse Valley	Comparison of aims and commentary on objectives
SA Questions. Does the plan...	The comparison of the options illustrates the relative merits of the individual options and at this stage does not infer that any of the options will be chosen to be the final preferred option.
<ul style="list-style-type: none"> <li>• Include actions that would encourage a shift from road freight to rail freight?</li> <li>• Include actions that change mileage travelled per tonne?</li> </ul>	<p>The River Great Ouse is not navigable in the area of the cluster due to a number of weirs.</p> <p>Not resuming development in the Upper Ouse Valley will lead to other clusters receiving more development. The transport situation is similar in other areas of the County.</p>
Waste	
<ul style="list-style-type: none"> <li>• Change the amount of waste produced per tonne of mineral?</li> <li>• Include actions that change the mix of aggregates produced between primary materials and secondary / recycled materials?</li> </ul>	N/A. There would be no difference between the waste produced by sites in the Upper Ouse Valley and those in other areas.
Climate change	
<ul style="list-style-type: none"> <li>• Reduce the distance that minerals are transported?</li> </ul>	Markets would be local in all cases –they would not be more than a 20 mile radius of any given site (this being maximum economic road haul) – working of sites in Upper Ouse may enable wider distribution of sites, thus giving more thorough market coverage, but this effect would be marginal as there are no major urban (i.e. demand) centres in the area.
Soils and geology	
<ul style="list-style-type: none"> <li>• Include actions that improve or remove geodiversity?</li> <li>• Include actions that help to protect mineral reserves (i.e. through the imposition of Mineral Consultation Areas or Mineral Safeguarding Areas).</li> </ul>	N/A. For this criterion, there would be no difference between sites in the Upper Ouse Valley and those in other areas.
Employment and economy	
<ul style="list-style-type: none"> <li>• Include actions that change the number of people directly employed in the minerals industry?</li> </ul>	N/A. For this criterion, there would be no difference between sites in the Upper Ouse Valley and those in other areas.
<p>Summary: The key element that is being assessed for this option is the different in sensitivity between the Upper Ouse Valley and other areas for mineral development. The Upper Ouse Valley is sensitive in terms of a number of criteria especially biodiversity, landscape and road transport. However, other areas in the county are also sensitive in terms of landscape and biodiversity (although, perhaps not as sensitive). If development did not occur in the Upper Ouse, strategic restoration benefits may be missed such as wetland creation opportunities and</p>	

**Issue 6: Strategic approach to site selection**  
**6.1. A Presumption against working the Upper Ouse Valley**

**Comparison of aims and commentary on objectives**

**SA Questions. Does the plan...**

**The comparison of the options illustrates the relative merits of the individual options and at this stage does not infer that any of the options will be chosen to be the final preferred option.**

strategic flood risk attenuation. A key constrain, however, is that two of the 5 sites in the Upper Ouse Valley have significant objections from the County Ecologist and English Nature due to their proximity to sensitive SSSI sites (MD46 and 37).

<b>Issue 6: Strategic approach to site selection</b> <b>6.2. Concentrate on Heath and Reach or include Potton.</b>	<b>Comparison of aims and commentary on objectives</b>
<b>SA Questions. Does the plan...</b>	<b>The comparison of the options illustrates the relative merits of the individual options and at this stage does not infer that any of the options will be chosen to be the final preferred option.</b>
<p>Issues raised during consultation:</p> <ul style="list-style-type: none"> <li>• The basis of site selection should be based on the impacts particularly impacts on residential amenity.</li> <li>• Some consultees favour a plan that does not simply seek to concentrate mineral working in one area. While it is recognised that minerals can only be mined where they occur there is definite resentment among communities affected – sometimes for generations – by mineral extraction.</li> <li>• A long term strategy for site selection would be preferable to “Cherry Picking”. In the longer term it may be that if the current demand for aggregates continues the presumption against mineral extraction in the upper Ouse Valley should be reviewed.</li> <li>• The new planning strategy should concentrate on the intensification of existing sites first provided that this strategy does not result in intolerably poor environmental conditions and/or environmental damage at these locations.</li> <li>• There needs to be a balance between concentration of extraction and dispersal to ease the pressure on concentrated areas.</li> <li>• a long – term strategy would appear the best, most sustainable option, especially in the light of the growth proposals and the need for a consistent and local supply over the next thirty years or so.</li> <li>• It would seem that it is neither appropriate to concentrate all extraction around Leighton Buzzard, nor to scatter such extraction over a wide area, a balanced approach between the two would appear the most sustainable option but evidence is needed to back this idea up. A focused, objective assessment of all options is needed.</li> <li>• Future working of the Greensand Ridge should be planned so there is no detrimental impact on statutory or other wildlife sites. Restoration of sites should be targeted to creating heathland and acid grassland which are priority BAP habitats.</li> </ul>	
<b>Biodiversity</b>	
<ul style="list-style-type: none"> <li>• Include actions that directly or indirectly affect Natura 2000 sites, SSSIs or other designated sites?</li> <li>• Include actions that will cause habitat loss or fragmentation?</li> <li>• Include actions that help to reach targets or compromise targets of BAPs?</li> <li>• Include actions to ensure restoration to biodiversity is a priority where appropriate?</li> </ul>	<p>Potential sites around Heath and Reach and Leighton Buzzard do not affect particularly sensitive areas in terms of biodiversity although sites 14 and 43 are opportunity areas for heathland and acid grassland so could provide long term benefits with sensitive restoration.</p> <p>Sites further along the Greensand Ridge are also generally not sensitive in biodiversity terms. However, site 22 lies within the County Wildlife Site of Warren Wood (ancient woodland which is likely to contain wet woodland, a national priority habitat). The County Ecologist has indicated that proposals to quarry this site are clearly contrary to the principles of PPS9 and the site should not go forward for further consideration. If site 22 is discounted, both options are similar in their biodiversity impact.</p>
<b>Archaeology and cultural heritage</b>	
<ul style="list-style-type: none"> <li>• Include actions that could impact upon remains, sites and monuments valued for their cultural heritage?</li> <li>• Include actions to improve education and</li> </ul>	<p>Potential sites around Heath and Reach and Leighton Buzzard do not affect particularly sensitive areas in terms of archaeology although the majority of site 43 is within an Area of Archaeological Potential.</p> <p>Sites further along the Greensand Ridge are more sensitive in terms of archaeology and heritage, with all of them being in Areas of</p>

Issue 6: Strategic approach to site selection 6.2. Concentrate on Heath and Reach or include Potton.	Comparison of aims and commentary on objectives
SA Questions. Does the plan...	The comparison of the options illustrates the relative merits of the individual options and at this stage does not infer that any of the options will be chosen to be the final preferred option.
interpretation of archaeological remains?	Archaeological Potential or potentially affecting sensitive areas such as the Flit Valley.  In archaeology and heritage terms it would be better to concentrate development in the Heath and Reach Area.
Landscape	
<ul style="list-style-type: none"> <li>• Cause changes to designated areas which threatens the reason for their designation?</li> <li>• Cause changes to the landscape / that (in themselves or cumulatively with other proposals) are completely at variance with the character of the area?</li> <li>• Change the number of people that are affected by the visual impact of minerals development?</li> <li>• Include actions which will enhance landscape through restoration?</li> <li>• Change the amount of accessible greenspace available?</li> </ul>	<p>The sites around Heath and Reach and Leighton Buzzard sit within different landscape character types. Sites 43 and 14 are on the boundary between landscape type 5 (settled and farmed clay vales) and type 6 (woodland greensand ridge). The Bedfordshire Landscape Character Assessment Report Volume 1 states that further development on the base of the Greensand Ridge should be avoided to retain the dramatic visual contrast between flat plains and steep slopes. The effect of developing these sites, therefore, could be significant affecting a widespread area. Sites 13 and 21 lie within the Landscape Character Area of <i>settled and farmed clay hills</i> (type 8) making the area relatively visible from a large area. Landscape condition is considered to be poor in this area.</p> <p>Sites further along the Greensand Ridge are just as sensitive as they lie in landscape type 6: Wooded Greensand Ridge. This is a large scale elevated landscape so development is also likely to be visible from a large area.</p> <p>Both options are generally equally as sensitive in terms of landscape. However, Potton site MD4 is in AGLV.</p>
Land use	
<ul style="list-style-type: none"> <li>• To what extent does the option help achieve the objectives of the wider development framework (i.e. contribution to amenity, landscape, biodiversity objectives through restoration).</li> </ul>	There is generally no significant difference between the two options related to this criterion. However, Leighton Buzzard growth area – sites, particularly those to south of Leighton Buzzard could contribute open amenity space (on restoration) to support growth.
Air quality and noise	
<ul style="list-style-type: none"> <li>• Change the amount of pollution caused by mineral working?</li> <li>• Encourage suitable mitigation measures?</li> </ul>	There is no significant difference between the two options related to the air quality and noise criterion.
Human health, population and social inclusion	
<ul style="list-style-type: none"> <li>• Cause a change in the number of people</li> </ul>	There are already a number of active quarries around Heath and Reach and Leighton Buzzard as the majority of the development of the

Issue 6: Strategic approach to site selection 6.2. Concentrate on Heath and Reach or include Potton.	Comparison of aims and commentary on objectives
SA Questions. Does the plan...	The comparison of the options illustrates the relative merits of the individual options and at this stage does not infer that any of the options will be chosen to be the final preferred option.
<p>directly affected by mineral working (living in close proximity to a mineral site or an access route) whose impact cannot be mitigated?</p> <ul style="list-style-type: none"> <li>• Cause a cumulative impact on certain communities (either through permitting more reserves affecting the same community or by lengthening the time period of permission)?</li> </ul>	<p>Greensand Ridge has occurred in this area historically. This has a large cumulative effect on the residents which will intensify if all development in the Greensand Ridge continues here.</p> <p>Development in areas further along the Greensand Ridge will also affect residents. However, there will be the greatest potential impact on local residents within the Heath and Reach area due to the numbers of active quarries already in the area.</p>
Economic growth – minerals and material assets	
<ul style="list-style-type: none"> <li>• Help ensure that a sustainable contribution is made to the sub regional aggregate apportionment?</li> </ul>	<p>The sites further away from Heath and Reach contain more building sand thus helping to make a contribution towards the sub regional apportionment. However, as there is no shortage of building sand this is not a particularly significant issue. Developing more areas of the Greensand Ridge will increase the amount of different types of material available.</p>
Conservation and protection of water resources	
<ul style="list-style-type: none"> <li>• Include actions that could increase / reduce the risk of effects on groundwater and surface water quality and quantity?</li> <li>• Include measures that could increase / decrease the potential for flooding?</li> </ul>	<p>All sites near Heath and Reach and Leighton Buzzard fall within a Nitrate Vulnerable Zone. Site 13 is also above a major aquifer and parts of the site are above a Source Protection Zone 3. Site 14 is adjacent to the floodplain of the River Ouzel and parts of the site are within Flood Zones 3 (High Risk), 2 (Low to medium risk) and 1 (Little or no Risk) of the Environment Agency's Flood Map.</p> <p>In the main sites further along the Greensand Ridge are less sensitive in terms of water issues although Site 4 is above a major aquifer.</p>
Transport	
<ul style="list-style-type: none"> <li>• 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?</li> <li>• Include actions to help to protect important distribution network nodes (e.g. rail facilities).</li> <li>• Include actions that would encourage a shift from road freight to rail freight?</li> <li>• Include actions that change mileage travelled per tonne?</li> </ul>	<p>All of the sites have similar issues related to use of the local road network and nuisance caused by HGVs. However, spreading development over a wider area could reduce the distance material needs to be transported to established markets.</p> <p>Sites to south of Leighton Buzzard (MD13, MD21) would have to transport minerals to processing sites to the North East of Heath and Reach (Double Arches/ Munday's Hill). This involves either going through central Leighton Buzzard (most often) or (less often) round via A5 (which has bad junction at access to production sites). Mineral traffic through L-B is of <u>major</u> concern to local residents</p>
Waste	

Issue 6: Strategic approach to site selection 6.2. Concentrate on Heath and Reach or include Potton.	Comparison of aims and commentary on objectives
SA Questions. Does the plan...	The comparison of the options illustrates the relative merits of the individual options and at this stage does not infer that any of the options will be chosen to be the final preferred option.
<ul style="list-style-type: none"> <li>Change the amount of waste produced per tonne of mineral?</li> <li>Include actions that change the mix of aggregates produced between primary materials and secondary / recycled materials?</li> </ul>	There is no significant difference between the two options related to the waste criterion.
Climate change	
<ul style="list-style-type: none"> <li>Reduce the distance that minerals are transported?</li> </ul>	No effect.
Soils and geology	
<ul style="list-style-type: none"> <li>Include actions that improve or remove geodiversity?</li> <li>Include actions that help to protect mineral reserves (i.e. through the imposition of Mineral Consultation Areas or Mineral Safeguarding Areas).</li> </ul>	There is no significant difference between the two options related to the soils and geology criterion.
Employment and economy	
<ul style="list-style-type: none"> <li>Include actions that change the number of people directly employed in the minerals industry?</li> </ul>	There is no significant difference between the two options related to the employment and economy criterion.
<p>Summary: The two options (concentrating development in Heath and Reach or distributing it more widely) have similar effects in many respects as both areas are equally as sensitive as regards issues such as biodiversity, landscape, employment etc. The main differences between the options are that effects on archaeology and cultural heritage would be of a higher magnitude if the strategy were dispersed but that the community effects would be of a higher magnitude if development were concentrated in Heath and Reach. Transport and climate change effects may also be of a lesser magnitude with a dispersed strategy because miles travelled to reach markets may be less.</p>	

<b>Issue 6: Strategic approach to site selection</b> <b>6.3. Selecting sites on their sustainability performance</b>	<b>Comparison of aims and commentary on objectives</b>
<b>SA Questions. Does the plan...</b>	<b>The comparison of the options illustrates the relative merits of the individual options and at this stage does not infer that any of the options will be chosen to be the final preferred option.</b>
<p>Issues raised during consultation:</p> <ul style="list-style-type: none"> <li>• The basis of site selection should be based on the impacts particularly impacts on residential amenity.</li> <li>• Some consultees favour a plan that does not simply seek to concentrate mineral working in one area. While it is recognised that minerals can only be mined where they occur there is definite resentment among communities affected – sometimes for generations – by mineral extraction.</li> <li>• A long term strategy for site selection would be preferable to “Cherry Picking”. In the longer term it may be that if the current demand for aggregates continues the presumption against mineral extraction in the upper Ouse Valley should be reviewed.</li> <li>• The new planning strategy should concentrate on the intensification of existing sites first provided that this strategy does not result in intolerably poor environmental conditions and/or environmental damage at these locations.</li> <li>• There needs to be a balance between concentration of extraction and dispersal to ease the pressure on concentrated areas.</li> <li>• a long – term strategy would appear the best, most sustainable option, especially in the light of the growth proposals and the need for a consistent and local supply over the next thirty years or so.</li> <li>• It would seem that it is neither appropriate to concentrate all extraction around Leighton Buzzard, nor to scatter such extraction over a wide area, a balanced approach between the two would appear the most sustainable option but evidence is needed to back this idea up. A focused, objective assessment of all options is needed.</li> <li>• EN: We would not support the relocation of mineral working in the upper Ouse Valley, where there are particular concentrations of wildlife habitats. As a general comment, restoration of mineral sites in river valleys often results in a surfeit of open water features or the site is returned to agriculture. The greatest biodiversity gains are from restoration that provides a variety of natural features that also include flood meadow grassland, dry grassland, wet woodlands, swamp etc.</li> <li>• Future working of the Greensand Ridge should be planned so there is no detrimental impact on statutory or other wildlife sites. Restoration of sites should be targeted to creating heathland and acid grassland which are priority BAP habitats.</li> <li>• There should be an approach which concentrates concreting sand and gravel production at strategic sites, within those preferred valley locations, rather than a policy of dispersal of a larger number of sites around the county.</li> </ul>	
<b>Biodiversity, flora and fauna</b>	
<ul style="list-style-type: none"> <li>• Include actions that directly or indirectly affect Natura 2000 sites, SSSIs or other designated sites?</li> <li>• Include actions that will cause habitat loss or fragmentation?</li> <li>• Include actions that help to reach targets or compromise targets of BAPs?</li> <li>• Include actions to ensure restoration to biodiversity is a priority where appropriate?</li> </ul>	<p>If sites are chosen due to their individual short sustainability performance in terms of the potential environmental, social or economic impact over the duration of the mineral extraction then there is the potential for opportunities to be missed for example with regard to long term habitat creation through restoration. However, it is important to highlight negative short term effects of development so that these can be built into mitigation.</p>
<b>Archaeology and cultural heritage</b>	

Issue 6: Strategic approach to site selection 6.3. Selecting sites on their sustainability performance	Comparison of aims and commentary on objectives
SA Questions. Does the plan...	The comparison of the options illustrates the relative merits of the individual options and at this stage does not infer that any of the options will be chosen to be the final preferred option.
<ul style="list-style-type: none"> <li>• Include actions that could impact upon remains, sites and monuments valued for their cultural heritage?</li> <li>• Include actions to improve education and interpretation of archaeological remains?</li> </ul>	<p>Choosing sites on their individual sustainability performance would enable impacts to be minimised on key features of archaeology and cultural heritage as well as avoiding damage to areas of unknown archaeological value. However, if appropriate mitigation is established the performance of a site in this regard is unlikely to be a key deciding factor.</p>
Landscape	
<ul style="list-style-type: none"> <li>• Cause changes to designated areas which threatens the reason for their designation?</li> <li>• Cause changes to the landscape / that (in themselves or cumulatively with other proposals) are completely at variance with the character of the area?</li> <li>• Change the number of people that are affected by the visual impact of minerals development?</li> <li>• Include actions which will enhance landscape through restoration?</li> <li>• Change the amount of accessible greenspace available?</li> </ul>	<p>As with biodiversity, if sites are chosen due to their individual sustainability performance, there is the potential for opportunities to be missed in regard to long term landscape restoration. However, with the exception of the Ouse Valley, most of the areas suggested for development are similarly sensitive.</p> <p>As with biodiversity, if sites are chosen due to their individual sustainability performance, there would be opportunities missed in regard to long term landscape restoration. However, most of the areas suggested for development are similarly sensitive (perhaps with the exception of the Upper Ouse Valley most of the areas suggested for development are similarly sensitive as set out in the Bedfordshire Landscape Characterisation.</p>
Land use	
<ul style="list-style-type: none"> <li>• To what extent does the option help achieve the objectives of the wider development framework (i.e. contribution to amenity, landscape, biodiversity objectives through restoration).</li> </ul>	<p>If sites are chosen due to their individual sustainability performance, there is the potential for opportunities to be missed in regard to how best to provide material for the growth agenda.</p>
Air quality and noise	
<ul style="list-style-type: none"> <li>• Change the amount of pollution caused by mineral working?</li> <li>• Encourage suitable mitigation measures?</li> </ul>	<p>There is no significant difference between the two options related to the air and noise criterion.</p>

Issue 6: Strategic approach to site selection 6.3. Selecting sites on their sustainability performance	Comparison of aims and commentary on objectives
SA Questions. Does the plan...	The comparison of the options illustrates the relative merits of the individual options and at this stage does not infer that any of the options will be chosen to be the final preferred option.
Human health, population and social inclusion	
<ul style="list-style-type: none"> <li>• 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?</li> <li>• Cause a cumulative impact on certain communities (either through permitting more reserves affecting the same community or by lengthening the time period of permission)?</li> </ul>	<p>Most areas in the county are sensitive in terms of effects on communities so may score similarly in an assessment of individual performance. However, one area that has suffered disproportionately from development is the area around Leighton Buzzard and Heath and Reach so this approach, without the consideration of the cumulative effect of development, may not lend enough protection to this area.</p>
Economic growth – minerals and material assets	
<ul style="list-style-type: none"> <li>• Help ensure that a sustainable contribution is made to the sub regional aggregate apportionment?</li> </ul>	<p>There is no significant difference between the two options related to the economic growth criterion.</p>
Conservation and protection of water resources	
<ul style="list-style-type: none"> <li>• Include actions that could increase / reduce the risk of effects on groundwater and surface water quality and quantity?</li> <li>• Include measures that could increase / decrease the potential for flooding?</li> </ul>	<p>If sites are chosen due to their individual sustainability performance, there is the potential for opportunities to be missed in regard to long term flood alleviation schemes in the Upper Ouse Valley. Therefore the consideration of sustainability needs to take into account both short term and long term effects.</p>
Transport	
<ul style="list-style-type: none"> <li>• 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?</li> <li>• Include actions to help to protect important distribution network nodes (e.g. rail facilities).</li> <li>• Include actions that would encourage a shift from road freight to rail freight?</li> <li>• Include actions that change mileage travelled</li> </ul>	<p>Most areas are as similarly sensitive in regard to the transport criteria. However, a more strategic approach could be taken to reduce lorry miles.</p>

Issue 6: Strategic approach to site selection 6.3. Selecting sites on their sustainability performance	Comparison of aims and commentary on objectives
SA Questions. Does the plan...	The comparison of the options illustrates the relative merits of the individual options and at this stage does not infer that any of the options will be chosen to be the final preferred option.
per tonne?	
Waste	
<ul style="list-style-type: none"> <li>• Change the amount of waste produced per tonne of mineral?</li> <li>• Include actions that change the mix of aggregates produced between primary materials and secondary / recycled materials?</li> </ul>	There is no significant difference between the two options related to the waste criterion.
Climate change	
<ul style="list-style-type: none"> <li>• Reduce the distance that minerals are transported?</li> </ul>	Most areas are as similarly sensitive in regard to the climate change criterion. However, a more strategic approach could be taken to reduce lorry miles.
Soils and geology	
<ul style="list-style-type: none"> <li>• Include actions that improve or remove geodiversity?</li> <li>• Include actions that help to protect mineral reserves (i.e. through the imposition of Mineral Consultation Areas or Mineral Safeguarding Areas).</li> </ul>	There is no significant difference between the two options related to the soils and geology criterion.
Employment and economy	
<ul style="list-style-type: none"> <li>• Include actions that change the number of people directly employed in the minerals industry?</li> </ul>	There is no significant difference between the two options related to the employment and economy criterion.
<p>Summary: Although sustainability appraisal is an important element in identifying effects (not least in terms of designing mitigation strategies and highlighting strategic environmental constraints), a more strategic approach to site selection needs to be incorporated into the plan development in order to allow a consideration of cumulative effects and potential long term benefits such as habitat creation and flood alleviation schemes.</p>	