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CLIENT PROJECT REPORT CPR1777

Oxfordshire Minerals and Waste Local Plan: Core Strategy

Sustainability Appraisal of the Consultation Draft: Appendices B-D

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Disclaimer

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Contents

Appendix B Scoping Report Consultation Responses

The following section provides details of the most recent round of consultation on the Scoping Report, in December 2013/January 2014. The list below shows who was consulted, while the table that follows shows who responded, provides a summary of their response and the action taken in response.

The following organisations were consulted on the December 2013/January 2014 version of the Scoping Report:

- English Heritage;
- Environment Agency; and
- Natural England.

Table 1: Summary of the Consultation Responses on the December 2013/January 2014 Scoping Report

Summary of comments	How the comments have been taken on board
English Heritage	
Add a reference to English Heritage's publications in the Plans, Policies and Programmes.	The plans, policies and programmes list has been updated.
The guidance suggests a specific sustainability appraisal objective of "conserve and enhance the historic environment, heritage assets and their settings" which we would prefer to SA objective 2.	The SA framework has been updated.
The proposed indicators would be more informative if it was percentage of permitted applications rather than number, also add in some additional indicators.	The SA framework has been updated.
Environment Agency	
The following suggestions were made with regards to the SA Framework: Add in the following indicators for SA3: 'Number of permitted applications using SUDS including pollution prevention measures', 'Number of permitted applications using SUDS including pollution prevention measures'. Amend SA 6 to 'to reduce the risk of flooding'	The SA framework has been updated.
We are in agreement with the approach proposed.	No action required.

Appendix C Pre Submission SA Report Consultation Responses

The following section provides details of the consultation on the Pre Submission SA Report, which was consulted upon alongside the Proposed Submission Document in May/June 2012. The table below shows who responded, provides a summary of their response, and the action taken in response.

Table 2: Summary of the Consultation Responses on the March 2012 Sustainability Report

Summary of comments	How the comments have been taken on board
English Heritage	
In the summary of the Appraisal findings, reference should be made to the archaeological interest of the Lower Windrush Valley, as this is recognised in the full assessment on page 147.	The appraisal summary in section 6 of the February 2014 SA Report has been updated to reflect this issue.
English Heritage does not understand why it is apparently not proposed to monitor Policy C7. The effects of the Core Strategy on the historic environment should be monitored.	Table 6.1 suggested monitoring related to significant effects and as no significant effects were identified for C7 no monitoring was suggested in this table. However, it does not follow that effects of the core strategy on the historic environment will not be monitored. Table 6-2 of the 2012 SA Report included a baseline indicator related to the historic environment. Within the February 2014 SA Report potential monitoring indicators for the historic environment are proposed in the SA Framework, included in Appendix D. The draft monitoring framework will be proposed in the Sustainability Report to accompany the Submission Local Plan (Core Strategy). The final monitoring plan will be published in the SA/SEA Statement, alongside the adopted Local Plan (Core Strategy).
Communities Against Gravel Extraction (CAGE)	
Inadequate Environmental Assessment. The failure to carry out a proper environmental assessment renders the Plan not legally compliant and unsound. The Environmental Assessment carried out was, in consequence, inadequate given the precision of the site selection process for Cholsey, and the whole approach remains tainted by the appearance of the bias.	The Consultation Draft Local Plan (Core Strategy) takes a more strategic approach than the previous Pre-Submission Core Strategy, identifying broad areas of search rather than the more specific areas for extraction as was previously the case. Detailed assessments of sites will be undertaken at the planning application stage. An assessment has been undertaken of the revised policy within the February 2014 SA Report. No action is therefore required in relation to this response.
Kemp & Kemp LLP	
Concerns about the Strategic Environmental Assessment (SEA) as it relates to Cholsey. The constrained nature of the "new area of working at Cholsey" is such that that "area" is in fact a specific site (SG33) located in the gap between Cholsey and Wallingford and situated to the south of the A4130 and to the west of the Wallingford-Cholsey road, and where consequently, a more detailed assessment is required.	See above.

Failure to carry out a proper environmental assessment means that the Plan is neither legally compliant nor sound.	
Wallingford Town Council (Mayor R. Lester)	
See CAGE representation.	See above.
Cholsey Parish Council	
See the CAGE submission.	See above.
Oxfordshire County Council (Councillor P. Greene)	
See the CAGE submission. All references to Cholsey must be removed.	See above.

Appendix D Assessment Matrices

D1. Minerals Planning Strategy

Policy M1: Recycled and Secondary Aggregate

The production and supply of recycled and secondary aggregate will be encouraged, in particular through:

- Recycling of construction, demolition and excavation waste;
- Recycling of road planings;
- Recycling of rail ballast;
- Recovery of ash from combustion processes;

to enable the contribution made by these materials towards meeting the need for aggregates in Oxfordshire to be maximised.

Permission will be granted for facilities for the production and/or supply of recycled and secondary aggregate, including temporary recycled aggregate facilities at aggregate quarries and inert waste landfill sites, at locations that meet the criteria in polices W5, W6 and C1 – C11.

Sites for the production and/or supply of recycled and secondary aggregate will be safeguarded in accordance with Policy W11.

SA Objective		Assessment of Effect	
		Likely Effect	Justification and Evidence
1	To protect, maintain, and enhance Oxfordshire's biodiversity and geodiversity including natural habitats, flora and fauna and protected species.	?	Use of secondary and recycled aggregates should have a positive effect on the protection of Oxfordshire's geodiversity over the longer term and potentially a long term positive effect in relation to protecting/maintaining biodiversity and habitats in those areas where primary minerals would otherwise be won. The facilities for processing of such aggregates tend to be located in existing quarries/landfills, and so are unlikely to compromise any new areas. However, the production of secondary/recycled aggregates is recognised as having environmental effects broadly similar to those caused by processing of primary aggregates so in the short and at least temporary term, adverse effects on natural habitats and species could be experienced unless appropriately mitigated. The nature of any adverse effects will depend to some extent on the location of sites for

SA Objective		Assessment of Effect	
		Likely Effect	Justification and Evidence
			secondary and recycled aggregates and the application of the common core policies to any individual applications for production of secondary/ recycled aggregates, including the location of such facilities in relation to sensitive receptors. The potential for cumulative adverse effects as a result of locating these facilities at active mineral workings should be considered when allocating sites or when applications come forward. The adverse effects arising from mobile units which serve individual developments are likely to be of a much more temporary and local in nature than those effects from facilities holding long term consents.
2	Protect and enhance landscape character, local distinctiveness, conserve and enhance the historic environment, heritage assets and their settings.	?	Use of secondary and recycled aggregates has the potential for long term minor positive effects on the protection of Oxfordshire's landscape character and historic/built heritage in that facilities for processing of such aggregates tend to be located in existing quarries/landfills, and so would not compromise any new areas. The nature of any adverse effects will depend to some extent on the location of sites for secondary and recycled aggregates and the application of the common core policies to any individual applications for production of secondary/ recycled aggregates, including the location of such facilities in relation to landscape and historic assets and potential for cumulative adverse effects as a result of locating these facilities at active mineral workings. The adverse effects arising from mobile units which serve individual developments are likely to be of a much more temporary and local nature than those effects from facilities holding long term consents.
3	To maintain and improve ground and surface water quality.	?	The nature of any adverse effects will depend to some extent on the location of sites for secondary and recycled aggregates and the application of the common core policies to any individual applications for production of secondary/recycled aggregates, including the location of such facilities in relation to sensitive receptors. The potential for cumulative adverse effects as a result of locating these facilities at active mineral workings should be considered when allocating sites or when applications come forward. The adverse effects arising from mobile units which serve individual developments are likely to be of a much more temporary and local nature than those effects from facilities holding long term consents.
4	To improve and maintain air quality to levels which do not damage natural systems.	?	The nature of any adverse effects will depend to some extent on the location of sites for secondary and recycled aggregates and the application of the common core policies to any individual applications for production of secondary/recycled aggregates, including the location of such facilities in relation to sensitive receptors. The potential for cumulative adverse effects as a result of locating these facilities at active mineral workings should be considered when allocating sites or when applications come forward. The adverse effects arising from mobile units which serve individual developments are likely

SA Objective		Assessment of Effect	
		Likely Effect	Justification and Evidence
			to be of a much more temporary and local nature than effects from those facilities holding long term consents. Mobile units also provide a means to reduce the distance that aggregates are transported, which could have a positive effect on air quality in relation to transport related emissions.
5	To reduce greenhouse gas emissions to reduce the cause of climate change.	?	Less extraction of primary aggregates may reduce greenhouse gas emissions from this source. However greenhouse gas emissions will be produced during the processing and distribution of recycled and secondary aggregates and these emissions can be as high as those from extracting primary materials. The main factor affecting the level of emissions is transport distances. Emissions may therefore be reduced if recycled and secondary aggregate processing sites are located closer to the site in which the aggregate is needed than the primary extraction site, reducing transportation distances and subsequently reducing greenhouse gas emissions. Temporary mobile recycling units for example have the advantage of locating close to the source/end point, potentially even on the construction site, resulting in no additional emissions from transportation of materials.
6	To reduce the risk of flooding.	?	The nature of any adverse effects will depend to some extent on the location of sites for secondary and recycled aggregates and the application of the common core policies to any individual applications for production of secondary/ recycled aggregates and in particular the planned location of such facilities – i.e. whether they are located in areas of flood risk.
7	To minimise the impact of transportation of aggregates and waste products on the local and strategic road network.	?	The nature of any adverse effects will depend to some extent on the location of sites for secondary and recycled aggregates and the application of the common core policies to any individual applications for production of secondary/recycled aggregates and in particular the planned location of such facilities in relation to the markets/end use sites. Where these facilities exist in close proximity to active mineral workings there are likely to be negative temporary but sustained cumulative effects without appropriate mitigation. Many of the active temporary and permanent secondary and recycle aggregates facilities are located at existing quarries and landfill sites so effects on the local road network are likely to be similar as for primary aggregates, depending on the volumes of material moved and potential for backfilling. Temporary mobile units have the advantage of locating close to the source/end point, reducing transportation distances and subsequently effects on the strategic road network.
8	To minimise negative impacts of waste management facilities and mineral extraction on people and local communities.	?	The nature of any adverse impacts will depend to some extent on the location of sites for secondary and recycled aggregates and the application of the common core policies to any individual applications for production of secondary/recycled aggregates and in particular the planned location of such facilities in relation to local communities. Many of the active temporary and permanent secondary and recycled aggregates facilities are located at existing quarries and landfill sites so adverse effects on the local communities are

SA Objective		Assessment of Effect	
		Likely Effect	Justification and Evidence
			likely to be similar to the winning of primary aggregates, depending on the volumes of material moved and potential for backfilling. Temporary mobile units have the advantage of locating close to the source/end point, reducing transportation distances and subsequently impacts on local communities.
9	To protect, improve and where necessary restore land and soil quality.	++	The nature of any adverse impacts will depend to some extent on the location of sites for secondary and recycled aggregates and the application of the common core policies to any individual applications for production of secondary/recycled aggregates. The promotion of secondary and recycled aggregates should have a significant positive effect on the protection of high grade agricultural land and soil quality, as it minimises land take – sites are usually operated from existing quarries/landfills and could reduce disturbance to land from the extraction of land won aggregates.
10	To contribute towards moving up the waste hierarchy in Oxfordshire.	++	The policy encourages use of secondary and recycled aggregates which might otherwise be disposed of to landfill, so should have a significant positive effect in relation to this SA objective.
11	To enable Oxfordshire to be self-sufficient in its waste management and to provide for its local need for aggregates as set out in the LAA	+	By encouraging the production and supply of recycled and secondary aggregate this policy makes a positive contribution to Oxfordshire's local needs for aggregates.
12	To support Oxfordshire's economic growth and reduce disparities across the county.	+	Encouraging the production and supply of recycled and secondary aggregate will support Oxfordshire's economic growth over the long term and in particular growth of the local economy. Recycling facilities tend to be located at existing quarries and landfills, thus continuing to support local jobs and businesses.

SA Objective	Assessment of Effect	
	Likely Effect	**Justification and Evidence**
Summary of Assessment and Mitigation Measures		Policy M1 seeks to maximise the contribution to aggregate supply from recycled and secondary aggregates. Production of secondary/recycled aggregates is recognised as having environmental effects broadly similar to those caused by processing of primary aggregates. The nature of any adverse effects will depend to some extent on the exact location of sites for secondary and recycled aggregates. If these facilities exist in close proximity to active mineral workings there could be negative cumulative effects upon nearby receptors from increased traffic bringing material to sites and effects such as noise and dust which would need to be considered at the planning application stage. The adverse effects arising from the operation of temporary mobile units associated with individual developments are likely to be temporary and of a more local nature than from those facilities which hold long term consents. The application of the common core policies to any individual applications should assist in mitigating any significant adverse effects. The policy will support Oxfordshire's economic growth over the long term and in particular growth of the local economy, as recycling facilities tend to be located at existing quarries and landfills, thus continuing to support local jobs and businesses.

Policy M2: Provision for working aggregate minerals

Provision will be made to enable the supply of aggregate minerals from land-won sources within Oxfordshire to meet the requirement identified in the most recent Local Aggregate Assessment.

Permission will be granted for aggregate mineral working to enable separate land banks of reserves with planning permission to be maintained for the extraction of minerals of:

- at least 7 years for sharp sand and gravel;
- at least 7 years for soft sand;
- at least 10 years for crushed rock;

in accordance with the annual requirement rate in the most recent Local Aggregate Assessment.

In order to enable an effective supply of locally sourced construction material to the county's main growth areas, a broad balance in annual production capacity for sharp sand and gravel between the mineral resource areas in western Oxfordshire (west of Oxford and north of the River Thames) and southern Oxfordshire (south of Oxford) will be sought.

SA Objective		Assessment of Effect	
		Likely Effect	Justification and Evidence
1	To protect, maintain, and enhance Oxfordshire's biodiversity and geodiversity including natural habitats, flora and fauna and protected species.	?	There is potential for adverse effects on this SA objective as the figures within the LAA suggest the need for working that is above the current rate of extraction. Effects however cannot be judged on the LAA provision figure alone, these depend on the location and distribution of mineral working sites which make up the provision – as appraised in Policy M3. There is also uncertainty as to whether sites in the landbank will be brought forward for extraction. Uncertain effects have therefore been identified.
2	Protect and enhance landscape character, local distinctiveness, conserve and enhance the historic environment, heritage assets and their settings.	?	As above
3	To maintain and improve ground and surface water quality.	?	As above
4	To improve and maintain air quality to levels which do not damage natural	?	As above

SA Objective		Assessment of Effect	
		Likely Effect	Justification and Evidence
	systems.		
5	To reduce greenhouse gas emissions to reduce the cause of climate change.	**?/+**	There is potential for adverse effects on this SA objective as the figures within the LAA suggest the need for working that is above the current rate of extraction. Effects however cannot be judged on the LAA provision figure alone these depend on the location and distribution of mineral working sites which make up the provision – as appraised in Policy M3. There is also uncertainty as to whether sites in the landbank will be brought forward for extraction. Uncertain effects have therefore been identified. Balancing provision for sharp sand and gravel between the resource areas in western Oxfordshire and southern Oxfordshire should help to ensure that construction materials are available locally to the county's main growth areas, thereby reducing the distances that these materials will need to be transported and minimising greenhouse gas emissions.
6	To reduce the risk of flooding.	**?**	As SA 4
7	To minimise the impact of transportation of aggregates and waste products on the local and strategic road network.	**?/+**	There is potential for adverse effects on this SA objective as the figures within the LAA suggest the need for working that is above the current rate of extraction. Effects however cannot be judged on the LAA provision figure alone these depend on the location and distribution of mineral working sites which make up the provision – as appraised in Policy M3. There is also uncertainty as to whether sites in the landbank will be brought forward for extraction. Uncertain effects have therefore been identified. Balancing provision for sharp sand and gravel between the resource areas in western Oxfordshire and southern Oxfordshire should help to ensure that construction materials are available locally to the county's main growth areas, thereby reducing the distances that these materials will need to be transported.
8	To minimise negative impacts of waste management facilities and mineral extraction on people and local communities.	**?**	There is potential for adverse effects on this SA objective as the figures within the LAA suggest the need for working that is above the current rate of extraction. Effects however cannot be judged on the LAA provision figure alone these depend on the location and distribution of mineral working sites which make up the provision – as appraised in Policy M3. There is also uncertainty as to whether sites in the landbank will be brought forward for extraction. Uncertain effects have therefore been identified.
9	To protect, improve and where necessary restore land and soil quality.	**?**	As above
10	To contribute towards moving up the waste hierarchy in Oxfordshire.	**0**	

SA Objective		Assessment of Effect	
		Likely Effect	**Justification and Evidence**
11	To enable Oxfordshire to be self-sufficient in its waste management and to provide for its local need for aggregates as set out in the LAA	++	The policy makes provision to enable the supply of aggregate minerals from land-won sources within Oxfordshire to meet the requirement identified in the most recent Local Aggregate Assessment.
12	To support Oxfordshire's economic growth and reduce disparities across the county.	+	The policy makes provision for aggregate supply to support economic growth. Basing the provision on the requirements in the most recent LAA, as opposed to a fixed amount for the plan period, provides the flexibility for extraction to be increased if demand exists, thereby supporting economic growth objectives. Balancing provision for sharp sand and gravel between the resource areas in western Oxfordshire and southern Oxfordshire should help to ensure that construction materials are available locally to the county's main growth areas.
Summary of Assessment and Mitigation Measures		The adverse effects which might arise from a particular volume of mineral working in the County are difficult to predict based on the figures within the LAA alone, as it is the spatial implications, i.e. the location and distribution of mineral working sites which will determine the effects. The proposed spatial distribution of this is appraised through Policy M3. There is also uncertainty as to whether sites in the landbank will be brought forward for extraction. Uncertain effects have therefore been identified. As a result uncertain effects have been identified for many of the SA objectives. The policy makes provision to enable the supply of aggregate minerals from land-won sources within Oxfordshire to meet the requirement identified in the most recent Local Aggregate Assessment. Significant positive effects have therefore been identified for SA11. Basing the provision on the requirements in the most recent LAA, as opposed to a fixed amount for the plan period, provides the flexibility for extraction to be increased if demand exists, thereby supporting economic growth objectives., whilst balancing provision for sharp sand and gravel between the resource areas in western Oxfordshire and southern Oxfordshire should help to ensure that construction materials are available locally to the county's main growth areas. It is however recognised that effects in the longer term are more uncertain i.e. sites chosen to deliver the strategy may not come forward and other sites which may or may not be more constrained might then be needed. This uncertainty would be addressed through policy monitoring and the implementation of the common core policies when planning applications come forward.	

Policy M3: Locations for working aggregate minerals

Permission will be granted for the working of aggregate minerals within the following areas of search, provided that the criteria in Policy M4 are met:

A. Areas of search for sharp sand and gravel working, as shown on figures 9 – 12:

Western Oxfordshire:

- Eynsham/Cassington/Yarnton (including Lower Evenlode Valley).
- Lower Windrush Valley;

Southern Oxfordshire:

- North East of Caversham.
- Thames Valley (Oxford to Goring Gap);

B. Areas of search for soft sand working, as shown on figures 13 – 14:

- The Corallian Ridge between Oxford and Faringdon;
- Duns Tew.

C. Areas of search for crushed rock working:

- North West of Bicester;
- South of the A40 near Burford;
- South of the A40 near Burford;
- East and south east of Faringdon.

SA Objective		Assessment of Effect	
		Likely Effect	**Justification and Evidence**
1	To protect, maintain, and enhance Oxfordshire's biodiversity and geodiversity including natural habitats, flora and fauna and protected species.	**+/-**	**Sharp sand and gravel:** Although the proposed areas for sharp sand and gravel extraction are generally well located in terms of not being in close proximity to important nature conservation sites, some areas within Eynsham/Cassington/Yarnton (ECY) and the Lower Windrush Valley (LWV) are close to important nature conservation designations (SSSIs, SAC) and in addition the Thames Valley Area of Search (parcel near Kennington) is adjacent to a SSSI. These designations could constrain working in some sites within these areas and a precautionary approach has therefore been identified in relation to sites in the ECY area within the revised policy. Potential impacts on hydrology of the Cothill Fen SAC are identified in Policy M4 and reflect the findings of the HRA/AA. Where there is potential for adverse effects due to proximity to nature conservation sites, mitigation measures should be put in place to protect these areas. There are extensive Conservation Target Areas (CTAs) within the Lower Windrush Valley.

SA Objective		Assessment of Effect	
		Likely Effect	Justification and Evidence
			There are also Conservation Target Areas in ECY (Oxford Meadows), Thames Valley (Thames Wallingford to Goring and link Thames Radley to Abingdon with Thames Clifton to Shillingford). The main aim within CTAs is to restore biodiversity at a landscape-scale through maintenance, restoration and creation of BAP priority habitats. When working ceases in these areas there is potential for restoration schemes to contribute positively to the planned restoration and habitat creation at a large-scale, which would have significant beneficial cumulative effects for biodiversity. However, these benefits would not be felt until the very long-term (as it is likely to take years before the restoration plans are implemented and working is identified in the LWV and ECY to continue throughout the plan period). During the period of active working adverse effects are more likely. **Soft sand:** The HRA screening report recommended that proposals for further soft sand working in the area north and south of the A420 would only be permitted if it could be demonstrated that they would not have an effect on water levels at Cothill Fen SAC. An operator proposing to work any sites in this area is therefore appropriately required to demonstrate no likely significant effects on Cothill Fen SAC through the revised policy. The soft sand site at Duns Tew is associated with the Horsehay Quarries SSSI that is designated for its Earth Heritage status. There are also SSSIs in the area of the Corallian Ridge between Oxford and Faringdon. This latter area also includes the Cothill Fen SAC and the Cothill National Nature Reserve (NNR). The presence of SSSIs will affect the extent of the area that can be worked. Mitigation measures will be required where working is close to designated areas to ensure there are no adverse effects on them. Soft sand quarries are not as extensive as sand and gravel quarries but they still offer opportunities to enhance or link CTAs such as the West Oxfordshire Heights CTA, which is in the vicinity of some soft sand quarries south of Faringdon and the Oxford Heights West CTA which encompasses the area west of Oxford around the soft sand quarries at Tubney and Upwood Park. Because soft sand is normally worked 'dry', i.e. above the water table, there is opportunity for restoration to be to dry land and to incorporate some of the target habitats listed in the BAP, although this may be dependent on the availability of inert fill to raise ground levels. Restoration of other sites outside CTAs also has the potential to result in creation of new habitats which would have a long term positive effect on this SA objective. **Crushed rock:** The area north west of Bicester is constrained by the presence of SSSIs. There are also SSSIs to the south of Faringdon. Proximity to these sites may affect the extent of areas that can be

SA Objective		Assessment of Effect	
		Likely Effect	Justification and Evidence
			worked and mitigation measures may be required to ensure there are no adverse effects on them. Restoration has potential to create opportunities for biodiversity which would have a long term positive effect on this SA objective.
2	Protect and enhance landscape character, local distinctiveness, conserve and enhance the historic environment, heritage assets and their settings.	**+/-**	**Sharp sand and gravel:** The Thames Valley Area of Search contains an area south-west of Wallingford which is surrounded by the North Wessex Downs AONB. Mineral working in this area could therefore give rise to adverse effects on the setting of the AONB in the short to medium term. Working in all the identified areas has potential for negative effects on local landscape character and measures to mitigate against negative effects should be required at the planning application stage. There is potential for negative effects in LWV due to the presence of Scheduled Ancient Monuments and significant archaeological constraints in the LWV. The same is the case for the Thames Valley Area of Search which includes areas around Long Wittenham and Warborough that include Scheduled Ancient Monuments. In addition, the area south west of Wallingford is adjacent to a Registered Park and Garden. Mineral working can lead to damage to archaeological features and so sites should be located away from these and where they are in close proximity, mitigation measures against adverse effects should be in place (where applicable) before extraction of materials. **Soft Sand:** None of the areas of search for soft sand extraction lie within either of the AONBs in the county. However, mineral working has potential for adverse effects on local landscape character, and mitigation measures should be in place. There are Scheduled Ancient Monuments in the Corallian Ridge area of search for soft sand extraction. Working in this area would need to take account of the presence of the monuments and protect them accordingly. **Crushed rock:** There are Scheduled Ancient Monuments within the area north of Bicester. Mitigation measures against adverse effects on these heritage assets as well as on local landscape character may be required prior to extraction of materials to avoid adverse effects.
3	To maintain and improve ground and surface water quality.	**+/-**	**Sharp sand and gravel:** There is potential for adverse effects on surface and ground water as a result of mineral workings. Effects may include the modification of surface flows to watercourses or existing ponds, and alteration of groundwater seepages, flushes or spring flows. There is potential for negative effects on ground water in LWV, Eynsham/Cassington/Yarnton (ECY) Thames Valley AoS and Caversham from sharp sand and gravel extraction due to the

SA Objective		Assessment of Effect	
		Likely Effect	**Justification and Evidence**
			presence of underlying aquifers. There is also potential for negative effects on the surface water quality of the River Windrush (LWV), River Evenlode (ECY) and River Thames (Caversham, Thames Valley) from sharp sand and gravel extraction in these areas. Policy M4 provides the following requirements in relation to SACs that could potentially be adversely affected by minerals extraction "… *in the case of proposed working within the Eynsham/Cassington/Yarnton area of search, it has been demonstrated that there will be no change in water levels in the Oxford Meadows Special Area of Conservation and the proposal does not involve the working of land to the north or north east of the River Evenlode*"; and "*In the case of proposed working within the Corallian Ridge area of search, it has been demonstrated that there will be no change in water levels in the Cothill Fen Special Area of Conservation*". These requirements should have a positive effect on the water quality objective for the water bodies associated with these SACs. There is potential for cumulative negative effects on ground water flow as a result of concentration of mineral workings within one area and in particular in the LWV and Cassington area. **Soft sand:** Most soft sand working takes place above the water table and therefore minimal adverse effects on ground water flows are expected. **Crushed rock:** Effects on ground water would need to be tested at the planning application stage.
4	To improve and maintain air quality to levels which do not damage natural systems.	-	There is potential for air pollution associated with HGV movements in all the identified areas for working over the lifetime of the working permissions and into the restoration period. However as rate of production should not exceed the current permitted rates, there should be no additional short term adverse effects in those areas which are existing working areas. **Sharp sand and gravel:** As resources at Sutton Courtenay are exhausted and working potentially moves into other sites in the Thames Valley area, it is expected that adverse effects will shift as well. Sand and gravel extraction in the Thames Valley area will provide a continued local source of aggregates in the south of the county, which is well located to meet the likely need from planned development at Didcot and Wantage & Grove and reduce distances travelled to these markets. **Soft sand:** Working in the south west areas identified is unlikely to lead to significant increases in HGV traffic; as these areas are based around existing working areas, and preference would be on extensions to existing quarries to make the most efficient use of plant and infrastructure.

SA Objective		Assessment of Effect	
		Likely Effect	Justification and Evidence
			Crushed rock: As the identified areas for crushed rock are based around existing limestone working areas, if working continues at the current level, it is expected that there would be no increase in adverse effects on air quality; as traffic levels would be the same as current and preference would be on extensions to existing quarries, to make the most efficient use of plant and infrastructure.
5	To reduce greenhouse gas emissions to reduce the cause of climate change.	**-**	Greenhouse gas emissions are expected in all the areas due to transportation of materials by road. However the strategy should not lead to significant increases in greenhouse gas emissions as the increase in HGV vehicles is not expected to be high and the emphasis is predominantly on extensions rather than new sites, at least in the short term. Sand and gravel extraction in southern Oxfordshire will provide a continued local source of aggregates in the south of the county, which is well located to meet the likely need from planned development at Didcot and Wantage & Grove and reduce distances travelled to these markets (and thus greenhouse gas emissions associated with road transport).
6	To reduce the risk of flooding.	**0**	**Sharp sand and gravel:** Some parts of the proposed production area for sharp sand and gravel lie within high flood risk zones (LWV, ECY, Caversham and Thames Valley). The Environment Agency (EA) requires that development should be avoided in the floodplain where possible and requires the sequential and (where appropriate), the exception tests to be applied. The requirement to apply these tests is now explicitly included in common core Policy C3: Flooding. Sand and gravel extraction is considered to be compatible development but the sequential test is still applied to the assessment of these areas as flooding may cause damage, disruption and loss of earnings to this type of development. For example, supporting infrastructure would be at risk from flooding and should be located away from the high risk areas. **Soft sand:** Most soft sand working areas lie outside flood risk zones 2 and 3. Where there is potential for flooding, mitigation measures including the sequential test will be required before site allocation of supporting infrastructure. The requirement to apply these tests is now explicitly included in Policy C3: Flooding. **Crushed rock:** None of the proposed areas lie within areas of high flood risk.
7	To minimise the impact of transportation of aggregates and waste products on the local and strategic road	**-**	Continued and concentrated working in the existing areas is likely to result in cumulative effects in terms of congestion, road maintenance and safety. However, mitigation measures at the planning application stage can help reduce such effects where new planning permissions are sought. It is also envisaged that there should be no significant increase in

SA Objective		Assessment of Effect	
		Likely Effect	Justification and Evidence
	network.		working in any one particular area and so no significant adverse cumulative effects are expected in any of these areas. Local effects should be addressed through the application of the common core policies in the Core Strategy and at the planning permission stage. **Sharp sand and gravel:** There is potential for adverse, temporary but long term effects on the road network associated with sharp sand and gravel working on the A40 (LWV, ECY), A44 (ECY), A4155/B478 (N.E. of Caversham Area of Search) and B4016/A4130 (Sutton Courtenay – up to 2020). Post 2020, there is potential for negative transport effects in another area in the Thames Valley Area of Search, however the exact location will depend on the sites worked. **Soft sand:** It is not envisaged that soft sand working in any of the identified areas would lead to significant increases in HGV traffic. However, there is potential for some adverse effects from increased traffic on the local roads including on the B4030/A4260 (Duns Tew) and on the A420, A415, A417, and B4508 (Corralian Ridge area of search). Further assessment on access and suitability of roads to accommodate increased HGV traffic is recommended at the application stage. **Crushed rock:** If working continues at the current level (identified areas are existing limestone working areas), transport effects will remain as current. However, increased working in any one particular area has potential for negative cumulative effects on the road network and communities near the area. Careful consideration should be given to access and road capacities when considering sites for further working.
8	To minimise negative impacts of waste management facilities and mineral extraction on people and local communities.	**-/?**	The majority of the areas proposed for future extraction are associated with existing minerals working areas and therefore those communities that are currently adversely affected by mineral workings are expected to continue to experience adverse effects for the plan period and longer term. Once sites are fully worked out and restored, these adverse effects should be reduced, and over time there may even be positive permanent effects as a result of restoration initiatives. The degree and nature of effects will be dependent on mitigation measures put in place through new planning permissions, proximity to sensitive receptors and the duration of working. There may however also be future extraction in areas where local communities are not currently affected by minerals operations. There is potential for negative adverse effects on local communities near to any new minerals workings in the Thames Valley as a result of dust, noise, disruption, adverse visual effects and traffic congestion. The extent of these adverse effects will depend on the mitigation measures put in place, proximity of workings to sensitive receptors and the duration of working – all of which will be addressed at the site specific level. Local effects should be

SA Objective		Assessment of Effect	
		Likely Effect	Justification and Evidence
			addressed through the application of the common core policies in the Core Strategy at the planning permission stage.
9	To protect, improve and where necessary restore land and soil quality.	+	LWV and ECY offer opportunities for landscape wide restoration schemes. There are extensive Conservation Target Areas within the Lower Windrush Valley and there is extensive scope for restoration on a landscape scale, which would also contribute to national Biodiversity Action Plan targets. There are also Conservation Target Areas in ECY (Oxford Meadows), Thames Valley (Thames Wallingford to Goring, link Thames Radley to Abingdon with Thames Clifton to Shillingford). Other areas have potential for beneficial restoration effects depending on the preferred land uses. Restoration of sites is likely to lead to improved land and soil quality which would have an indirect positive effect on this objective.
10	To contribute towards moving up the waste hierarchy in Oxfordshire.	0	
11	To enable Oxfordshire to be self-sufficient in its waste management and to provide for its local need for aggregates as set out in the LAA	++	The policy makes a sustainable contribution to Oxfordshire's LAA figure by allocating sites in existing minerals working areas predominantly, which can take advantage of existing infrastructure and employment, and which are located in reasonable proximity to the markets. To safeguard these communities from additional cumulative effects the policy does not permit an increase in the overall level of extraction or mineral lorry traffic above past levels within these areas combined
12	To support Oxfordshire's economic growth and reduce disparities across the county.	+	**Sharp sand and gravel:** All the areas for sharp sand and gravel extraction are well located in terms of proximity to the markets and provide potential for investment and job creation which supports the local economy and has a long term positive effect on this SA objective. **Soft sand:** Working in the identified areas for soft sand extraction provides some positive economic benefits and allows for use of existing infrastructure and networks. This policy also allows the current pattern of extraction of two different quality sands to be continued which has a positive economic benefit.
Summary of Assessment and Mitigation Measures		**Sharp sand and gravel:** Seeking to concentrate extraction predominantly in areas where working is currently taking place or has taken place recently has the economic advantages of using existing infrastructure as well as a skilled local labour force. It also presents opportunities for co-ordinated large-scale restoration projects which would in the longer term lead to a degree of beneficial effects for the local communities (through recreation and leisure opportunities) as well as for local wildlife. However, there is still potential for ongoing cumulative negative effects throughout the plan period on the local communities especially with regard to traffic and amenity issues,	

SA Objective	Assessment of Effect	
	Likely Effect	**Justification and Evidence**
		unless these adverse effects are appropriately considered at the site allocation stage and through the common core policies in the MWCS when new planning permissions are sought. There is also potential for negative adverse effects on local communities near to any new minerals workings in the Thames Valley as a result of dust, noise, disruption, adverse visual effects and traffic congestion. The extent of these adverse effects will depend on the mitigation measures put in place, proximity of workings to sensitive receptors and the duration of working – all of which will be addressed at the site specific level. Local effects should be addressed through the application of the common core policies in the Core Strategy at the planning permission stage. Various issues have been identified with regards nature conservation sites, for example with some areas within Eynsham/Cassington/Yarnton and the Lower Windrush Valley (LWV) being close to important nature conservation designations (SSSIs, SAC) and in addition the Thames Valley Area of Search (parcel near Kennington) is adjacent to a SSSI. Potential adverse effects on nature conservation objectives and in particular designated European Sites will need to be addressed at the individual planning application stage and the common core Policy C7 aims to achieve this. Consideration will also need to be given to landscape and the historic environment, as various constraints have also been identified with regards to AONBs (Thames Valley), Scheduled Ancient Monuments and other archaeology (in the LWV and Thames Valley). **Soft sand:** Identifying areas of working in the south and north of the county will help minimise traffic effects as well as spread the effects of soft sand working more equitably. However, there will be some cumulative effects on communities living close to existing sites and careful consideration should be given when identifying specific sites and permitting further extraction, so as to minimise the overall effects of continued working in these areas. The common core policies are expected to ensure there are no significant adverse effects. The two areas in the south west of the county have different quality sands and the policy appropriately allows for the working of the two types of sand. Continuing with the existing pattern provides certainty to industry and also takes advantage of existing infrastructure. Potential adverse effects on nature conservation objectives and in particular designated European Sites will need to be addressed at the individual planning application stage and the common core aims to achieve this. **Crushed rock:** The policy in relation to crushed rock would lead to a distribution of effects of crushed rock working in the county therefore potentially preventing adverse effects on a single locality. This policy takes advantage of existing infrastructure as well as continuing to provide local employment. This has positive economic benefits. In the long term, there is potential for adverse cumulative effects on the communities living near the identified areas. Careful consideration should be given to the exact location of sites and works, relative to housing and other sensitive receptors to mitigate potential additional adverse effects to those already experienced.

SA Objective	Assessment of Effect	
	Likely Effect	**Justification and Evidence**
	Where there is potential for adverse effects due to proximity to nature conservation sites, mitigation measures should be put in place to protect these areas at planning application stage.	

Policy M4: Working on aggregate minerals

Permission will be granted for the working of aggregate minerals within the areas of search in Policy M3 provided that:

- In all cases, the mineral is required to maintain a steady supply of aggregate in accordance with Policy M2 and the requirements of polices C1 – C11 are met;

  and

- In the case of proposals for working sharp sand and gravel, the proposal is consistent with the need to achieve a broad balance of production capacity in accordance with Policy M2;
- In the case of proposed working within the Eynsham / Cassington / Yarnton area of search, it has been demonstrated that there will be no change in water levels in the Oxford Meadows Special Area of Conservation and the proposal does not involve the working of land to the north or north east of the River Evenlode;
- In the case of proposed working within the Corallian Ridge area of search, it has been demonstrated that there will be no change in water levels in the Cothill Fen Special Area of Conservation;
- In the case of proposed working within the Western Oxfordshire areas of search, there would be not more than three operational mineral working sites within these areas combined;
- In the case of proposed working within the North East of Caversham area of search, it would be either an extension to or a replacement for the existing Caversham Quarry;
- In the case of proposed working within the Thames Valley between Oxford and Goring Gap area of search, it would be either an extension to the existing Sutton Courtenay Quarry or a new quarry required to replace an existing sharp sand and gravel quarry in Oxfordshire;
- In the case of proposals for new quarries for soft sand or crushed rock, the requirement to maintain a steady supply of aggregate in accordance with Policy M2 cannot be met from extensions to existing quarries.

Permission will not be granted for the working of aggregate minerals outside the areas of search defined in Policy M3 unless the requirement to maintain a steady supply of aggregate in accordance with Policy M2 cannot be met from within those areas.

Permission will be granted for the working of aggregate minerals both within the areas of search in Policy M3 and elsewhere provided that extraction of the mineral is required prior to a planned development in order to prevent the mineral resource being sterilised and that the requirements of Polices C1 – C11 are met.

Further working of minerals for aggregate use will not be permitted within Areas of Outstanding Natural Beauty.

Permission for working of ironstone for aggregate use will not be permitted except in exchange for revocation without compensation of an equivalent existing permission in Oxfordshire containing workable resources and where there would be an overall environmental benefit.

SA Objective		Assessment of Effect	
		Likely Effect	Justification and Evidence
1	To protect, maintain, and enhance Oxfordshire's biodiversity and geodiversity including natural habitats, flora and fauna and protected species.	+	The policy requires that working within the Eynsham / Cassington / Yarnton area of search will only be allowed if it has been demonstrated that there will be no change in water levels in the Oxford Meadows Special Area of Conservation (SAC) and the proposal does not involve the working of land to the north or north east of the River Evenlode. In relation to the Corallian Ridge area of search, working will only be allowed if it has been demonstrated that there will be no change in water levels in the Cothill Fen Special Area of Conservation. This should help to protect and maintain these SACs. In addition, by ensuring that the requirements of Policy C7 are met this should help to minimise any adverse effects biodiversity and geodiversity.
2	Protect and enhance landscape character, local distinctiveness, conserve and enhance the historic environment, heritage assets and their settings.	+	The policy does not allow for minerals workings in AONBs. In addition, by ensuring that the requirements of Policies C8 and C9 are met this should help to minimise any adverse effects on landscape, heritage and their settings.
3	To maintain and improve ground and surface water quality.	+	The policy requires that working within the Eynsham / Cassington / Yarnton area of search will only be allowed if it has been demonstrated that there will be no change in water levels in the Oxford Meadows SAC and the proposal does not involve the working of land to the north or north east of the River Evenlode. In relation to the Corallian Ridge area of search working will only be allowed if it has been demonstrated that there will be no change in water levels in the Cothill Fen Special Area of Conservation. This should help to maintain ground and surface water quality in these areas. In addition, by ensuring that the requirements of Policy C4 are met this should help to minimise any adverse effects water quality.
4	To improve and maintain air quality to levels which do not damage natural systems.	+	By ensuring that the requirements of Policy C5 are met this should help to minimise any adverse air quality effects.
5	To reduce greenhouse gas emissions to reduce the cause of climate change.	+	By ensuring that the requirements of Policy C2 are met this should help to minimise greenhouse gas emissions. In addition, by ensuring a balanced approach to minerals supply in the areas in western Oxfordshire and southern Oxfordshire should help to ensure that construction materials are available locally to the county's main growth areas, thereby reducing the distances that these materials will need to be transported and minimising greenhouse gas emissions.

SA Objective		Assessment of Effect	
		Likely Effect	Justification and Evidence
6	To reduce the risk of flooding.	+	By ensuring that the requirements of Policy C3 are met this should help to reduce the risk of flooding.
7	To minimise the impact of transportation of aggregates and waste products on the local and strategic road network.	+	Balancing provision for sharp sand and gravel between the resource areas in western Oxfordshire and southern Oxfordshire should help to ensure that construction materials are available locally to the county's main growth areas, thereby reducing the distances that these materials will need to be transported.
8	To minimise negative impacts of waste management facilities and mineral extraction on people and local communities.	+	By ensuring that the requirements of Policy C5 are met this should help to minimise any adverse effects on local communities.
9	To protect, improve and where necessary restore land and soil quality.	+	By ensuring that the requirements of Policy C6 are met this should help to minimise any adverse effects on soils.
10	To contribute towards moving up the waste hierarchy in Oxfordshire.	0	
11	To enable Oxfordshire to be self-sufficient in its waste management and to provide for its local need for aggregates as set out in the LAA	+	This policy supports this objective by allowing for minerals working as long as certain criteria are met.
12	To support Oxfordshire's economic growth and reduce disparities across the county.	+	By allowing for minerals working as long as certain criteria are met this policy should help to support economic growth in the county. Balancing provision for sharp sand and gravel between the resource areas in western Oxfordshire and southern Oxfordshire should help to ensure that construction material are available locally to the county's main growth areas.
Summary of Assessment and Mitigation Measures		By allowing for minerals working as long as certain criteria are met this policy should help to provide for its local aggregates needs and support economic growth in the county. Balancing provision for sharp sand and gravel between the resource areas in western Oxfordshire and southern Oxfordshire should help to ensure that construction material are available locally to the county's main growth areas. The requirements of the common core policies should help to minimise any adverse effects on the environment and local communities. As a result positive effects have been identified with for objectives SA1 (biodiversity), SA2 (landscape and historic environment), SA3 (water quality), SA4 (air quality), SA5 (greenhouse gas	

SA Objective	Assessment of Effect	
	Likely Effect	**Justification and Evidence**
		emissions), SA6 (flooding), SA7 (transport), SA8 (people and local communities) and SA9 (land and soil quality). Specific parts of the policy should which ensure the protection of certain habitats, such as requiring that working within the Eynsham / Cassington / Yarnton area of search will only be allowed if it has been demonstrated that there will be no change in water levels in the Oxford Meadows Special Area of Conservation and the proposal does not involve the working of land to the north or north east of the River Evenlode. Also, in relation to the Corallian Ridge area of search, working will only be allowed if it has been demonstrated that there will be no change in water levels in the Cothill Fen Special Area of Conservation. The policy also does not allow for minerals workings in AONBs.

Policy M5: Aggregate rail depots

The following rail depot sites are safeguarded for the importation of aggregate into Oxfordshire:

- Hennef Way, Banbury (existing facility);
- Kidlington (permitted replacement facility);
- Appleford Sidings, Sutton Courtenay (existing facility);
- Shipton on Cherwell Quarry (permitted facility);
- and any other aggregate rail depot sites which are permitted, as identified in the Annual Monitoring Report.

Permission will be granted for new aggregate rail depots at locations with suitable access to an advisory lorry route and that meet the criteria in Polices C1 – C11.

Proposals for development that would result in the direct loss of a safeguarded aggregate rail depot site will not be permitted unless a suitable alternative site can be provided.

Development sensitive to disturbance from, and which would prejudice the operation or establishment of an aggregate rail depot at a safeguarded site should not take place unless:

- a suitable alternative site can be provided; or
- it can be demonstrated that the rail depot is no longer needed for Oxfordshire's aggregate supply requirements.

SA Objective		Assessment of Effect	
		Likely Effect	**Justification and Evidence**
1	To protect, maintain, and enhance Oxfordshire's biodiversity and geodiversity including natural habitats, flora and fauna and protected species.	**0**	This policy safeguards the movement of imported aggregates via rail transport and enables new aggregate rail depots to be developed in suitable locations. This may have more positive long term effects on biodiversity than transportation by road.
2	Protect and enhance landscape character, local distinctiveness, conserve and enhance the historic environment, heritage assets and their settings.	**0**	This policy safeguards the movement of imported aggregates via rail transport and enables new aggregate rail depots to be developed in suitable locations. This may have more positive long term effects on local landscape character and historic assets than transportation by road.
3	To maintain and improve ground and surface water quality.	**+**	This policy safeguards the movement of imported aggregates via rail transport and enables new aggregate rail depots to be developed in suitable locations. This approach should have a minor positive effect on surface water quality as a result of reduced pollution from runoff from

SA Objective		Assessment of Effect	
		Likely Effect	Justification and Evidence
			roads arising from transportation of aggregates.
4	To improve and maintain air quality to levels which do not damage natural systems.	+	This policy safeguards the movement of imported aggregates via rail transport and enables new aggregate rail depots to be developed in suitable locations. Bulk transportation by rail is likely to have positive long term effects on air quality than transportation by road as it is likely to reduce road transport emissions.
5	To reduce greenhouse gas emissions to reduce the cause of climate change.	+	This policy safeguards the movement of imported aggregates via rail transport and enables new aggregate rail depots to be developed in suitable locations. Bulk transportation by rail is likely to have positive long term effects upon the reduction of greenhouse gas emissions than transportation by road.
6	To reduce the risk of flooding.	+/-	The aggregate rail depots at Appleford Sidings, Shipton on Cherwell and Kidlington are not located in flood zones. However, the site at Hennef Way in Banbury is partly located in flood zones 2 and 3a, although the Banbury Flood Alleviation Scheme (completed in October 2012) may partly alleviate the risk of flooding.
7	To minimise the impact of transportation of aggregates and waste products on the local and strategic road network.	++	This policy should have a significant positive effect on this objective as it should reduce the volume of aggregates travelling on the local and strategic road network.
8	To minimise negative impacts of waste management facilities and mineral extraction on people and local communities.	+	This policy is likely to have a positive effect on this objective as it could reduce the volume of aggregates travelling on the local and strategic road network – reducing congestion and amenity effects on local communities over the long term.
9	To protect, improve and where necessary restore land and soil quality.	0	
10	To contribute towards moving up the waste hierarchy in Oxfordshire.	0	
11	To enable Oxfordshire to be self-sufficient in its waste management and to provide for its local need for aggregates as set out in the LAA	0	

SA Objective		Assessment of Effect	
		Likely Effect	**Justification and Evidence**
12	To support Oxfordshire's economic growth and reduce disparities across the county.	**++**	This policy safeguards the necessary infrastructure to ensure that Oxfordshire can sustainably support its predicted economic growth over the long term **and therefore significant positive effects have been identified**.
Summary of Assessment and Mitigation Measures		Policy M5 seeks to safeguard the necessary infrastructure and enables new aggregate rail depots to be developed in suitable locations, reducing the long term cumulative adverse effects on the environment, local communities and local road network experienced by long distance transport of aggregates by road. Significant positive effects have therefore been identified for objective SA7. Bulk transportation by rail is likely to have positive long term effects on the reduction of greenhouse gas emissions compared with transportation by road. Safeguarding and encouraging this type of infrastructure also supports sustainable growth of the Oxfordshire economy.	

Policy M6: Non-aggregate mineral working

Building Stone

Permission will be granted for extensions to existing quarries and new quarries for the extraction of traditional local building stone where a need for the material has been demonstrated and the proposed quarrying is small-scale.

Clay

The extraction of clay will be permitted in conjunction with the working of sharp sand and gravel from the locations in Policy M3 A. The extraction of clay will not be permitted in other locations unless it can be demonstrated that there is a local need for clay which:

- cannot be met by extraction in conjunction with sharp sand and gravel working; or
- would be met with less overall environmental impact than by extraction in conjunction with sharp sand and gravel working.

Chalk

The extraction of chalk for agricultural or industrial use in Oxfordshire will be permitted provided the proposed quarrying is small-scale. Extraction of chalk for wider purposes, including as an aggregate or for large scale engineering will not be permitted unless the proposal is demonstrated to be the most sustainable of all alternative options.

Fuller's Earth

The working of fuller's earth will be permitted provided that a national need for the mineral has been demonstrated.

Oil and Gas (conventional and unconventional)

Proposals for the exploration and appraisal of oil or gas will be permitted provided arrangements are made for the timely and suitable restoration and after-care of the site, whether or not the exploration or appraisal operation is successful.

The commercial production of oil and gas will be supported in the following circumstances:

- A full appraisal programme for the oil or gas field has been successfully completed;
- The proposed location is the most suitable, taking into account environmental, geological and technical factors;
- For major development in an Area of Outstanding Natural Beauty it is clearly demonstrated that the proposal is in the public interest, including in terms of national considerations.

All proposals for the working of non-aggregate minerals, including exploration and appraisal, shall meet the criteria in Policies C1 – C11.

SA Objective		Assessment of Effect	
		Likely Effect	Justification and Evidence
1	To protect, maintain, and enhance Oxfordshire's biodiversity and geodiversity	+/-	Although the proposed areas for sharp sand and gravel extraction (and thus for the working of clay) are generally well located in terms of not being in close proximity to important nature conservation sites, some areas within Eynsham/Cassington/Yarnton and the Lower Windrush

SA Objective		Assessment of Effect	
		Likely Effect	Justification and Evidence
	including natural habitats, flora and fauna and protected species.		Valley (LWV) are close to important nature conservation designations (SSSIs, SAC) and in addition the Thames Valley Area of Search (parcel near Kennington) is adjacent to a SSSI. These designations could constrain working in some sites within these areas and a precautionary approach has therefore been identified in relation to sites in the ECY area within the revised policy. Potential impacts on hydrology of the Cothill Fen SAC, are identified in Policy M4 and reflect the findings of the HRA/AA. Where there is potential for adverse effects due to proximity to nature conservation sites, mitigation measures should be put in place to protect these areas. There are extensive Conservation Target Areas within the Lower Windrush Valley. There are also Conservation Target Areas in ECY (Oxford Meadows), Thames Valley (Thames Wallingford to Goring and linking Thames Radley to Abingdon with Thames Clifton to Shillingford). The main aim within CTAs is to restore biodiversity at a landscape-scale through maintenance, restoration and creation of BAP priority habitats. When working ceases in these areas there is potential for restoration schemes to contribute positively to the planned restoration and habitat creation at a large-scale, which would have significant beneficial cumulative effects for biodiversity. However, these benefits would not be felt until the very long-term (as it is likely to take years before the restoration plans are implemented and working is identified in the LWV and ECY to continue throughout the plan period). During the period of active working adverse effects are more likely. Extraction of chalk/fuller's earth, along with exploration for oils and gas, could have an adverse effect on biodiversity or geodiversity. Effects will be dependent on the location of sites. Although ensuring that all proposals meet the criteria for Policy C7 should help to mitigate any adverse effects.
2	Protect and enhance landscape character, local distinctiveness, conserve and enhance the historic environment, heritage assets and their settings.	**+/-**	The Thames Valley Area of Search contains an area south-west of Wallingford which is surrounded by the North Wessex Downs AONB. Mineral working in this area could therefore give rise to adverse effects on the setting of the AONB in the short to medium term. Working in the all identified areas has potential for negative effects on local landscape character and measures to mitigate negative effects should be required at the planning application stage. There is potential for negative effects in LWV due to the presence of Scheduled Ancient Monuments and significant archaeological constraints in the LWV. The same is the case for the Thames Valley Area of Search which includes areas around Long Wittenham and Warborough that include Scheduled Ancient Monuments. In addition, the area south west of Wallingford is adjacent to a Registered Park and Garden. Mineral working can lead to damage to archaeological features and so sites should be located away from these and where they are in close proximity, mitigation measures against adverse effects should be in place (where applicable) before extraction of materials.

SA Objective		Assessment of Effect	
		Likely Effect	**Justification and Evidence**
			Two quarries which produce building stone and which have planning permission to extract building stone include Castle Barn quarry, Sarsden and Rollright quarry. Both sites are directly in or adjacent to the Cotswolds AONB. Extraction of chalk/fullers earth, along with exploration for oils and gas, could have an adverse effect on landscape and heritage assets. Effects will be dependent on the location of sites. Although ensuring that all proposals meet the criteria for Policies C8 and C9 should help to mitigate any adverse effects.
3	To maintain and improve ground and surface water quality.	-	There is potential for adverse effects on surface and ground water as a result of working for clay, especially as clay is usually located below sand and gravel. Effects may include the modification of surface flows to watercourses or existing ponds, and alteration of groundwater seepages, flushes or spring flows. There is potential for negative effects on ground water in LWV and Eynsham/ Cassington/Yarnton (ECY) from clay extraction due to the presence of underlying aquifers. There is also potential for negative effects on the surface water quality of the River Windrush (LWV), River Evenlode (ECY) and River Thames (Caversham, Thames Valley AoS). For these reasons it is recommended that this policy takes a similar approach to Policy M4 by including wording relating to the prevention of adverse effects on the Oxford Meadows SAC and the Cothill Fen SAC from the extraction of non-aggregate minerals. There is potential for cumulative negative effects on ground water flows as a result of concentration of mineral workings within one area and in particular in the LWV area. Extraction of chalk/fuller's earth, along with exploration for oils and gas, could have an adverse effect on water quality. Effects will be dependent on the location of sites. Although ensuring that all proposals meet the criteria for Policy C4 should help to mitigate any adverse effects. Safeguards and mitigation from other policies within the Plan, in particular Policy M4, will work to reduce these effects.
4	To improve and maintain air quality to levels which do not damage natural systems.	-	There is potential for air pollution associated with HGV movements as a result of all non-aggregate minerals workings for working over the lifetime of the working permissions and into the restoration period, especially as the identified areas for working of clay are already being worked for sharp sand and gravel which could result in cumulative effects. However adverse effects should be mitigated to some extent by ensuring proposals meet the requirements of Policy C5.
5	To reduce greenhouse gas emissions to reduce the cause of climate change.	-	Greenhouse gas emissions are expected in all the areas worked for non-aggregate minerals due to transportation of materials by road. However, the strategy should not lead to significant increases in greenhouse gas emissions as the increase in HGV vehicles is not

SA Objective		Assessment of Effect	
		Likely Effect	**Justification and Evidence**
			expected to be high and the emphasis (for clay) is predominantly on existing areas rather than new areas. Effects will be dependent on the location of sites and the distance materials need to be transported. Although ensuring that all proposals meet the criteria for Policies C2 and C10 could help to mitigate any adverse effects.
6	To reduce the risk of flooding.	**0**	Some parts of the proposed production area for sharp sand and gravel lie within high flood risk zones (LWV, ECY, Caversham and Thames Valley). The Environment Agency (EA) requires that development should be avoided in the floodplain where possible and requires the sequential and (where appropriate), the exception tests to be applied. The requirement to apply these tests is now explicitly included in Policy C3: Flooding. Clay is generally located below sand and gravel reserves and extraction is considered to be compatible development. However supporting infrastructure could be at risk from flooding and should be located away from the high risk areas. Effects of chalk, fuller's earth and oil/gas exploration will be dependent on the location of sites. Although ensuring that all proposals meet the criteria for Policy C3 should help to mitigate any adverse effects.
7	To minimise the impact of transportation of aggregates and waste products on the local and strategic road network.	**-**	Clay extraction in the areas which have been identified for sand and gravel extraction is likely to contribute to continued adverse cumulative effects on the transport network in these areas. However, mitigation measures at the planning application stage can help reduce such effects where new permissions are sought. The effects of chalk, fuller's earth and oil/gas exploration will be dependent on the location of sites and the distances that materials need to be transported. Adverse effects should be mitigated to some extent by the proposals needing to meet criteria related to Policy C10.
8	To minimise negative impacts of waste management facilities and mineral extraction on people and local communities.	**?/-**	All of the proposed working areas for clay are existing minerals working areas. In this respect there should be no significant adverse effects of such workings on new communities unless new sites come forward which are outside these areas and which are approved on the basis that local need that cannot be met from existing areas and there would be a lesser environmental effect. However communities that are currently adversely affected by mineral workings are expected to continue to experience adverse effects for the duration of the plan period and longer, especially as these areas are already being worked out for sharp sand and gravel. Once sites are fully worked out and restored, these adverse effects should be reduced, and over time there may even be positive permanent effects as a result of restoration initiatives. The degree and nature of effects is dependent on mitigation measures put in place when new permissions are approved, proximity to sensitive receptors and the duration of working. In relation to chalk, fuller's earth and oil/gas exploration the effects on local communities will be dependent on the location of sites. Adverse effects should be mitigated through the

SA Objective		Assessment of Effect	
		Likely Effect	**Justification and Evidence**
			requirement to meet the criteria in Policy C5.
9	To protect, improve and where necessary restore land and soil quality.	**+**	In relation to clay and workings linked to sand and gravel sites LWV and ECY offer opportunities for landscape wide restoration schemes following the cessation of working these areas. There are extensive Conservation Target Areas within the Lower Windrush Valley and there is extensive scope for restoration on a landscape scale, which would also contribute to national Biodiversity Action Plan targets. There are also Conservation Target Areas in ECY (Oxford Meadows), Thames Valley (Thames Wallingford to Goring, link Thames Radley to Abingdon with Thames Clifton to Shillingford). Restoration of sites is likely to lead to improved land and soil quality and thus an indirect positive effect on this objective but this would be experienced in the longer term. In relation to chalk, fuller's earth and oil/gas exploration the effects on land soil will be dependent on the location of sites. Adverse effects should be mitigated through the requirement to meet the criteria in Policy C6.
10	To contribute towards moving up the waste hierarchy in Oxfordshire.	**0/-**	Large quantities of waste stone can be generated in the extraction of building stone, particularly in the initial phases of extraction. Waste stone can potentially have a use as aggregate; the use or disposal of it is an issue which needs to be considered on a case by case basis at the planning application stage. This issue should be identified in the supporting text to this policy.
11	To enable Oxfordshire to be self-sufficient in its waste management and to provide for its local need for aggregates as set out in the LAA	**0**	The policy makes a contribution to Oxfordshire's non-aggregate minerals.
12	To support Oxfordshire's economic growth and reduce disparities across the county.	**+**	All the identified areas for clay extraction are well located in terms of proximity to the markets. All of the areas are existing mineral working areas. These areas benefit from access to a skilled local labour force, existing infrastructure and investment from the minerals industry, which supports the local economy. Chalk and fuller's earth extraction, plus and oil/gas exploration could have positive effects on the local economy.
Summary of Assessment and Mitigation Measures		Seeking to concentrate clay extraction in areas where sharp sand and gravel working is currently taking place or has taken place recently has the economic advantages of using existing infrastructure as well as a skilled local labour force. It also presents opportunities for co-ordinated large-scale restoration projects which would in the longer term lead to a degree of beneficial effects for the local communities (through recreation and leisure opportunities) as well as for biodiversity. However, there is still potential for ongoing cumulative negative effects	

SA Objective	Assessment of Effect	
	Likely Effect	**Justification and Evidence**
		throughout the plan period on the local communities especially with regard to traffic and amenity issues as a result of the concentration of working clay alongside sharp sand and gravel, unless these adverse effects are appropriately mitigated when new planning permissions are sought. Potential adverse effects on nature conservation objectives and in particular designated European Sites are appropriately flagged by Policy M4. Policy M4 signals that land to the east and north east of the River Evenlode will not be identified as specific sites for sharp sand and gravel working. Within the area north and south of the A420 to the west of Abingdon the policy states that further working will only be permitted if it can be demonstrated that it would not lead to changes in water levels in the Cothill Fen Special Area of Conservation. This policy addition should be included in this policy with respect to the extraction of clay, given that it is likely to come from similar areas, if not the same quarries. The need to mitigate potential negative effects on landscape character, including in particular effects on the already extensively modified landscapes in the LWV and ECY should be required at the planning application stage. Consideration also needs to be given to archaeological interests in the LWV and Thames Valley. Large quantities of waste stone can be generated in the extraction of building stone, particularly in the initial phases of extraction. Waste stone can potentially have a use as aggregate; the use or disposal of it is an issue which needs to be considered on a case by case basis at the planning application stage. This issue should be identified in the supporting text to this policy.

Policy M7: Safeguarding mineral resources

Mineral Safeguarding Areas will be defined on maps, covering the following mineral resources:

- Sharp sand and gravel in the main river valleys, including the areas identified in Policy M3 A, and other areas of proven resource;
- Soft sand within the areas of search identified in Policy M3 B;
- Limestone within the areas of search identified in Policy M3 C;
- Fuller's earth in the Baulking – Fernham area.

Mineral resources in these areas are safeguarded for possible future use. Development that would prevent or otherwise hinder the possible future working of the mineral will not be permitted unless it can be shown that:

- The need for the development outweighs the economic and sustainability considerations relating to the mineral resource; or
- The mineral will be extracted prior to the development taking place.

Mineral Consultation Areas, based on the Mineral Safeguarding Areas, will be defined, identified and updated when necessary in the Minerals and Waste Annual Monitoring Reports.

SA Objective		Assessment of Effect	
		Likely Effect	**Justification and Evidence**
1	To protect, maintain, and enhance Oxfordshire's biodiversity and geodiversity including natural habitats, flora and fauna and protected species.	**0**	The policy relates to safeguarding mineral for the future and preventing sterilisation, not permitting extraction in these areas. Therefore effects are likely to be neutral.
2	Protect and enhance landscape character, local distinctiveness, conserve and enhance the historic environment, heritage assets and their settings.	**0**	As above
3	To maintain and improve ground and surface water quality.	**0**	As above
4	To improve and maintain air quality to levels which do not damage natural	**0**	As above

SA Objective		Assessment of Effect	
		Likely Effect	Justification and Evidence
	systems.		
5	To reduce greenhouse gas emissions to reduce the cause of climate change.	+	Safeguarding mineral for the future should help Oxfordshire to be self-sustaining with regards to aggregate and other minerals required within the County for roads, house building etc. This is likely to indirectly help to reduce the need to import minerals from elsewhere and could potentially help to reduce greenhouse gas emissions from transportation.
6	To reduce the risk of flooding.	0	The policy is safeguarding mineral for the future and preventing sterilisation not permitting extraction in these areas therefore effects are likely to be neutral.
7	To minimise the impact of transportation of aggregates and waste products on the local and strategic road network.	0	The policy relates to safeguarding mineral for the future and preventing sterilisation, not permitting extraction in these areas. Therefore effects are likely to be neutral.
8	To minimise negative impacts of waste management facilities and mineral extraction on people and local communities.	0	The policy is relates to safeguarding mineral for the future and preventing sterilisation, not permitting extraction in these areas. Therefore effects are likely to be neutral.
9	To protect, improve and where necessary restore land and soil quality.	0	The policy is relates to safeguarding mineral for the future and preventing sterilisation, not permitting extraction in these areas. Therefore effects are likely to be neutral.
10	To contribute towards moving up the waste hierarchy in Oxfordshire.	0	
11	To enable Oxfordshire to be self-sufficient in its waste management and to provide for its local need for aggregates as set out in the LAA	++	The proposed policy recognises that minerals must not be sterilised by non-mineral development and that mineral deposits are finite and scarce resources that must be safeguarded for the long term, including unknown future requirements. The policy safeguards sand and gravel and crushed rock aggregate and therefore it should help to protect the delivery of any aggregates needed as set out in the LAA in the future.
12	To support Oxfordshire's economic growth and reduce disparities across the county.	+	The proposed policy recognises that minerals must not be sterilised by non-mineral development and that mineral deposits are finite and scarce resources that must be safeguarded for the long term, including unknown future requirements for an increasing population and economic growth. This supports the minerals and construction industry. Safeguarding proven resources of sand and gravel should also ensure non mineral development is not prevented unduly, however does reduce the flexibility for the minerals

SA Objective		Assessment of Effect	
		Likely Effect	**Justification and Evidence**
			industry to explore unproven areas.
Summary of Assessment and Mitigation Measures		The proposed policy recognises that in-situ mineral resources must not be sterilised by non-mineral development and that mineral deposits are finite and scarce resources that must be safeguarded for the long term, including unknown future requirements for an increasing population and economic growth. Significant positive effects are therefore likely with regards to SA objective 11. Safeguarding proven resources is likely to ensure non mineral development is not prevented unduly. This policy should also support Oxfordshire's economic growth. As the policy is safeguarding mineral for the future and preventing sterilisation not permitting extraction in these areas effects upon SA objectives relating to the environment are likely to be neutral.	

Policy M8: Restoration of mineral workings

Minerals workings shall be restored to a high standard and in a timely and phased manner to an after-use that is appropriate to the location and aims to provide for a net gain in biodiversity, taking into account:

- the characteristics of the site prior to mineral working;
- the character of the surrounding landscape;
- the amenity of local communities including opportunities to provide for local amenity uses;
- the capacity of the local transport network;
- flood risk and opportunities for increased flood storage capacity;
- bird strike risk and aviation safety;
- the conservation and enhancement of biodiversity appropriate to the local area; and
- opportunities to protect and/or improve geodiversity.

Planning permission will not be granted for mineral working unless satisfactory proposals have been made for the restoration, aftercare and after-use of the site, including where necessary the means of securing them in the longer term.

SA Objective		Assessment of Effect	
		Likely Effect	Justification and Evidence
1	To protect, maintain, and enhance Oxfordshire's biodiversity and geodiversity including natural habitats, flora and fauna and protected species.	++	The requirement for workings to be restored to a high standard and in a timely and phased manner that aims to provide a net gain in biodiversity and considers the conservation and enhancement of biodiversity appropriate to the local area and opportunities to protect and/or improve geodiversity should have a significant long term positive effect on biodiversity/geodiversity, particularly given that Policy C7 requires that long-term management arrangements be put in place for restored sites. It is recognised that in the short term positive effects should be minor as restoration schemes take time to establish.
2	Protect and enhance landscape character, local distinctiveness, conserve and enhance the historic environment, heritage assets and their settings.	++	The requirement for timely and phased restoration of mineral working sites which considers the character of the surrounding landscape and the characteristics of the site prior to minerals working should have a significant positive, long term effect on landscape character, although it is recognised that in the short term positive effects should be minor as restoration schemes take time to establish. Policy C7 requires that long-term management arrangements be put in place for restored sites.
3	To maintain and improve ground and surface water quality.	++	The requirement for timely and phased restoration of mineral working sites to a high standard should have a significant positive long term effect on ground and surface water quality, although it is recognised that in the short term positive effects should be minor as restoration schemes take time to establish. Policy C7 requires that long-term management arrangements be put in place for restored sites.

SA Objective		Assessment of Effect	
		Likely Effect	**Justification and Evidence**
4	To improve and maintain air quality to levels which do not damage natural systems.	**0**	The requirement for prompt and phased restoration of mineral working sites should have a positive long term effect on improving air quality.
5	To reduce greenhouse gas emissions to reduce the cause of climate change.	**0**	
6	To reduce the risk of flooding.	**++**	The requirement for timely and phased restoration of mineral working sites to a high standard should have a long term significant positive effect on flood risk. The policy recognises that mineral working in the flood plain can offer opportunities to increase flood storage capacity and reduce the risk of flooding.
7	To minimise the impact of transportation of aggregates and waste products on the local and strategic road network.	**0**	
8	To minimise negative impacts of waste management facilities and mineral extraction on people and local communities.	**++**	The requirement for timely and phased restoration to an after-use appropriate to the location which is to a high standard–should have a significant positive long term effect on this. It should also provide for new local amenity uses, such as sport and recreational uses.
9	To protect, improve and where necessary restore land and soil quality.	**+**	The requirement for workings to be restored to a high standard and in a timely and phased manner that takes into account the characteristics of the site prior to mineral working should have a long term positive effect on restoring soil quality.
10	To contribute towards moving up the waste hierarchy in Oxfordshire.	**0**	
11	To enable Oxfordshire to be self-sufficient in its waste management and to provide for its local need for aggregates as set out in the LAA	**0**	
12	To support Oxfordshire's economic growth and reduce	**+**	Over the long term, restoration should help to ensure a high quality environment with improved sport and recreational opportunities for local communities, which should indirectly,

SA Objective		Assessment of Effect	
		Likely Effect	**Justification and Evidence**
	disparities across the county.		support economic growth through potential business opportunities, and reduce disparities in access to such facilities for rural communities.
Summary of Assessment and Mitigation Measures		The requirement for timely and phased restoration, to a high standard, to an after-use appropriate to the location and aiming to provide for a net gain in biodiversity should have a positive or significant positive long term effect on many of the SA objectives as it provides an opportunity to create or restore habitats and biodiversity, restore landscape character, improve water and soil quality; and address possible amenity effects on local communities arising from the after-use of minerals sites. It also provides opportunities to develop new local amenity facilities, such as sport and recreational uses which can provide new business opportunities and reduce disparities in access to such facilities for rural communities. Long term management is important however, to maintain long term benefits and Policy C7 requires that long-term management arrangements be put in place for restored sites. Although it is noted that the supporting text states that in larger workings restoration can commence before working has ended, it is recommended that the policy wording is strengthened at the next planning stage to encourage restoration to start as early as possible on all minerals sites. To further enhance the contribution that restoration can make to improve the local environment, it is recommended that reference be made in policy to encourage restoration schemes to link in to the green infrastructure strategies that are in place at a local authority level.	

D2. Waste Planning Strategy

Policy W1: Management of Oxfordshire waste

Provision will be made for waste management facilities that allow Oxfordshire to be net self-sufficient in the management of its municipal waste, commercial and industrial waste and construction, demolition and excavation waste and agricultural waste over the period to 2030. Provision for hazardous waste, radioactive waste and waste water will be made in accordance with Policies W8, W9, W10.

The amounts of waste that need to be managed in the period to 2030 will be monitored and updated as necessary in the Minerals and Waste Annual Monitoring Reports.

SA Objective		Assessment of Effect	
		Likely Effect	Justification and Evidence
1	To protect, maintain, and enhance Oxfordshire's biodiversity and geodiversity including natural habitats, flora and fauna and protected species.	?	Effects will be dependent upon the location of waste management facilities and mitigation measures associated with their development and operation. The common core policies are expected to assist in ensuring the mitigation of adverse effects.
2	Protect and enhance landscape character, local distinctiveness, conserve and enhance the historic environment, heritage assets and their settings.	?	As above
3	To maintain and improve ground and surface water quality.	?	As above
4	To improve and maintain air quality to levels which do not damage natural systems.	?	As above
5	To reduce greenhouse gas emissions to reduce the cause of climate change.	+	Making local provision for waste management facilities should have positive effects on reducing distance travelled and therefore reducing greenhouse gas emissions associated with waste transportation.

SA Objective		Assessment of Effect	
		Likely Effect	Justification and Evidence
6	To reduce the risk of flooding.	?	Effects will be dependent upon the location of waste management facilities and mitigation measures associated with their development and operation. The common core policies are expected to assist in ensuring the mitigation of adverse effects.
7	To minimise the impact of transportation of aggregates and waste products on the local and strategic road network.	+	Making local provision for waste management facilities should have positive effects on reducing the overall distances waste travels for management potentially reducing the effect of transportation of waste.
8	To minimise negative impacts of waste management facilities and mineral extraction on people and local communities.	?	Effects will be dependent upon the location of waste management facilities and mitigation measures associated with their development and operation. The common core policies are expected to assist in ensuring the mitigation of adverse effects.
9	To protect, improve and where necessary restore land and soil quality.	?	As above
10	To contribute towards moving up the waste hierarchy in Oxfordshire.	0	This policy is concerned with the amount of waste to be managed. The waste management methods proposed elsewhere in the MWCS will determine if the proposals will contribute towards moving waste up the waste hierarchy.
11	To enable Oxfordshire to be self-sufficient in its waste management and to provide for its local need for aggregates as set out in the LAA	++	Policy W1 directly supports the objective for Oxfordshire's self-sufficiency for waste and therefore significant positive effects have been identified for this SA objective.
12	To support Oxfordshire's economic growth and reduce disparities across the county.	+	Making local provision for waste management facilities should have a positive effect through new facilities providing local jobs. This would only provide a limited number of jobs and is therefore not considered significant.
Summary of Assessment and Mitigation Measures		When assessed against the SA objectives, Policy W1 supports the SA objectives relating to reducing carbon emissions and minimising the transport effects of transporting waste as making local provision for waste management facilities should reduce the distances travelled. This policy directly supports SA objective 11 on self-sufficiency as it seeks to enable Oxfordshire to be self-sufficient in the management of its waste and therefore significant positive effects have been identified. It is also supportive of local economic growth as development of new facilities to deliver the required capacity would create new job opportunities in Oxfordshire. Uncertainty regarding effects upon other environmental objectives will depend upon where provision will be	

SA Objective	Assessment of Effect	
	Likely Effect	**Justification and Evidence**
	located, however it is noted that other policies in the plan, in particular the common core policies, are likely to provide appropriate mitigation to minimise and adverse effects.	

Policy W2: Management of waste from other areas

Provision will be made for the disposal of residual non-hazardous and inert waste from London and elsewhere outside Oxfordshire at landfill sites, in accordance with Policy W7.

Proposals for facilities which provide substantially for the treatment of residual non-hazardous waste from outside Oxfordshire will not be permitted unless it can be established that there is no realistic prospect of a site nearer to the source of waste being identified. Facilities providing for the re-use, recycling, composting or food waste treatment of waste from outside Oxfordshire should demonstrate that they will make a reasonable contribution to the capacity required to manage Oxfordshire's waste.

SA Objective		Assessment of Effect	
		Likely Effect	Justification and Evidence
1	To protect, maintain, and enhance Oxfordshire's biodiversity and geodiversity including natural habitats, flora and fauna and protected species.	+/?	The policy restricts substantial amounts of waste from outside Oxfordshire being treated in Oxfordshire by not permitting development unless facilities are the nearest required facility for the source of waste. This has potentially indirect positive effects upon the protection of biodiversity from the effects of new development.
2	Protect and enhance landscape character, local distinctiveness, conserve and enhance the historic environment, heritage assets and their settings.	+/?	As above
3	To maintain and improve ground and surface water quality.	+/?	As above
4	To improve and maintain air quality to levels which do not damage natural systems.	+/?	As above
5	To reduce greenhouse gas emissions to reduce the cause of climate change.	+/-	Waste imported from other areas is only undertaken where there is not the landfill capacity available in those areas. This policy does not therefore encourage additional transportation of waste. Also, it is expected that much of this waste will continue to be transported by rail as is currently the case, and that declining amounts of waste will be imported into Oxfordshire over the life of the plan, which would reduce emissions from transportation. The requirement for new facilities to contribute towards managing Oxfordshire's waste should

SA Objective		Assessment of Effect	
		Likely Effect	Justification and Evidence
			help to reduce the amount of certain types of waste having to be exported to other areas, thereby reducing transportation distances and associated emissions. The policy makes provision for waste from London and elsewhere to be disposed of in Oxfordshire's landfills. In the longer term declining amounts of waste are expected and this could have a potential positive effect on the levels of greenhouse gas emissions generated by landfills in the County.
6	To reduce the risk of flooding.	+/?	The policy allows for waste from London and elsewhere to be disposed of at existing landfill sites, although the amount imported is expected to reduce over the life of the plan. It restricts substantial amounts of waste from elsewhere being treated in Oxfordshire by not permitting development unless facilities are the nearest required facility for the source of waste. This has potentially positive effects by reducing the effects of new development.
7	To minimise the impact of transportation of aggregates and waste products on the local and strategic road network.	+	Waste importation could mean waste travelling from afar for disposal in Oxfordshire leading to some effects on the road transport network. However, this would be a declining amount of waste over the life of the plan and much of this waste is likely to be transported by rail as is currently the case
8	To minimise negative impacts of waste management facilities and mineral extraction on people and local communities.	+	The policy allows for waste from London and elsewhere to be disposed of at existing landfill sites, although the amount imported is expected to reduce over the life of the plan. It also restricts substantial amounts of waste from elsewhere being treated in Oxfordshire by not permitting development unless facilities are the nearest required facility for the source of waste. This has potentially positive effects by reducing the effects of new development.
9	To protect, improve and where necessary restore land and soil quality.	+	As above
10	To contribute towards moving up the waste hierarchy in Oxfordshire.	+	Landfilling is the option of last resort and it does not contribute towards moving waste up the hierarchy. However, it is recognised that it plays an important role in meeting waste management needs and it is also assumed that waste imported for landfill will reduce over the life of the plan. Ensuring that any facilities providing for the re-use, recycling, composting, or food waste treatment of waste from outside Oxfordshire should demonstrate that they will make a reasonable contribution to the capacity required to manage Oxfordshire's waste should have a positive effect on this objective.
11	To enable Oxfordshire to be self-sufficient in its waste management and to provide	+	This policy is likely to assist Oxfordshire be self-sufficient with respect to their disposal needs for the future by husbanding landfill capacity within the County.

SA Objective		Assessment of Effect	
		Likely Effect	**Justification and Evidence**
	for its local need for aggregates as set out in the LAA		
12	To support Oxfordshire's economic growth and reduce disparities across the county.	+	Likely to have positive effects as the policy is still allowing cross boundary waste that meets certain criteria.
Summary of Assessment and Mitigation Measures		Policy W2 provides for disposal of a declining amount of waste from London and elsewhere at existing landfill sites in Oxfordshire. It does not provide for treatment facilities for waste from outside Oxfordshire unless there would be clear benefits within the county which are referred to in the supporting text as also helping to meet a waste management need for the County. When assessed against the SA objectives, this policy could have potential positive effects as this is reducing the current rate of disposal and restricting new development where clear benefits cannot be proven. Although clear benefits are explained in the supporting text this could also be improved by requiring proposals which manage waste from elsewhere to demonstrate that they would not have significant adverse environmental effects. Ensuring that any facilities providing for the re-use, recycling, composting, or food waste treatment of waste from outside Oxfordshire should demonstrate that they will make a reasonable contribution to the capacity required to manage Oxfordshire's waste should have a positive effect moving up the waste hierarchy. However, it is recognised that it plays an important role in meeting waste management needs and the policy is proposing to accept declining amounts for disposal therefore assisting Oxfordshire to be self-sufficient (objective SA11).	

Policy W3: Diversion of waste from landfill

Provision will be made for capacity to manage Oxfordshire's municipal waste, commercial and industrial waste and construction demolition waste in accordance with the following targets, to provide for the maximum diversion of waste from landfill.

Oxfordshire waste management targets 2010 – 2030

Waste Management / Waste Type	Target Year				
	2010	2015	2020	2025	2030
Municipal waste:					
Composting & food waste treatment	28%	31%	33%	35%	35%
Dry Recycling	24%	31%	32%	35%	35%
Treatment of residual waste	0%	30%	30%	25%	25%
Landfill	48%	8%	5%	5%	5%
Total	100%	100%	100%	100%	100%
Commercial and industrial waste:					
Recycling, composting & food waste treatment	50%	60%	65%	70%	70%
Treatment of residual waste	0%	15%	25%	25%	25%
Landfill	50%	25%	10%	5%	5%
Total	100%	100%	100%	100%	100%
Construction, demolition and excavation waste:					
Recycling	50%	50%	60%	65%	70%
Landfill/Restoration	50%	50%	40%	35%	30%*
Total	100%	100%	100%	100%	100%

* 25% restoration (recovery), 5% landfill

Municipal waste targets for 2010 approximate to actual performance for 2010/11.

Proposals for the management of all types of waste should demonstrate that the waste cannot reasonably be managed through a process that is higher up the waste hierarchy than that proposed.

SA Objective		Assessment of Effect	
		Likely Effect	**Justification and Evidence**
1	To protect, maintain, and enhance Oxfordshire's biodiversity and geodiversity including natural habitats, flora and fauna and protected species.	**?**	Effects will be is dependent upon the location of waste management facilities required to meet these targets and mitigation measures associated with their development and operation.
2	Protect and enhance landscape character, local distinctiveness, conserve and enhance the historic environment, heritage assets and their settings.	**?**	
3	To maintain and improve ground and surface water quality.	**?**	
4	To improve and maintain air quality to levels which do not damage natural systems.	**?**	
5	To reduce greenhouse gas emissions to reduce the cause of climate change.	**++**	The strategy seeks to minimise disposal of waste to landfill. This has positive effects on reducing the emission of the greenhouse gas methane associated with landfilling biodegradable waste. Relative to carbon dioxide, methane is 21 times more potent as a greenhouse gas than CO_2[1].
6	To reduce the risk of flooding.	**?**	Effects will be dependent upon the location of waste management facilities required to meet these targets and mitigation measures associated with their development and operation.
7	To minimise the impact of transportation of aggregates	**?**	As above

[1] Comparative Assessment of Greenhouse Gas Emissions from Waste Management Services February 2010 (Updated from November 2009) Zero Waste Scotland

SA Objective		Assessment of Effect	
		Likely Effect	Justification and Evidence
	and waste products on the local and strategic road network.		
8	To minimise negative impacts of waste management facilities and mineral extraction on people and local communities.	?	As above
9	To protect, improve and where necessary restore land and soil quality.	?	As above
10	To contribute towards moving up the waste hierarchy in Oxfordshire.	++	The policy sets targets for the management of waste by recycling, composting, treatment and landfilling. The policy sets high targets for recycling and composting and low targets for final disposal via landfill, thereby ensuring waste is moved up the waste hierarchy as high as possible. It also requires that proposals for the management of all types of waste should demonstrate that the waste cannot reasonably be managed through a process that is higher up the waste hierarchy than that proposed. Significant positive effects are therefore likely especially in the long term.
11	To enable Oxfordshire to be self-sufficient in its waste management and to provide for its local need for aggregates as set out in the LAA	+	The targets support SA11 on enabling Oxfordshire to be self-sufficient in waste management.
12	To support Oxfordshire's economic growth and reduce disparities across the county.	+	Encouraging the recycling and treatment of waste is likely to support Oxfordshire's economy as this is likely to create new markets for waste products and provide new job opportunities at new waste facilities.
Summary of Assessment and Mitigation Measures		Policy W3 sets waste management targets to provide for maximum diversion of waste from landfill. This policy supports SA5 as diverting waste from landfill (especially bio-degradable waste would reduce the amount of methane associated with landfilling of such waste). It also supports the management of waste in line with the waste hierarchy as it sets provision for additional recycling, composting and recovery capacity and enables Oxfordshire to become self-sufficient in its waste management. It also requires that all proposals for the management of all types of waste should demonstrate that the waste cannot reasonably be managed through a process that is higher up the waste hierarchy than that proposed. There are likely to be positive effects upon SA12 on supporting the local economy as facilities required to meet the set targets enhance the local economy	

SA Objective	Assessment of Effect	
	Likely Effect	Justification and Evidence
	and offer potential to create local jobs both direct and indirectly.	

Policy W4: Waste management capacity requirements

Provision for additional waste management facilities should take account of the capacity required to effectively manage Oxfordshire's waste. Capacity requirements will be monitored and updated in the Annual Monitoring Reports and will set out:

- The contribution made by existing permanent facilities;
- The contribution made by temporary facilities up to their end date;
- The potential contribution made by facilities with planning permission but not yet built.

New facilities for re-use, recycling and composting of waste and for treatment of food waste will generally be encouraged. Further capacity for the treatment of residual municipal and/or commercial and industrial waste will be permitted only if it is demonstrated that this would not impede the achievement of other waste management targets.

SA Objective		Assessment of Effect	
		Likely Effect	Justification and Evidence
1	To protect, maintain, and enhance Oxfordshire's biodiversity and geodiversity including natural habitats, flora and fauna and protected species.	?	Effects are uncertain as they will be dependent upon exact locations for where this provision is to be located. The implementation of Policies W5 and W6 as well as the common core policies are expected to address this uncertainty. In the short term and medium term effects may be neutral as additional provision is not required for some waste streams.
2	Protect and enhance landscape character, local distinctiveness, conserve and enhance the historic environment, heritage assets and their settings.	?	As above
3	To maintain and improve ground and surface water quality.	?	As above
4	To improve and maintain air quality to levels which do not damage natural systems.	?	As above
5	To reduce greenhouse gas emissions to reduce the cause of climate change.	+	The policy states that new facilities for re-use, recycling and composting of waste and for treatment of food waste will generally be encouraged. This could therefore divert waste from landfill which will help to reduce the greenhouse gas methane generated by this type of management.

SA Objective		Assessment of Effect	
		Likely Effect	Justification and Evidence
6	To reduce the risk of flooding.	?	As for SA1
7	To minimise the impact of transportation of aggregates and waste products on the local and strategic road network.	?	As above
8	To minimise negative impacts of waste management facilities and mineral extraction on people and local communities.	?	As above
9	To protect, improve and where necessary restore land and soil quality.	?	As above
10	To contribute towards moving up the waste hierarchy in Oxfordshire.	+	Policy W4 encourages the provision of new facilities for re-use, recycling and composting of waste and for treatment of food waste which will contribute towards moving up the waste hierarchy.
11	To enable Oxfordshire to be self-sufficient in its waste management and to provide for its local need for aggregates as set out in the LAA	++	Policy W4 is making provision in accordance with Oxfordshire's needs therefore enabling Oxfordshire to be self-sufficient in its waste management. As a result significant positive effects have been identified for this SA objective.
12	To support Oxfordshire's economic growth and reduce disparities across the county.	+	Indirectly new waste management facilities to deliver the required capacity should provide local job opportunities and therefore support the local economy
Summary of Assessment and Mitigation Measures		Policy W4 seeks to make provision for additional waste management capacity. Effects upon the majority of SA objectives are dependent upon where this provision is located as its focus is ensuring that there is sufficient capacity to deal with Oxfordshire's waste arisings to 2030. This issue is addressed by Policies W5, W6 and the common core policies and the effects are more likely in the medium to long term when further capacity may be required. Positive effects are likely on SA10 relating to moving waste up the waste hierarchy (by encouraging new facilities for re-use, recycling and composting of waste and for treatment of food waste) and the SA objective on	

SA Objective	Assessment of Effect	
	Likely Effect	Justification and Evidence
		enabling Oxfordshire to be self-sufficient in managing its waste as it seeks to deliver Oxfordshire's waste needs (SA11). The proposed capacity is also assessed as having an indirect positive effect on the local economy through the provision of new waste management facilities which are likely to create new job opportunities.

Policy W5: Locations for waste management facilities

Strategic waste management facilities should be located in a broad area around Bicester, Oxford, Abingdon and Didcot as identified in the key diagram (figure 16). Non-strategic facilities should be well related to the main sources of waste arising (Bicester, Oxford, Abingdon, Didcot, Witney/Carterton, Wantage/Grove and Banbury). Elsewhere, and particularly in more remote rural areas, facilities should only be small scale, in keeping with their surroundings.

Proposals for new waste management facilities shall meet the criteria in Policies W6 and C1 – C11.

SA Objective		Assessment of Effect	
		Likely Effect	Justification and Evidence
1	To protect, maintain, and enhance Oxfordshire's biodiversity and geodiversity including natural habitats, flora and fauna and protected species.	?	Effects will depend upon the exact location and type of facilities. The broad area for strategic facilities appears to be located outside internationally designated areas for biodiversity. The policy refers to the criteria in Policy W6 and Policies C1 – C11 which are expected to mitigate adverse environmental effects.
2	Protect and enhance landscape character, local distinctiveness, conserve and enhance the historic environment, heritage assets and their settings.	?	Effects will depend upon the exact location and type of facilities. The broad area for strategic facilities appears to be located outside the AONB, although partially within the greenbelt. The policy restricts the scale of facilities in remote rural areas which should help to protect local landscapes. The policy refers to the criteria in Policy W6 and Policies C1 – C11 which are expected to help mitigate adverse environmental effects.
3	To maintain and improve ground and surface water quality.	?	Effects will depend upon the exact location and type of facilities. The policy refers to the criteria in Policy W6 and Policies C1 – C11 which are expected to help mitigate adverse environmental effects.
4	To improve and maintain air quality to levels which do not damage natural systems.	?	As above
5	To reduce greenhouse gas emissions to reduce the cause of climate change.	+	Provision of facilities close to waste arisings is likely to reduce greenhouse gas emissions associated with waste transportation.
6	To reduce the risk of flooding.	?	Effects will depend upon the exact location and type of facilities. The policy refers to the criteria in Policy W6 and Policies C1 – C11 which are expected to help mitigate adverse environmental effects.

SA Objective		Assessment of Effect	
		Likely Effect	**Justification and Evidence**
7	To minimise the impact of transportation of aggregates and waste products on the local and strategic road network.	**+/?**	Provision of facilities close to waste arisings of the County's future growth areas is likely to minimise adverse effects associated with waste transportation. However, effects will depend upon the exact location and type of facilities.
8	To minimise negative impacts of waste management facilities and mineral extraction on people and local communities.	**?**	Effects will depend upon the exact location and type of facilities The policy refers to the criteria in Policy W6 and Policies C1 – C11 which are expected to help mitigate adverse environmental effects.
9	To protect, improve and where necessary restore land and soil quality.	**?**	As above
10	To contribute towards moving up the waste hierarchy in Oxfordshire.	**0**	
11	To enable Oxfordshire to be self-sufficient in its waste management and to provide for its local need for aggregates as set out in the LAA	**0**	
12	To support Oxfordshire's economic growth and reduce disparities across the county.	**0**	
Summary of Assessment and Mitigation Measures		Policy W5 outlines the provision of different types of waste management facilities in Oxfordshire and their broad locations. It is recognised that there will be differing effects according to the exact location and type of facilities. It is noted that the policy refers to the criteria in Policy W6 and Policies C1 – C11 which are expected to help mitigate adverse environmental effects.	

Policy W6: Siting of waste management facilities

Priority will be given to siting waste management facilities on land that:

- is already in waste management or industrial use; or
- is previously developed, derelict or underused; or
- is at an active mineral site; or
- involves existing agricultural buildings and their curtilages; or
- is at a waste water treatment works.

Proposals for facilities on land that is being used temporarily for another purpose (including mineral working and landfill sites) should include removal of the facility before that temporary use is required to cease.

Waste management facilities will not be permitted on green field land unless there is an over-riding need that cannot be met in any other way.

Within the Green Belt, waste management facilities may be permitted provided that very special circumstances are demonstrated. Proposals for such facilities will need to demonstrate that they are required to serve a recognised need arising in Oxford and that there is no reasonable prospect of a suitable alternative site becoming available outside the Green Belt. Controls may be imposed to ensure that such facilities serve a waste management need arising in Oxford.

SA Objective		Assessment of Effect	
		Likely Effect	Justification and Evidence
1	To protect, maintain, and enhance Oxfordshire's biodiversity and geodiversity including natural habitats, flora and fauna and protected species.	+/?	The policy states that waste management facilities will not be permitted on green field, unless there is an over-riding need that cannot reasonably be met elsewhere. This, as well as the priority being given to locating facilities on land that is already in waste management or industrial use, is previously developed, derelict, or underused, is at an active mineral site, involves existing agricultural buildings or is at a waste water treatment works should reduce use of greenfield land which is likely to have a positive effect on biodiversity. This is because sites designated for their biodiversity importance are generally undeveloped and therefore the policy would reduce disturbance. However, previously developed land and derelict land, as well as existing agricultural buildings, can be habitats for protected species and therefore effects will be dependent upon the implementation of the common core policies.
2	Protect and enhance landscape character, local distinctiveness, conserve and enhance the historic environment, heritage assets and their settings.	+/?	Waste management facilities have the potential to adversely affect landscapes and townscapes through visual intrusion. The types of locations stated by the policies include sites already in waste management or industrial use, active mineral sites, waste water treatment work where visual intrusion is generally less of an issue. Redevelopment of previously developed sites and derelict land can also help to enhance the local landscape. Proposals in the Green Belt may have negative effects upon the landscape, although these will not be

SA Objective		Assessment of Effect	
		Likely Effect	**Justification and Evidence**
			permitted unless very special circumstances are met. The effects will be dependent upon landscape mitigation and therefore the implementation of Policy C8 will assist in mitigating any potential negative effects. The supporting text notes that small scale waste management facilities, for local needs, should not be precluded from within AONBs, where the development would not compromise the objectives of the designation. It also notes that proposals for waste development within or in close proximity to AONBs will need to be considered against Policy C8, this should help to mitigate any adverse effects.
3	To maintain and improve ground and surface water quality.	**?**	Effects will be dependent upon development locations.
4	To improve and maintain air quality to levels which do not damage natural systems.	**?**	As above
5	To reduce greenhouse gas emissions to reduce the cause of climate change.	**+**	Allowing waste management facilities in the Green Belt where there are very special circumstances would reduce the need to transport some of the waste arising from such localities thereby reducing greenhouse gas emissions..
6	To reduce the risk of flooding.	**?**	As SA4
7	To minimise the impact of transportation of aggregates and waste products on the local and strategic road network.	**+**	Allowing waste management facilities in the Green Belt where there are very special circumstances would reduce the need to transport some of the waste arising from such localities.
8	To minimise negative impacts of waste management facilities and mineral extraction on people and local communities.	**?**	Effects will be dependent upon development locations.
9	To protect, improve and where necessary restore land and soil quality.	**++**	Use of previously developed land and derelict land could lead to the restoration of land which may have been previously contaminated. Significant positive effects have therefore been identified with regards to the objective.
10	To contribute towards moving up the waste hierarchy in Oxfordshire.	**0**	

SA Objective		Assessment of Effect	
		Likely Effect	**Justification and Evidence**
11	To enable Oxfordshire to be self-sufficient in its waste management and to provide for its local need for aggregates as set out in the LAA	**0**	
12	To support Oxfordshire's economic growth and reduce disparities across the county.	**+**	Allowing waste development to be located at existing waste management sites is likely to assist in the co-location of waste operations and therefore could assist in achieving economies of scale. There could also be efficiencies achieved by locating waste management facilities at active minerals sites.
Summary of Assessment and Mitigation Measures		Policy W6 provides guidance on the siting of waste management facilities. It prioritises land that is already in permanent waste management or industrial use, is previously developed, derelict or underused, involves existing agricultural buildings and their curtilages, active minerals workings, and at waste water treatment works. This policy also may allow facilities in the Green Belt to serve the needs of Oxford. This policy has the potential for indirect positive effects on protection of nature conservation by prioritising the use of land that is already in waste management or industrial use, is previously developed, derelict, or underused, is at an active mineral site, involves existing agricultural buildings or is at a waste water treatment works thereby reducing development of green field land which is likely to host local biodiversity. However previously developed land and derelict land, as well as existing agricultural buildings, can be habitats for protected species. The likely effects will be dependent upon the implementation of the policy in conjunction with the common core policies which are expected to help mitigate adverse effects. Use of derelict buildings and development of previously developed sites can also help improve the local landscape. Proposals in the Green Belt which meet very special circumstances may have negative effects upon the landscape, however the likely effects will be dependent upon the implementation of the policy in conjunction with the common core policies which are expected to help mitigate adverse effects. The supporting text notes that small scale waste management facilities, for local needs, should not be precluded from within AONBs, where the development would not compromise the objectives of the designation. It also notes that proposals for waste development within or in close proximity to AONBs will need to be considered against Policy C8, this should help to mitigate any adverse effects on landscape. Allowing facilities in the Green Belt to serve Oxford could help to reduce the distances waste is transported from these localities therefore reducing effects upon the local transport network and greenhouse gas emissions associated with transporting waste. Use of previously developed land and derelict land especially where sites may have been previously contaminated can help to restore land quality and therefore significant positive effects have been identified for SA9.	

Policy W7: Landfill

Permission will not be granted for new landfill sites for non-hazardous waste. Existing non-hazardous landfill capacity will be husbanded for the disposal of residual non-hazardous waste. Permission will be granted to extend the life of existing non-hazardous landfill sites where this is necessary to meet the need for disposal of residual non-hazardous waste and enable completion and restoration of the landfill.

Priority will be given to the use of inert (construction, demolition and excavation) waste which cannot be recycled as infill material at active or unrestored quarries where such material is required in order to achieve satisfactory restoration for appropriate after use. Permission will not be granted for disposal of inert waste elsewhere unless there would be overall environmental benefit.

Landfill sites shall be restored in accordance with Policy M7 for restoration of mineral workings.

SA Objective		Assessment of Effect	
		Likely Effect	Justification and Evidence
1	To protect, maintain, and enhance Oxfordshire's biodiversity and geodiversity including natural habitats, flora and fauna and protected species.	+/?	New non-hazardous landfill sites would be restricted as a result of this policy which may therefore lead to the protection of Oxfordshire's biodiversity. The likely effects of extending the life of existing landfill sites are neutral as these would not increase in size. Using inert waste for restoration will depend upon the exact location of active or unrestored quarries required to be restored and potential adverse negative effects would be mitigated by the common core policies.
2	Protect and enhance landscape character, local distinctiveness, conserve and enhance the historic environment, heritage assets and their settings.	+/-	This policy would assist in the restoration of active or unrestored quarries which should enhance local landscape character and where these are located in the AONB enable appropriate restoration. Extending the life of existing non-hazardous landfill sites may reduce the level of restoration at these sites and therefore the enhancement of local landscapes as a result may be limited in the short – medium term. None of the sites are located within the AONB therefore likely effects are not considered to be significant.
3	To maintain and improve ground and surface water quality.	0	No new landfill sites are being proposed and inert material for infilling is unlikely to negatively affect ground and surface water quality as it will not generate leachate.
4	To improve and maintain air quality to levels which do not damage natural systems.	?	Effects will be dependent upon the exact location of inert landfilling and the mitigation measures associated with the operation as this may give rise to dust which could damage natural systems. The common core policies could assist in mitigation of these potential adverse effects.
5	To reduce greenhouse gas emissions to reduce the cause of climate change.	+	Restricting new non-hazardous landfill sites in accordance with Oxfordshire's need is likely to be positive in relation to this objective, as no additional methane should be emitted. However effects relating to transportation will depend on the exact location of sites required to be filled with inert waste relative to the sources of waste arising and therefore the distance the waste has to be transported.

SA Objective		Assessment of Effect	
		Likely Effect	Justification and Evidence
6	To reduce the risk of flooding.	?	Effects will depend on the exact location of sites required to be filled with inert waste.
7	To minimise the impact of transportation of aggregates and waste products on the local and strategic road network.	?	Effects will depend on the exact location of sites required to be filled with inert waste relative to the sources of waste arising and therefore the distance the waste has to be transported.
8	To minimise negative impacts of waste management facilities and mineral extraction on people and local communities.	?	This policy restricts new non-hazardous landfill sites therefore potentially protecting local communities from the negative effects of new sites for this type of waste management. However it does support extending the life of landfill sites where there is a need to and this may therefore continue existing effects in the short to medium term in existing landfill locations. Effects of inert landfilling will depend upon the exact location of these sites.
9	To protect, improve and where necessary restore land and soil quality.	+/-	Provision for additional landfill capacity for inert waste where used to restore minerals sites has a positive effect on SA objective 9. However extending the life of the non-hazardous landfills may prolong the life of the existing landfills and delay restoration in the short – medium term.
10	To contribute towards moving up the waste hierarchy in Oxfordshire.	+	The policy is restricting new landfill sites but is allowing the landfilling of inert waste which cannot be recycled. Landfilling is the option of last resort and it does not contribute towards moving waste up the hierarchy. However, it is recognised that it should be adequately provided for.
11	To enable Oxfordshire to be self-sufficient in its waste management and to provide for its local need for aggregates as set out in the LAA	++	Making local provision for inert landfilling and husbanding non-hazardous landfill capacity should allow for county self-sufficiency with respect to the disposal of waste via landfill.
12	To support Oxfordshire's economic growth and reduce disparities across the county.	+	Making local provision for inert landfilling has the potential to create local job-opportunities.
Summary of Assessment and Mitigation Measures		Permission will not be granted for new landfill sites for non-hazardous waste and existing non-hazardous landfills may be extended in terms of their life. This is likely to prolong any negative effects on areas affected by existing landfill sites however reduce the potential for adverse effects upon other areas of the county as a result of new sites. Policy W7 does not support SA objective 10 on moving waste up the hierarchy as landfill does not lead to more waste being recycled or recovered. However, it is recognised that although seen as the option of last resort,	

SA Objective	Assessment of Effect	
	Likely Effect	**Justification and Evidence**
		landfill must be adequately planned for as it still has a role to play in waste management and permission will only be granted for inert landfilling where material cannot be recycled. Providing for inert landfill especially for restoration purposes is assessed as having positive effects on improving land quality (SA objective 9) and also landscape quality (SA objective 2), however the potential for existing non-hazardous landfill sites to extend in life may have negative effects on the restoration of sites in the short to medium term. Policy W7 also supports county self-sufficiency in terms of waste (SA objective 11). The potential transport and climate mitigation effects of the proposed approach are difficult to assess without knowing the location of sites required to be inert landfilled, although restricting new non-hazardous landfill sites in accordance with Oxfordshire's need is likely to be positive in relation to greenhouse gas emissions, as no additional methane should be emitted. This should be addressed during the planning stage to ensure that sites are located close to sources of arisings. The common core policies should help to address any potential adverse effects on the built and natural environment.

Policy W8: Hazardous waste

Permission will be granted for facilities for the management of hazardous waste where they are designed to meet a requirement for the management of waste produced in Oxfordshire. Facilities that also provide capacity for hazardous waste from a wider area should demonstrate that they will meet a need for waste management that is not adequately provided for elsewhere.

SA Objective		Assessment of Effect	
		Likely Effect	Justification and Evidence
1	To protect, maintain, and enhance Oxfordshire's biodiversity and geodiversity including natural habitats, flora and fauna and protected species.	**0**	Effects will depend upon the exact locations of these facilities. Proposals for hazardous landfilling would need to be assessed against strict Environmental Agency landfilling criteria as well as planning criteria to ensure no adverse environmental effects and the common core policies are expected to ensure the mitigation of significant adverse effects.
2	Protect and enhance landscape character, local distinctiveness, conserve and enhance the historic environment, heritage assets and their settings.	**0**	
3	To maintain and improve ground and surface water quality.	**0**	
4	To improve and maintain air quality to levels which do not damage natural systems.	**0**	
5	To reduce greenhouse gas emissions to reduce the cause of climate change.	**?**	Policy W8 supports applications for the management of hazardous waste produced in Oxfordshire but these facilities may also provide for this type of waste from elsewhere where a need can be met which is not currently met elsewhere. The policy would allow Oxfordshire to be more self-sufficient with regards to hazardous waste, however it is unknown where other waste may be travelling from and if current exports of hazardous waste may continue. Therefore the effects on ghg emissions from transport are uncertain.
6	To reduce the risk of flooding.	**0**	Effects will depend upon the exact locations of these facilities. Proposals for hazardous landfilling would need to be assessed against strict Environmental Agency landfilling criteria as well as planning criteria to ensure no adverse environmental effects and the common core policies are expected to ensure the mitigation of significant adverse effects.

SA Objective		Assessment of Effect	
		Likely Effect	Justification and Evidence
7	To minimise the impact of transportation of aggregates and waste products on the local and strategic road network.	?	Policy W8 supports applications for the management of hazardous waste produced in Oxfordshire but these facilities may also provide for this type of waste from elsewhere where a need can be met which is not currently met elsewhere. The policy would allow Oxfordshire to be more self-sufficient with regards to hazardous waste, however it is unknown where other waste may be travelling from and if current exports of hazardous waste may continue. Therefore the effects on the local and strategic road network are uncertain.
8	To minimise negative impacts of waste management facilities and mineral extraction on people and local communities.	0	Effects will depend upon the exact locations of these facilities. Proposals for hazardous landfilling would need to be assessed against strict Environmental Agency landfilling criteria as well as planning criteria to ensure no adverse environmental effects and the common core policies are expected to ensure the mitigation of significant adverse effects.
9	To protect, improve and where necessary restore land and soil quality.	0	As above
10	To contribute towards moving up the waste hierarchy in Oxfordshire.	0/?	Effects are dependent on the management route applied to the hazardous waste (treatment or disposal).
11	To enable Oxfordshire to be self-sufficient in its waste management and to provide for its local need for aggregates as set out in the LAA	?	Policy W8 supports self-sufficiency and encourages facilities that are designed to deal with hazardous waste arising in Oxfordshire. However, for hazardous waste this is not always possible due to the specialist nature of hazardous waste management facilities and their associated costs. Effects are therefore likely to be uncertain.
12	To support Oxfordshire's economic growth and reduce disparities across the county.	0	
Summary of Assessment and Mitigation Measures		Oxfordshire is a net exporter of hazardous waste. The Council acknowledges that the county should be as self-sufficient as is reasonably possible in managing hazardous waste. However, due to the specialist nature of these types of waste management facilities, they currently tend to serve larger catchment areas than a single county. Oxfordshire estimates that additional capacity could be required for approximately 50,000tpa of hazardous waste produced in the county. Policy W8 does not provide for additional hazardous waste management capacity in Oxfordshire but supports applications designed to meet Oxfordshire's hazardous waste management needs and those that are required to meet a need for waste management that is not adequately provided for elsewhere. The likely effects upon many of the SA objectives are uncertain as they depend upon the exact location and type	

SA Objective	Assessment of Effect	
	Likely Effect	**Justification and Evidence**
		of management proposed, however it is expected that applications for these types of facilities would be assessed against the Environmental Agency's hazardous waste management regulations/criteria and the common core policies are expected to ensure the mitigation of significant adverse effects if applications come forward in Oxfordshire.

Policy W9: Management of radioactive waste

Permission will be granted for proposals for the management or disposal of low level radioactive waste where it can be demonstrated that the proposal will make a significant contribution to the management of waste produced in Oxfordshire.

Provision will be made for:

- Temporary storage of Oxfordshire's intermediate level legacy radioactive waste at Harwell Oxford Campus, pending its disposal at a planned national disposal facility elsewhere;
- Temporary storage of low level legacy radioactive waste at Harwell Oxford Campus and Culham Science Centre pending its disposal elsewhere.

Disposal of low level radioactive waste at bespoke facilities at Harwell Oxford Campus or Culham Science Centre will be permitted only if it can be demonstrated that no other suitable disposal facility is available elsewhere.

SA Objective		Assessment of Effect		
		Policy Approach and Likely Effect		Justification and Evidence
		Temporary storage of Oxfordshire's intermediate level legacy radioactive waste at Harwell Oxford Campus, pending its disposal at a planned national disposal facility elsewhere.	Temporary storage of low level legacy radioactive waste at Harwell Oxford Campus and Culham Science Centre pending its disposal elsewhere.	
1	To protect, maintain, and enhance Oxfordshire's biodiversity and geodiversity including natural habitats, flora and fauna and protected species.	**0**	**0**	There are no specific designated sites within the Harwell site; however there is a SSSI 7km to the south east of the site. There are no designated nature conservation sites within the Culham site or close to the site. The likely effects will depend upon the proposals which come forward, however they would need to be made in accordance with Policy W6 and the common core policies which are expected to provide mitigation for any significant adverse effects biodiversity.
2	Protect and enhance landscape character, local distinctiveness, conserve and enhance the historic environment, heritage	**0**	**0**	The Harwell site borders the North Wessex Downs AONB. There are 17 Scheduled Monuments within 5kms of the site. The Culham site is 2.5 km from the North Wessex Downs AONB and is in the Green Belt. There is a

SA Objective		Assessment of Effect		
		Policy Approach and Likely Effect		Justification and Evidence
		Temporary storage of Oxfordshire's intermediate level legacy radioactive waste at Harwell Oxford Campus, pending its disposal at a planned national disposal facility elsewhere.	Temporary storage of low level legacy radioactive waste at Harwell Oxford Campus and Culham Science Centre pending its disposal elsewhere.	
	assets and their settings.			Scheduled Monument 1km east of the site. The likely effects will depend upon the proposals which come forward, however they would need to be made in accordance with Policy W6 and the common core policies which are expected to provide mitigation for any significant adverse effects on landscape and historic assets.
3	To maintain and improve ground and surface water quality.	**0**	**0**	The River Thames is close to both the Harwell and Culham sites. For both sites, the ecological quality of the river (near the sites) is considered poor and the chemical status good. Ground water contamination is present at Harwell and remediation work continues. The likely effects will depend upon the proposals which come forward, however they would need to be made in accordance with the common core policies which are expected to provide mitigation for any significant adverse effects. Development proposals should demonstrate that development would not lead to a deterioration of the surface water and ground water quality.
4	To improve and maintain air quality to levels which do not damage natural systems.	**0**	**0**	Development at the Harwell and/or Culham sites should ensure that air quality levels which do not damage natural systems are maintained. The likely effects will depend upon the proposals which come forward, however they would need to be made in accordance with Policy W6 and the common core policies which are expected to provide mitigation for any significant adverse effects on landscape and historic assets.

SA Objective		Assessment of Effect		
		Policy Approach and Likely Effect		Justification and Evidence
		Temporary storage of Oxfordshire's intermediate level legacy radioactive waste at Harwell Oxford Campus, pending its disposal at a planned national disposal facility elsewhere.	Temporary storage of low level legacy radioactive waste at Harwell Oxford Campus and Culham Science Centre pending its disposal elsewhere.	
5	To reduce greenhouse gas emissions to reduce the cause of climate change.	**0**	**0**	For intermediate level waste, Policy W9 would lead to radioactive waste being transported from Culham, although the effect on greenhouse gas emissions is judged to be minor due to the short distance travelled and small quantities of waste involved. Effects are therefore considered to be neutral. For low level waste – Policy W9 would lead to waste being stored on site temporarily but would require disposal either in a bespoke facility at Harwell or Culham or outside Oxfordshire at a landfill site or incinerator which can accept this type of waste. A landfill site in neighbouring Northamptonshire is currently being used to dispose of this waste from Harwell. In addition, an incinerator in Hampshire is expected to continue to provide a management route for this waste. Due to the short distances travelled and small quantities of waste involved the effects are considered to be neutral.
6	To reduce the risk of flooding.	**0**	**0**	Both sites are not within high flood risk areas.
7	To minimise the impact of transportation of aggregates and waste products on the local and strategic road network.	**0**	**0**	For intermediate level waste - Policy W9 would lead to radioactive waste being transported from Culham although the effect is judged to be neutral due to the short distance travelled and small quantities of waste involved. For low level waste – Policy W9 would lead to waste being stored on site temporarily but would require disposal either in a bespoke facility at Harwell or Culham or outside Oxfordshire at a landfill site or

SA Objective		Assessment of Effect		
		Policy Approach and Likely Effect		Justification and Evidence
		Temporary storage of Oxfordshire's intermediate level legacy radioactive waste at Harwell Oxford Campus, pending its disposal at a planned national disposal facility elsewhere.	Temporary storage of low level legacy radioactive waste at Harwell Oxford Campus and Culham Science Centre pending its disposal elsewhere.	
				incinerator which can accept this type of waste. A landfill site in neighbouring Northamptonshire is currently being used to dispose of this waste from Harwell. In addition, an incinerator in Hampshire is expected to continue to provide a management route for this waste. Due to the short distances travelled and small quantities of waste involved the effects are considered to be neutral.
8	To minimise negative impacts of waste management facilities and mineral extraction on people and local communities.	**0**	**0/?**	Both sites are associated with some radioactive discharges to the environment and these are monitored to ensure they do not exceed permitted limits. Development of storage facilities would be required to demonstrate that these discharge limits would not be exceeded. By storing waste on site this would reduce the negative effects of waste transportation, however it is uncertain with regards to final disposal of low level waste. Proposals at both sites would need to be made in accordance with the common core policies which are expected to provide mitigation for any significant adverse effects.
9	To protect, improve and where necessary restore land and soil quality.	**?**	**?**	There is a degree of land contamination at Harwell. Development on this site should demonstrate that it would not lead to adverse effects on land quality. There is no contaminated land identified at Culham. However, development proposals would be required to demonstrate that they would not lead to contamination of land.

SA Objective		Assessment of Effect		
		Policy Approach and Likely Effect		Justification and Evidence
		Temporary storage of Oxfordshire's intermediate level legacy radioactive waste at Harwell Oxford Campus, pending its disposal at a planned national disposal facility elsewhere.	Temporary storage of low level legacy radioactive waste at Harwell Oxford Campus and Culham Science Centre pending its disposal elsewhere.	
10	To contribute towards moving up the waste hierarchy in Oxfordshire.	**0**	**0**	Policy W9 relates to storage of radioactive waste and final disposal appropriate to this type of waste. It has a neutral effect upon contributing to moving waste up the waste hierarchy.
11	To enable Oxfordshire to be self-sufficient in its waste management and to provide for its local need for aggregates as set out in the LAA	**+**	**+/?**	Policy W9 would allow Oxfordshire to be self-sufficient in meeting its radioactive waste storage needs. However, it is uncertain whether the disposal for low level waste would be outside Oxfordshire. It is recognised that disposal of this type of waste for economic reasons will be at the regional/national level.
12	To support Oxfordshire's economic growth and reduce disparities across the county.	**0**	**0**	
Summary of Assessment and Mitigation Measures		Policy W9 relates to the management of radioactive waste (intermediate and low level radioactive ~~legacy~~ waste) generated by the two nuclear research facilities in the County at Harwell and Culham. Intermediate level radioactive waste is produced at Harwell, with smaller quantities being produced at Culham. There is a requirement for storage of an estimated 10,000 cubic metres of intermediate level radioactive waste from Harwell and a smaller amount from Culham. Policy W9 proposes storage of this waste at Harwell (from Harwell and Culham), pending removal to a national disposal facility. This would lead to some waste from Culham being transported to Harwell, although the effect on greenhouse gas emissions is likely to be neutral due to the distance travelled (approximately 7 miles) and the quantities of waste to be moved (expected to be small). In addition, any proposals would have to be made in accordance with Policy W6 and the common core policies. The SA has identified the following sustainability issues that will need to be considered when dealing with applications for such a facility at Harwell: • The close proximity to the North Wessex Downs AONB, as well as potential local visual and landscape		

SA Objective	Assessment of Effect		
	Policy Approach and Likely Effect		Justification and Evidence
	Temporary storage of Oxfordshire's intermediate level legacy radioactive waste at Harwell Oxford Campus, pending its disposal at a planned national disposal facility elsewhere.	Temporary storage of low level legacy radioactive waste at Harwell Oxford Campus and Culham Science Centre pending its disposal elsewhere.	
	effects; • Potential for ground water and surface water contamination given the proximity of the site to the River Thames; • Potential for land contamination; and • Potential amenity and health effects associated with management of intermediate hazardous waste. It is estimated that 100,000 cubic metres of low level radioactive waste capacity for waste mainly arising from demolition and clearance of buildings at Harwell and a smaller amount at Culham will be required. Policy W9 proposes temporary storage of this type of waste at both Harwell and Culham and potential disposal at these sites or elsewhere. The policy performs well against SA7 as material will be stored where it is generated and not transported. The following key issues need to be considered when assessing the potential development of storage and disposal facilities for low level radioactive waste at Harwell and Culham: Key issues that should be considered at Harwell include: • The close proximity to the North Wessex Downs AONB, as well as potential local visual and landscape effects; • Potential for ground water and surface water contamination given the proximity of the site to the River Thames; • Potential for land contamination; and • Potential amenity and health effects associated with management of low level legacy waste. Key issues that should be considered at Culham include: • Potential effects on local site biodiversity (there are no designated sites close to or within the site); • Potential effects on the AONB and greenbelt designations; • Potential effects on surface and ground water given the proximity of the sites to the river Thames – this could be referred to in the supporting text for the policy.		

Policy W10: Waste water and sewage sludge

Provision for the treatment and disposal of waste water and sewage sludge will continue to be made at existing facilities. Additional capacity may be found acceptable:

- As a necessary extension or replacement of existing infrastructure;
- To improve operational efficiency;
- To enable planned development to be taken forward.

SA Objective		Assessment of Effect	
		Likely Effect	Justification and Evidence
1	To protect, maintain, and enhance Oxfordshire's biodiversity and geodiversity including natural habitats, flora and fauna and protected species.	?	New facilities could affect biodiversity and geodiversity, however the effects will be dependent on the location of the facilities. The common core policies however should help to mitigate any adverse effects.
2	Protect and enhance landscape character, local distinctiveness, conserve and enhance the historic environment, heritage assets and their settings.	?	New facilities could affect landscape character and historic assets, however the effects will be dependent on the location of the facilities. The common core policies however should help to mitigate any adverse effects.
3	To maintain and improve ground and surface water quality.	+	Provision of new facilities for waste water and sewage sludge could help to maintain and improve ground and surface water quality by reducing the likelihood of sewers flooding during extreme weather events and contaminating water sources.
4	To improve and maintain air quality to levels which do not damage natural systems.	0	
5	To reduce greenhouse gas emissions to reduce the cause of climate change.	0	
6	To reduce the risk of flooding.	+	Provision of new additional capacity for waste water should have a positive effect on this SA objective, by reducing risk of flooding, particularly sewer flooding.
7	To minimise the impact of transportation of aggregates	0	

SA Objective		Assessment of Effect	
		Likely Effect	Justification and Evidence
	and waste products on the local and strategic road network.		
8	To minimise negative impacts of waste management facilities and mineral extraction on people and local communities.	+	Provision of new facilities for treating and disposing of waste water and sewage sludge could have positive effects on communities by reducing risks to health and wellbeing that may result from flooding of sewers during extreme weather events.
9	To protect, improve and where necessary restore land and soil quality.	+	Provision of new facilities for treating and disposing of waste water and sewage sludge could have positive effects on soil quality as potential contamination as a result of flooding of sewers could be reduced.
10	To contribute towards moving up the waste hierarchy in Oxfordshire.	0	
11	To enable Oxfordshire to be self-sufficient in its waste management and to provide for its local need for aggregates as set out in the LAA	0	
12	To support Oxfordshire's economic growth and reduce disparities across the county.	+	A lack of waste water treatment capacity can act as a block or brake to development. Allowing additional capacity to enable planned development to be taken forward should support economic growth by allowing new developments to go ahead.
Summary of Assessment and Mitigation Measures		New facilities could have an adverse effect on the SA objectives on biodiversity (SA 1) and landscape (SA 2) however the effects will be dependent on the location of the facilities. The common core policies however should help to mitigate any adverse effects. Providing new facilities for waste water and sewage sludge could help to maintain and improve ground and surface water quality and soil quality by reducing the likelihood of sewers flooding during extreme weather events and contaminating water sources. This could also have positive effects on communities by reducing risks to health and wellbeing that may result. New additional capacity for waste water could reduce the risk of flooding, particularly sewer flooding thereby having a positive effect on SA6. A lack of waste water treatment capacity can act as a block or brake to development. Allowing additional capacity to enable planned development to be taken forward should support economic growth by allowing new	

SA Objective	Assessment of Effect	
	Likely Effect	Justification and Evidence
	developments to go ahead. Positive effects have therefore been identified for SA12.	

Policy W11: Safeguarding waste management sites

The following sites are safeguarded for future waste management use:

- Sites already in use for waste management purposes and with planning permission to operate throughout the plan period;
- Sites with planning permission to operate as a waste management facility throughout the plan period but not yet developed for that purpose.

Sites safeguarded for future waste management use will be specified and kept up to date in the Minerals and Waste Annual Monitoring Reports, and will also include:

- Sites with a lawful use for waste management purposes and that are not already identified;
- Sites where planning permission is granted for the operation of a waste management facility throughout the plan period.

Proposals for development that would prevent or prejudice the use of a site safeguarded for waste management will not normally be permitted unless:

- provision for new waste management capacity is made at a suitable alternative location; or
- it can be demonstrated that the site is no longer needed or suitable for waste management use.

SA Objective		Assessment of Effect	
		Likely Effect	**Justification and Evidence**
1	To protect, maintain, and enhance Oxfordshire's biodiversity and geodiversity including natural habitats, flora and fauna and protected species.	**0**	
2	Protect and enhance landscape character, local distinctiveness, conserve and enhance the historic environment, heritage assets and their settings.	**0**	
3	To maintain and improve ground and surface water quality.	**0**	
4	To improve and maintain air quality to levels which do not damage natural	**0**	

SA Objective		Assessment of Effect	
		Likely Effect	Justification and Evidence
	systems.		
5	To reduce greenhouse gas emissions to reduce the cause of climate change.	+	Safeguarded sites can help to ensure that there are suitable sites within Oxfordshire for waste management allowing for waste to be managed within the county and therefore reducing the distances waste is transported for management.
6	To reduce the risk of flooding.	0	
7	To minimise the impact of transportation of aggregates and waste products on the local and strategic road network.	+	Safeguarded sites can help to ensure that there are suitable sites within Oxfordshire for waste management allowing for waste to be managed within the county and therefore reducing the distances waste is transported for management.
8	To minimise negative impacts of waste management facilities and mineral extraction on people and local communities.	0	
9	To protect, improve and where necessary restore land and soil quality.	0	
10	To contribute towards moving up the waste hierarchy in Oxfordshire.	0	
11	To enable Oxfordshire to be self-sufficient in its waste management and to provide for its local need for aggregates as set out in the LAA	+	Safeguarding sites can indirectly contribute to self-sufficiency by making sure there are available suitable sites for waste management development within the county.
12	To support Oxfordshire's economic growth and reduce disparities across the county.	0	
Summary of Assessment and Mitigation Measures		Policy W11 relates to the safeguarding of waste management sites against other forms of development. This policy does not affect most SA objectives as it specifically seeks to ensure that ensuring that safeguarded sites are not lost to other development. It is however assessed as having a positive indirect effect on SA11 on	

SA Objective	Assessment of Effect	
	Likely Effect	**Justification and Evidence**
	enabling Oxfordshire to be self-sufficient in its waste management. This is because the policy would ensure that there are available sites within Oxfordshire suitable for waste management uses which provide potential developers with local site alternatives which in turn would lead to facilities being developed within Oxfordshire close to the source of waste arising. The policy would also have potential for indirect positive effects on objectives SA5 and SA7 on reducing greenhouse gas emissions and transport related effects.	

D3. Common Core Policies for Minerals and Waste

Policy C1: Sustainable Development

A positive approach will be taken to minerals and waste development in Oxfordshire, reflecting the presumption in favour of sustainable development contained in the National Planning Policy Framework and the aim to improve economic, social and environmental conditions of the area.

Planning applications that accord with the policies in this plan will be approved without delay, unless material considerations indicate otherwise. Where there are no policies relevant to the application, or relevant plan policies are out of date, planning permission will be granted unless material considerations indicate otherwise, taking into account whether:

- Any adverse impacts of granting permission would significantly and demonstrably outweigh the benefits of the proposed development when assessed against the National Planning Policy Framework; or
- Specific policies in the National Planning Policy Framework indicate that the development should be restricted.

SA Objective		Assessment of Effect	
		Likely Effect	Justification and Evidence
1	To protect, maintain, and enhance Oxfordshire's biodiversity and geodiversity including natural habitats, flora and fauna and protected species.	?	Taking a more positive approach has the potential to lead to approvals for minerals and waste development that may have been rejected on the grounds of sustainability constraints, with associated adverse effects (albeit non-significant effects) on biodiversity.
2	Protect and enhance landscape character, local distinctiveness, conserve and enhance the historic environment, heritage assets and their settings.	?	Taking a more positive approach has the potential to lead to approvals for minerals and waste development that may have been rejected on the grounds of sustainability constraints, with associated adverse effects (albeit non-significant effects) on landscape and historic assets.
3	To maintain and improve ground and surface water quality.	?	Taking a more positive approach has the potential to lead to approvals for minerals and waste development that may have been rejected on the grounds of sustainability constraints, with associated adverse effects (albeit non-significant effects) on water quality.
4	To improve and maintain air quality to levels which do not damage natural systems.	?	Taking a more positive approach has the potential to lead to approvals for minerals and waste development that may have been rejected on the grounds of sustainability constraints, with associated adverse effects (albeit non-significant effects) on air quality.

SA Objective		Assessment of Effect	
		Likely Effect	**Justification and Evidence**
5	To reduce greenhouse gas emissions to reduce the cause of climate change.	**0**	
6	To reduce the risk of flooding.	**?**	Taking a more positive approach has the potential to lead to approvals for minerals and waste development that may have been rejected on the grounds of sustainability constraints, with associated adverse effects (albeit non-significant effects) on flood risk.
7	To minimise the impact of transportation of aggregates and waste products on the local and strategic road network.	**0**	
8	To minimise negative impacts of waste management facilities and mineral extraction on people and local communities.	**?**	Taking a more positive approach has the potential to lead to approvals for minerals and waste development that may have been rejected on the grounds of sustainability constraints, with associated adverse effects (albeit non-significant effects) on local communities.
9	To protect, improve and where necessary restore land and soil quality.	**?**	Taking a more positive approach has the potential to lead to approvals for minerals and waste development that may have been rejected on the grounds of sustainability constraints, with associated adverse effects (albeit non-significant effects) on land and soil.
10	To contribute towards moving up the waste hierarchy in Oxfordshire.	**?**	By taking a more positive approach to development this could allow for the development of waste management facilities that will result in a positive effect on this SA objective. However the effect will depend on the facilities developed so the effect is identified as uncertain.
11	To enable Oxfordshire to be self-sufficient in its waste management and to provide for its local need for aggregates as set out in the LAA	**+**	By taking a more positive approach to development this could allow for the development of waste management facilities and minerals workings that should result in a positive effect on this SA objective.
12	To support Oxfordshire's economic growth and reduce disparities across the county.	**+**	By taking a more positive approach to development this could allow for the development of waste management facilities and minerals workings that should result in a positive effect on the local economy.
Summary of Assessment and Mitigation Measures		Taking a more positive approach has the potential to lead to approvals for minerals and waste development that may have been rejected on the grounds of sustainability constraints, with associated adverse effects (albeit non-significant effects) on a number of environmental objectives, including those on biodiversity, landscape , water	

SA Objective	Assessment of Effect	
	Likely Effect	**Justification and Evidence**
		quality, air quality, flooding and soils. Uncertain effects have therefore been identified for these objectives. Taking a more proactive approach could also result in adverse effects on local communities, and similarly uncertain effects have been identified for this objective. Positive effects have been identified in relation to the objectives SA11 and SA12 as the policy could allow for the development of waste management facilities and minerals workings that should result in a positive effect on the local economy, and enable Oxfordshire to be self-sufficient in terms of its waste management and contributing to minerals LAA provisions.

Policy C2: Climate Change

Proposals for minerals or waste development, including restoration proposals, should take account of climate change for the lifetime of the development from construction through operation and decommissioning. Applications for development should adopt a low carbon approach and measures should be considered to minimise greenhouse gas emissions and provide flexibility for future adaptation to the impacts of climate change

SA Objective		Assessment of Effect	
		Likely Effect	Justification and Evidence
1	To protect, maintain, and enhance Oxfordshire's biodiversity and geodiversity including natural habitats, flora and fauna and protected species.	+	By ensuring that minerals and waste developments take account of climate change over the life of development, including in restoration proposals, this could have a positive effect on biodiversity. For example, by providing habitats that will allow species to adapt to climate change, or by ensuring that any habitats created as part of restoration proposals can cope with or adapt to the changing climate – i.e. to ensure the success of the restoration proposal in the long-term.
2	Protect and enhance landscape character, local distinctiveness, conserve and enhance the historic environment, heritage assets and their settings.	+	By ensuring that minerals and waste developments take account of climate change over the life of development, including in restoration proposals, this could have a positive effect on landscape. For example, considering the future climate when developing restoration proposals should ensure that they are a success – i.e. in terms of the habitat that is created being able to cope with or adapt to the future climate – thereby ensure that the landscape that is created is a success in the longer-term.
3	To maintain and improve ground and surface water quality.	0	
4	To improve and maintain air quality to levels which do not damage natural systems.	?	It could be that by requiring developments to take a low carbon approach and consider measures to minimise ghg emissions, the miles driven to transport aggregates and waste products on the road network will be reduced, thereby having a positive effect on this objective.
5	To reduce greenhouse gas emissions to reduce the cause of climate change.	++	This policy directly addresses this SA objective and would have a significant positive effect on this objective as a result of the requirement to adopt a low carbon approach and consider measures to minimise ghg emissions.
6	To reduce the risk of flooding.	+	This policy addresses this SA objective by requiring proposals for minerals or waste development, including restoration proposals, to take into account of climate change for the lifetime of the development and to provide flexibility for future adaptation to the impacts of climate change, it is assumed that this in part refers to the need to mitigate flooding.
7	To minimise the impact of transportation of aggregates	?	It could be that by requiring developments to take a low carbon approach and consider measures to minimise ghg emissions, the miles driven to transport aggregates and waste

SA Objective		Assessment of Effect	
		Likely Effect	Justification and Evidence
	and waste products on the local and strategic road network.		products on the road network will be reduced, thereby having a positive effect on this objective.
8	To minimise negative impacts of waste management facilities and mineral extraction on people and local communities.	?	It could be that by requiring developments to take a low carbon approach and consider measures to minimise ghg emissions, the miles driven to transport aggregates and waste products on the road network will be reduced, thereby having a positive effect on this objective by reducing effects on the local community from traffic and poor air quality.
9	To protect, improve and where necessary restore land and soil quality.	?	It could be that by requiring developments to take a low carbon approach and consider measures to minimise ghg emissions, the miles driven to transport aggregates and waste products on the road network will be reduced, thereby having an indirect positive effect on this objective by reducing soil acidification.
10	To contribute towards moving up the waste hierarchy in Oxfordshire.	0	
11	To enable Oxfordshire to be self-sufficient in its waste management and to provide for its local need for aggregates as set out in the LAA	+	Ensuring that minerals and waste developments take account of climate change over the life of development should help to ensure that they can continue to contribute towards enabling Oxfordshire to be self-sufficient in its waste management and towards Oxfordshire's minerals needs as set out in the LAA.
12	To support Oxfordshire's economic growth and reduce disparities across the county.	+	Ensuring that minerals and waste developments take account of climate change over the life of development should help to ensure that they can continue to contribute to Oxfordshire's economic growth regardless of future changes to the climate, protecting local jobs and providing the necessary materials for other industry.
Summary of Assessment and Mitigation Measures		Significant positive effects have been identified with regards to SA5 as a result of the requirement to adopt a low carbon approach and consider measures to minimise greenhouse gas emissions. It could be that by requiring developments to take a low carbon approach and consider measures to minimise greenhouse gas emissions, the miles driven to transport aggregates and waste products on the road network will be reduced, thereby having a positive effect on SA4 (air quality), SA7 (transportation), SA8 (people and local communities) and SA9 (land and soil quality), however the effects are considered to be uncertain. By ensuring that minerals and waste developments take account of climate change over the life of development, including in restoration proposals, this could have a positive effect on biodiversity and landscape. For example, by providing habitats that will allow species to adapt to climate change, or by ensuring that any habitats created as part of restoration proposals can cope with or adapt to the changing climate – i.e. to ensure the success of	

SA Objective	Assessment of Effect	
	Likely Effect	**Justification and Evidence**
		the restoration proposal in the long-term. This policy addresses SA6 by requiring proposals for minerals or waste development, including restoration proposals, to take into account of climate change for the lifetime of the development and to provide flexibility for future adaptation to the impacts of climate change. It is assumed that this in part refers to the need to mitigate flooding. Positive effects have been identified for objectives SA11 and SA12 as ensuring that minerals and waste developments take account of climate change over the life of development should help to ensure that they can continue to contribute towards enabling Oxfordshire to be self-sufficient in its waste management and towards Oxfordshire's locally agreed figure and can continue to contribute to Oxfordshire's economic growth.

Policy C3: Flooding

Minerals and waste development will, wherever possible, take place in areas that are not at risk of flooding. Where development takes place in an area of identified flood risk this should only be where alternative locations in areas of lower flood risk have been explored and discounted (using the Sequential Test and Exceptions Test as necessary) and where a flood risk assessment is able to demonstrate that the risk of flooding is not increased from any sources, including:

- any impediment to the flow of floodwater;
- the displacement of floodwater and increased risk of flooding elsewhere;
- a reduction in existing floodwater storage capacity;
- an adverse effect on the functioning of existing flood defence structures;
- the discharge of water into a watercourse.

The opportunity should be taken to increase flood storage capacity in the flood plain wherever possible, particularly through the restoration of sand and gravel workings.

SA Objective		Assessment of Effect	
		Likely Effect	Justification and Evidence
1	To protect, maintain, and enhance Oxfordshire's biodiversity and geodiversity including natural habitats, flora and fauna and protected species.	+	Waste developments are unlikely to be located in the floodplain. However it is important that any new development will not increase flood risk elsewhere. This may have an indirect positive effect on protecting natural habitats and sensitive flora and fauna. Ensuring that minerals development will not increase flood risk elsewhere, by maintaining the effective functioning of flood defences and floodwater storage capacity should have indirect short and long term positive effect on ensuring that natural habitats and sensitive flora and fauna downstream from minerals working areas should not be adversely affected by floodwaters. Any restoration of minerals working sites which incorporates floodwater storage could have an indirect long term beneficial effect in terms of reducing existing flood risk and may create additional habitat.
2	Protect and enhance landscape character, local distinctiveness, conserve and enhance the historic environment, heritage assets and their settings.	0	
3	To maintain and improve ground and surface water quality.	+	Limiting the discharge of water in watercourses should help to maintain surface water quality. In addition, ensuring that waste or minerals development does not increase flood risk, and where possible, increasing flood storage capacity should indirectly assist to maintain the quality of water bodies which might otherwise be adversely affected by increased volumes

SA Objective		Assessment of Effect	
		Likely Effect	Justification and Evidence
			and rates of flow or run-off.
4	To improve and maintain air quality to levels which do not damage natural systems.	0	
5	To reduce greenhouse gas emissions to reduce the cause of climate change.	0	
6	To reduce the risk of flooding..	++	This policy directly addresses this SA objective and would have a significant positive effect on this objective. In particular, taking discharges into watercourses into consideration and where possible increasing flood storage capacity in the flood plain should have positive effects.
7	To minimise the impact of transportation of aggregates and waste products on the local and strategic road network.	0	
8	To minimise negative impacts of waste management facilities and mineral extraction on people and local communities.	+	This policy should have an indirect positive long term effect on local communities in terms of preventing any additional risk to people's health and assets from flooding as a result of minerals development. The creation of new flood storage during restoration could provide recreational opportunities for local communities.
9	To protect, improve and where necessary restore land and soil quality.	?	This policy may have an indirect positive effect on protection of existing soil quality to the extent that it ensures that minerals or waste development does not increase flood risk which might otherwise impact on valued agricultural land or result in soil contamination/pollution from runoff.
10	To contribute towards moving up the waste hierarchy in Oxfordshire.	0	
11	To enable Oxfordshire to be self-sufficient in its waste management and to provide for its local need for aggregates as set out in the LAA	+	The policy provides the appropriate flexibility for Oxfordshire to make a sustainable contribution to LAA provision - to the extent that the policy recognises that mineral extraction is a compatible land use that is acceptable in areas of flood risk, provided any flood risk effects are not increased.

SA Objective		Assessment of Effect	
		Likely Effect	**Justification and Evidence**
12	To support Oxfordshire's economic growth and reduce disparities across the county.	+	The policy is likely to have a minor indirect positive effect on the economy as the prevention of flood risk supports economic growth by maintaining business continuity.
Summary of Assessment and Mitigation Measures		Policy C3 should have a significant positive effects on SA6 and a number of indirect positive effects on the SA objectives which relate to the protection of valued habitats, flora and fauna, soil and water quality, local communities and businesses – by preventing damage, disruption and distress caused by flood risk, which might arise if these risks were not appropriately mitigated when new minerals or waste development takes place.	

Policy C4: Water environment

Proposals for minerals and waste development will need to demonstrate that there would be no unacceptable adverse impact on or risk to:

- The quantity or quality of surface or groundwater resources required for habitats, wildlife and human activities;
- The quantity or quality of water obtained through abstraction unless acceptable alternative provision can be made;
- The flow of groundwater at or in the vicinity of the site.

Proposals for minerals and waste development shall ensure that the River Thames and other watercourses and canals of significant landscape, nature conservation or amenity value are adequately protected.

SA Objective		Assessment of Effect	
		Likely Effect	Justification and Evidence
1	To protect, maintain, and enhance Oxfordshire's biodiversity and geodiversity including natural habitats, flora and fauna and protected species.	+	This policy should result in positive effects on natural habitats to the extent that it requires that there are no "unacceptable" adverse effects on or risk to the quantity or quality of surface or groundwater resources required for habitats or wildlife. It also requires that proposals should ensure that the River Thames and other watercourses and canals of significant nature conservation value are adequately protected. This policy would be improved by substituting "unacceptable" for "significant" to be consistent with the terminology in the EIA regulations. An "unacceptable adverse effect" has not been defined and this creates a level of ambiguity in the policy.
2	Protect and enhance landscape character, local distinctiveness, conserve and enhance the historic environment, heritage assets and their settings.	+	Protection of the River Thames and other watercourses and canals of significant landscape value through the implementation of this policy should have a positive effect on landscape character.
3	To maintain and improve ground and surface water quality.	++	The policy directly and positively addresses ground and surface water quality. See recommendation in the summary box below.
4	To improve and maintain air quality to levels which do not damage natural systems.	0	
5	To reduce greenhouse gas emissions to reduce the cause of climate change.	0	

SA Objective		Assessment of Effect	
		Likely Effect	**Justification and Evidence**
6	To reduce the risk of flooding.	**+**	Ground water flows can have an effect on flood risk, so addressing adverse effects or risks to ground water flows has an in-direct positive effect in relation to this objective.
7	To minimise the impact of transportation of aggregates and waste products on the local and strategic road network.	**0**	
8	To minimise negative impacts of waste management facilities and mineral extraction on people and local communities.	**++**	Mineral workings may cause dewatering and therefore impact on the availability of groundwater to serve the water supply needs of local communities – this risk is positively addressed through this policy. The policy also recognises the amenity values of maintaining water quality. The policy captures the value of maintaining water quantity and quality for other human activities (such as recreational use). The River Thames for example, is a very important recreational resource. See recommendation in the summary box below.
9	To protect, improve and where necessary restore land and soil quality.	**+**	Maintenance of ground and surface water quality should have an indirect positive effect on protecting the productivity of agricultural land and preventing soil contamination/pollution.
10	To contribute towards moving up the waste hierarchy in Oxfordshire.	**0**	
11	To enable Oxfordshire to be self-sufficient in its waste management and to provide for its local need for aggregates as set out in the LAA	**0**	
12	To support Oxfordshire's economic growth and reduce disparities across the county.	**+**	To the extent that the economy relies on the abstraction of water from surface and groundwater to function and grow, it is important to protect these resources, which the policy sets out to do.
Summary of Assessment and Mitigation Measures		Policy C4 has an indirect positive effect on many of the SA objectives, as maintaining water quality and quantity is an essential precursor to the proper functioning of ecosystems, landscapes, businesses and local communities. Significant positive effects have been identified for objectives SA3 (water) and SA8 (community). The sustainability of the policy would be improved by replacing the word "unacceptable" with "significant", in order to be consistent with the terminology in the EIA regulations. An "unacceptable adverse effect" has not been defined and this creates a level of ambiguity in the policy.	

Policy C5: Environmental and amenity protection

Proposals for minerals and waste development shall demonstrate that they will not have an unacceptable adverse impact on the environment, residential amenity and other sensitive receptors, including from noise, dust, visual intrusion, light pollution, traffic, air quality, odour, vermin, birds, litter, vibration, tip and quarry-slope stability, differential settlement of quarry backfill, subsidence and the cumulative impact of development.

SA Objective		Assessment of Effect	
		Likely Effect	Justification and Evidence
1	To protect, maintain, and enhance Oxfordshire's biodiversity and geodiversity including natural habitats, flora and fauna and protected species.	+	The policy seeks to protect the environment from "unacceptable" adverse impacts. An "unacceptable adverse effect" has not been defined and this creates a level of ambiguity in the policy. This policy would be improved by substituting "unacceptable" for "significant" to be consistent with the terminology in the EIA regulations. Notwithstanding this, the 'environment' encompasses biodiversity and geodiversity and so there is likely to be an in-direct positive effect on this objective as a result of the implementation of this policy. Biodiversity and geodiversity is specifically addressed by Policy C7.
2	Protect and enhance landscape character, local distinctiveness, conserve and enhance the historic environment, heritage assets and their settings.	+	The policy seeks to protect the environment and other sensitive receptors from unacceptable adverse impacts, including from visual intrusion and light pollution. The 'environment' and 'other sensitive receptors' includes local landscape character and historic and built heritage and so there is likely to be a direct positive effect on this objective as a result of the implementation of this policy. See recommendation in the summary box below. It is appreciated that landscape character is covered by Policy C8 and the historic environment and archaeology by Policy C9.
3	To maintain and improve ground and surface water quality.	+	The policy seeks to protect the environment and other sensitive receptors from unacceptable adverse impacts which should cover water sources. See recommendation in the summary box below. Ground and surface water quality is also covered by Policy C4.
4	To improve and maintain air quality to levels which do not damage natural systems.	+	The policy seeks to protect the environment and other sensitive receptors from unacceptable adverse impacts, including dust and air quality and therefore the policy is likely to help to achieve this SA objective. See recommendation in the summary box below.
5	To reduce greenhouse gas emissions to reduce the cause of climate change.	0	
6	To reduce the risk of flooding.	0	

SA Objective		Assessment of Effect	
		Likely Effect	Justification and Evidence
7	To minimise the impact of transportation of aggregates and waste products on the local and strategic road network.	0	
8	To minimise negative impacts of waste management facilities and mineral extraction on people and local communities.	++	The policy directly aims to address the negative effects of minerals and waste development on local communities through addressing potential effects on residential amenity, including from noise, dust, visual intrusion, light pollution, traffic, air quality, odour, vermin, birds, litter, and vibration. Significant positive effects have therefore been identified. See recommendation in the summary box below.
9	To protect, improve and where necessary restore land and soil quality.	+	The policy aims to address the negative effects of minerals and waste development on the environment, including from dust, air quality and litter which could indirectly help to prevent soil contamination. In addition, ensuring that there are no unacceptable adverse effects resulting from tip and quarry-slope stability, differential settlement of quarry backfill and subsidence should also have a positive effect on this SA objective. See recommendation in the summary box below.
10	To contribute towards moving up the waste hierarchy in Oxfordshire.	0	
11	To enable Oxfordshire to be self-sufficient in its waste management and to provide for its local need for aggregates as set out in the LAA	0	
12	To support Oxfordshire's economic growth and reduce disparities across the county.	0	
Summary of Assessment and Mitigation Measures		Policy C5 seeks to protect the environment, residential amenity and other sensitive receptors from unacceptable adverse effects. The 'environment' and 'other sensitive receptors' can be construed to include those SEA elements covered by the SA objectives, including biodiversity, landscape character and historic and built heritage, air, water and people. The policy specifically mentions noise, dust, visual intrusion, light pollution, traffic, air quality, odour, vermin, birds, litter, vibration, tip and quarry-slope stability, differential settlement of quarry backfill and subsidence, as well as any cumulative effect from development. Significant positive effects have been identified with regards to SA8 (communities).	

SA Objective	Assessment of Effect	
	Likely Effect	**Justification and Evidence**
	The sustainability of the policy would be improved by replacing the word "unacceptable" with "significant", in order to be consistent with the terminology in the EIA regulations. An "unacceptable adverse effect" has not been defined and this creates a level of ambiguity in the policy.	

Policy C6: Agricultural land and soils

Proposals for minerals and waste development shall demonstrate that they take into account the presence of any best and most versatile agricultural land.

The permanent loss of best and most versatile agricultural land will only be permitted where it can be shown that there is a need for the development which cannot reasonably be met using lower grade land, taking into account other relevant considerations.

Development proposals shall make provision for the management and use of soils in order to maintain soil quality, including making a positive contribution to the long-term conservation of soils in any restoration.

SA Objective		Assessment of Effect	
		Likely Effect	Justification and Evidence
1	To protect, maintain, and enhance Oxfordshire's biodiversity and geodiversity including natural habitats, flora and fauna and protected species.	+	The protection of best and most versatile land and maintenance of soil quality should have an indirect positive effect on this objective, by ensuring that such soils can support regeneration of flora in the future.
2	Protect and enhance landscape character, local distinctiveness, conserve and enhance the historic environment, heritage assets and their settings.	+	Protection of soil quality should have a positive in-direct effect on this objective in the long term.
3	To maintain and improve ground and surface water quality.	0	
4	To improve and maintain air quality to levels which do not damage natural systems.	0	
5	To reduce greenhouse gas emissions to reduce the cause of climate change.	0	
6	To reduce the risk of flooding.	0	
7	To minimise the impact of	0	

SA Objective		Assessment of Effect	
		Likely Effect	Justification and Evidence
	transportation of aggregates and waste products on the local and strategic road network.		
8	To minimise negative impacts of waste management facilities and mineral extraction on people and local communities.	+	Protection of soil quality would have a positive indirect effect on this objective in the longer term.
9	To protect, improve and where necessary restore land and soil quality.	++	This policy should have a significant positive effect on this SA objective. It should be noted however that suitable inert infill material is required to achieve high quality agricultural restoration and this may not always be available.
10	To contribute towards moving up the waste hierarchy in Oxfordshire.	0	
11	To enable Oxfordshire to be self-sufficient in its waste management and to provide for its local need for aggregates as set out in the LAA	0	
12	To support Oxfordshire's economic growth and reduce disparities across the county.	0	
Summary of Assessment and Mitigation Measures		Policy C6 is likely to have a significant positive effect upon SA objective 9 and an indirect positive effect on the objectives SA1, SA2 and SA8, which relate to biodiversity, flora and fauna, local landscape character and local communities. Effects on other SA objectives are expected to be neutral. It should be noted in the supporting text that suitable inert infill material is required to achieve high quality agricultural restoration and this may not always be available.	

Policy C7: Biodiversity and Geodiversity

Minerals and waste development should conserve and where possible, enhance biodiversity.

Sites and species of international nature conservation importance (e.g. Special Areas of Conservation and European Protected Species) will be given the highest level of protection.

Development shall ensure that:

- there is no adverse effect on a Site of Special Scientific Interest, either individually or in combination with other development;
- irreplaceable habitats, including ancient woodland and aged or veteran trees are not lost or harmed;
- no damage is caused to sites locally designated for the purposes of nature conservation and/or geological interest, including;
    - Local Nature Reserves;
    - Local Wildlife Sites;
    - Local Geology Sites;
    - Sites of Local Importance for Nature Conservation.

Development that does not meet these requirements will be refused permission, unless the impact can be mitigated to result in a net gain in biodiversity or, if the impact cannot be fully mitigated, the need for the development on that site clearly outweighs the harm. In the case of Sites of Special Scientific Interest, the need for the development would need to clearly outweigh both the impacts that it is likely to have on the features of the site that make it of special scientific interest and any broader impacts on the national network of Sites of Special Scientific Interest.

Development shall avoid harm to protected, priority or notable species and habitats.

All proposals for mineral working and landfill shall demonstrate how the development will make an appropriate contribution to the maintenance and enhancement of local habitats, biodiversity or geodiversity (including fossil remains and trace fossils), including contributing to the objectives of the Conservation Target Areas wherever possible. Satisfactory long-term management arrangements for restored sites shall be clearly set out and included in proposals. These should include a commitment to ecological monitoring and remediation (should habitat creation and/or mitigation prove unsuccessful).

SA Objective		Assessment of Effect	
		Likely Effect	Justification and Evidence
1	To protect, maintain, and enhance Oxfordshire's biodiversity and geodiversity including natural habitats, flora and fauna and protected species.	++	This policy directly addresses potential impacts on biodiversity/geodiversity values at the international, national, local level and its implementation should have a very positive long term effect on the attainment of this SA objective. The requirement for long term management arrangements to be clearly set out should help to maintain the positive effects in the longer term.

SA Objective		Assessment of Effect	
		Likely Effect	Justification and Evidence
2	Protect and enhance landscape character, local distinctiveness, conserve and enhance the historic environment, heritage assets and their settings.	++	The policy should have a positive long term effect on protecting landscape character and local distinctiveness, as local habitats and their biodiversity and geological features are a major component of the local landscape character. The requirement for long term management arrangements to be clearly set out should help to maintain the positive effects in the longer term.
3	To maintain and improve ground and surface water quality.	+	Conservation and enhancement of natural habitats should have an indirect positive effect on this objective as water bodies are an important component of natural habitats.
4	To improve and maintain air quality to levels which do not damage natural systems.	0	
5	To reduce greenhouse gas emissions to reduce the cause of climate change.	0	
6	To reduce the risk of flooding.	+	Conservation and enhancement of natural habitats should have an indirect positive effect on this objective as natural habitats can assist to reduce flood risk by regulating run-off and water flows.
7	To minimise the impact of transportation of aggregates and waste products on the local and strategic road network.	0	
8	To minimise negative impacts of waste management facilities and mineral extraction on people and local communities.	0	
9	To protect, improve and where necessary restore land and soil quality.	+	Conservation and enhancement of natural habitats should have an indirect positive effect on this objective by indirectly protecting the land and soil quality within these habitats.
10	To contribute towards moving up the waste hierarchy in Oxfordshire.	0	

SA Objective		Assessment of Effect	
		Likely Effect	**Justification and Evidence**
11	To enable Oxfordshire to be self-sufficient in its waste management and to provide for its local need for aggregates as set out in the LAA	**0**	
12	To support Oxfordshire's economic growth and reduce disparities across the county.	**0**	
Summary of Assessment and Mitigation Measures		Policy C7 is likely to have a significant positive effect on the SA objectives relating to biodiversity, geodiversity and landscape character and local distinctiveness (SA objectives 1 and 2); and indirect positive effects on water quality, flood risk and land and soil quality. The requirement for long term management arrangements to be clearly set out should help to maintain the positive effects in the longer term. Effects on the other SA objectives are expected to be neutral.	

Policy C8: Landscape

Proposals for minerals and waste development shall demonstrate that they respect and where possible enhance local landscape character, and are informed by landscape character assessment. Proposals shall include measures to mitigate adverse impacts on landscape, including careful siting, design and landscaping.

High priority will be given to conservation and enhancement of the natural beauty of the landscape in Areas of Outstanding Natural Beauty (AONB). Proposals for minerals and waste development within an AONB shall demonstrate that they take this into account and are informed by the relevant AONB Management Plan. Proposals for minerals and waste development that would affect the setting of an AONB shall also take this into account. Development within AONBs shall normally only be small-scale, to meet local needs and should be sensitively located and designed.

SA Objective		Assessment of Effect	
		Likely Effect	Justification and Evidence
1	To protect, maintain, and enhance Oxfordshire's biodiversity and geodiversity including natural habitats, flora and fauna and protected species.	+	The protection and enhancement of local landscape character should have an indirect positive effect on this objective by indirectly assisting to protect natural habitats and geological features, as these habitats and geological features are a major component of the local landscape character.
2	Protect and enhance landscape character, local distinctiveness, conserve and enhance the historic environment, heritage assets and their settings.	++	This policy directly addresses the landscape character (and to some extent local distinctiveness) element of this SA objective and its implementation should have a significant positive effect on the attainment of this objective. The policy requires that minerals and waste developments demonstrate that they "respect" and "where possible enhance" local landscape character. However the policy is not as strongly worded as the SA objective as it does not include the term "protect". High priority is afforded to the conservation and enhancement of AONBs specifically supporting one of sub-objectives. The policy states that development within AONBs shall normally only be small scale and should be sensitively located and designed. This should help to minimise any adverse effects on the AONB.
3	To maintain and improve ground and surface water quality.	0	
4	To improve and maintain air quality to levels which do not damage natural systems.	0	
5	To reduce greenhouse gas emissions to reduce the	0	

SA Objective		Assessment of Effect	
		Likely Effect	**Justification and Evidence**
	cause of climate change.		
6	To reduce the risk of flooding.	**0**	
7	To minimise the impact of transportation of aggregates and waste products on the local and strategic road network.	**0**	
8	To minimise negative impacts of waste management facilities and mineral extraction on people and local communities.	**+**	This policy should indirectly have a positive effect on local communities by protecting and where possible enhancing local landscape character (and thus local amenity) through the sensitive siting, design and landscaping of new minerals and waste development.
9	To protect, improve and where necessary restore land and soil quality.	**0**	
10	To contribute towards moving up the waste hierarchy in Oxfordshire.	**0**	
11	To enable Oxfordshire to be self-sufficient in its waste management and to provide for its local need for aggregates as set out in the LAA	**0**	
12	To support Oxfordshire's economic growth and reduce disparities across the county.	**0**	
Summary of Assessment and Mitigation Measures		Policy C8 is likely to have a significant positive effect on SA objective 2 'landscape' and an indirect positive effect on objective SA1 relating to the protection of biodiversity and natural habitats. Positive effects have also been identified with regards to objective SA8 'local communities'. Effects on other SA objectives are expected to be neutral.	

Policy C9: Historic environment and archaeology

Proposals for minerals and waste development will not be permitted unless it is demonstrated that they or associated activities will not cause unacceptable adverse impact on the historic environment. Great weight will be given to the conservation of designated heritage assets such as Blenheim Palace, scheduled monuments, listed buildings, conservation areas, historic battlefields, registered parks and gardens and archaeological assets which are demonstrably of equivalent significance to a scheduled monument, and the setting of those assets.

Where an application would affect a non-designated heritage asset, the benefits of the proposal will be balanced against the scale of harm to or loss of the heritage asset and its significance.

Where, following assessment of an application, the loss (wholly or in part) of a heritage asset is considered acceptable in principle, the applicant will be required to record and advance understanding of that asset, proportionate to the nature and level of the asset's significance, and to publish their findings.

SA Objective		Assessment of Effect	
		Likely Effect	Justification and Evidence
1	To protect, maintain, and enhance Oxfordshire's biodiversity and geodiversity including natural habitats, flora and fauna and protected species.	**0**	
2	Protect and enhance landscape character, local distinctiveness, conserve and enhance the historic environment, heritage assets and their settings.	**+**	This policy addresses the historic and built heritage element of this SA objective and should have a positive effect on the attainment of this objective with regards to protection. The policy covers the protection of designated heritage assets and their settings. The policy does not however cover enhancement of assets. The policy also states that where an application would affect a non-designated heritage asset, the benefits of the proposal will be balanced against the scale of the harm or loss of the heritage asset and its significance. This could also have positive effects.
3	To maintain and improve ground and surface water quality.	**0**	
4	To improve and maintain air quality to levels which do not damage natural systems.	**0**	
5	To reduce greenhouse gas	**0**	

SA Objective		Assessment of Effect	
		Likely Effect	**Justification and Evidence**
	emissions to reduce the cause of climate change.		
6	To reduce the risk of flooding.	**0**	
7	To minimise the impact of transportation of aggregates and waste products on the local and strategic road network.	**0**	
8	To minimise negative impacts of waste management facilities and mineral extraction on people and local communities.	**+**	Insofar as the protection of historic features and built heritage and their settings also provides for the enhancement of local amenity and access to the countryside, the policy has an indirect positive effect on this SA objective.
9	To protect, improve and where necessary restore land and soil quality.	**0**	
10	To contribute towards moving up the waste hierarchy in Oxfordshire.	**0**	
11	To enable Oxfordshire to be self-sufficient in its waste management and to provide for its local need for aggregates as set out in the LAA	**0**	
12	To support Oxfordshire's economic growth and reduce disparities across the county.	**0**	
Summary of Assessment and Mitigation Measures		Policy C9 has a positive effect on SA objective 2 as it should protect the County's heritage assets. It also has indirect positive effects on local communities (SA objective 8). There is no direct relationship between this policy and the other SA objectives and effects on other SA objectives are expected to be neutral.	

Policy C10: Transport

Minerals and waste development will be expected to make provision for safe and suitable access to the advisory lorry routes in ways that maintain and, if possible, lead to improvements in:

- the safety of all road users including pedestrians;
- the efficiency and quality of the road network;
- residential and environmental amenity.

Where development leads to a need for improvement to the transport network to achieve this, developers will be expected to provide such improvement or make an appropriate financial contribution.

Where practicable minerals and waste developments should be located, designed and operated to enable the transport of minerals and/or waste by rail, water, pipeline or conveyor.

Where minerals and/or waste will be transported by road:

a) mineral workings should as far as practicable be in locations that minimise the road distance to locations of demand for the mineral, using roads suitable for lorries, taking into account the distribution of potentially workable mineral resources; and

b) waste management and recycled aggregate facilities should as far as practicable be in locations that minimise the road distance from the main source(s) of waste, using roads suitable for lorries, taking into account that some facilities are not economic or practical below a certain size and may need to serve a wider than local area.

SA Objective		Assessment of Effect	
		Likely Effect	Justification and Evidence
1	To protect, maintain, and enhance Oxfordshire's biodiversity and geodiversity including natural habitats, flora and fauna and protected species.	?	Transportation that maintains or improves environmental amenity may have an indirect but localised positive effects due to the fact that some species are sensitive to the dust, vibration and noise generated by HGV traffic and reduction of these effects should be positive. However the installation of alternative infrastructure for transportation (water based, pipeline, and conveyor) also has the potential to adversely affect biodiversity where such infrastructure is proposed. Effects are uncertain depending on the location of the new infrastructure.
2	Protect and enhance landscape character, local distinctiveness, conserve and enhance the historic environment, heritage assets and their settings.	?	The installation of alternative infrastructure for transportation (water based, pipeline, and conveyor) also has the potential to adversely affect landscape and heritage assets where such infrastructure is proposed. Effects are uncertain depending on the location of the new infrastructure.
3	To maintain and improve ground and surface water	+	This policy may have an indirect positive effect on this SA objective by addressing the adverse effects on water quality which can arise from contaminated dust on roads from the

SA Objective		Assessment of Effect	
		Likely Effect	Justification and Evidence
	quality.		transportation of minerals causing pollution through runoff. Minimising transportation would reduce dust and thereby minimise the potential for water pollution.
4	To improve and maintain air quality to levels which do not damage natural systems.	++	Ensuring that waste and minerals development does not affect the efficiency and quality of the road network should have a significant positive effect on this SA objective by reducing congestion, and subsequent effects on air quality. Reducing the number of road miles travelled to reach markets should also have a positive effect on improving air quality, as would a shift to other modes of transport including rail, water, pipeline and conveyor.
5	To reduce greenhouse gas emissions to reduce the cause of climate change.	++	Reducing the number of road miles travelled to reach markets should have a significant positive effect on reducing greenhouse gas emissions, as would a shift to other modes of transport including rail, water, pipeline and conveyor. Improving the efficiency and quality of the road network should have a positive effect on ghg emissions by reducing congestion, and thus the higher levels of emissions associated with slow moving traffic.
6	To reduce the risk of flooding.	0	
7	To minimise the impact of transportation of aggregates and waste products on the local and strategic road network.	++	This policy directly addresses this SA objective and should have a significant positive effect on the attainment of this objective.
8	To minimise negative impacts of waste management facilities and mineral extraction on people and local communities.	++	This policy should have a significant positive effect on minimising impacts on local communities as it seeks to address the transportation impacts of minerals and waste development on residential amenity. The policy also requires development to make provision for safe access and improve road safety for all users including pedestrians thereby also having positive effects on people and the local community.
9	To protect, improve and where necessary restore land and soil quality.	+	This policy may have an indirect positive effect on this SA objective by addressing the adverse effects on soils which can arise from the transportation of minerals causing pollution through runoff. Minimising transportation would reduce dust and thereby minimise the potential for soil contamination.
10	To contribute towards moving up the waste hierarchy in Oxfordshire.	0	
11	To enable Oxfordshire to be self-sufficient in its waste	+	The policy aims to provide the necessary and appropriate transport infrastructure to ensure that minerals are sustainably transported to their markets, thus assisting to meet

SA Objective		Assessment of Effect	
		Likely Effect	Justification and Evidence
	management and to provide for its local need for aggregates as set out in the LAA		Oxfordshire's local needs for minerals and self-sufficiency in waste management.
12	To support Oxfordshire's economic growth and reduce disparities across the county.	+	The policy should indirectly assist to support Oxfordshire's economic growth by providing the necessary and appropriate infrastructure to ensure that waste and minerals are transported efficiently to the relevant markets/management facilities. It should also help to address the issue of congestion which has an effect on business efficiency.
Summary of Assessment and Mitigation Measures		Policy C10 is expected to have a significant positive effect on objectives SA4, SA5, SA7 and SA8 which relate to air quality, greenhouse gas emissions, the local and strategic road network and local communities respectively. Indirect positive effects have been identified for objectives SA3 (water quality) and SA9 (land and soil quality) by addressing the adverse effects on soils which can arise from the transportation of minerals causing pollution through runoff. It is also expected to have indirect positive effects on self-sufficiency in waste management and sustainable minerals provision (SA11) and economic growth (SA12). Uncertain effects have been identified with regards to objectives SA1 (biodiversity) and SA2 (landscape and historic environment) as the installation of alternative infrastructure could have adverse effects although they will be dependent on the location. There is no direct relationship between this policy and the other SA objectives and effects on other SA objectives are therefore expected to be neutral.	

Policy C11: Rights of way

The integrity of the rights of way network shall be maintained and if possible retained in situ in safe and useable condition. Diversions should be safe, attractive and convenient and, if temporary, shall be reinstated as soon as possible. If permanent diversions are required, these should seek to enhance and improve the public rights of way network.

Improvements and enhancements to the rights of way network will generally be encouraged and public access sought to restored mineral workings, especially if this can be linked to wider provision of green infrastructure. Where appropriate, operators and landowners will be expected to make provision for this as part of the restoration and aftercare scheme.

SA Objective		Assessment of Effect	
		Likely Effect	Justification and Evidence
1	To protect, maintain, and enhance Oxfordshire's biodiversity and geodiversity including natural habitats,	0	The supporting text notes that public access to restored mineral workings should be carefully managed so as to not adversely affect habitats and species resident within the restored area (particularly in Conservation Target Areas).

SA Objective		Assessment of Effect	
		Likely Effect	**Justification and Evidence**
	flora and fauna and protected species.		
2	Protect and enhance landscape character, local distinctiveness, conserve and enhance the historic environment, heritage assets and their settings.	**0**	
3	To maintain and improve ground and surface water quality.	**0**	
4	To improve and maintain air quality to levels which do not damage natural systems.	**0**	
5	To reduce greenhouse gas emissions to reduce the cause of climate change.	**0**	
6	To reduce the risk of flooding.	**0**	
7	To minimise the impact of transportation of aggregates and waste products on the local and strategic road network.	**+**	Enhancements to the public rights of way network could have an indirect positive effect on this objective by encouraging people to make local trips on foot or bicycle where such improvements are provided, reducing traffic conflicts on local roads.
8	To minimise negative impacts of waste management facilities and mineral extraction on people and local communities.	**++**	The policy provides opportunities for long term enhancement of local amenity and improved access to the countryside by improving the right of way network and ~~is~~ therefore significant positive effects in relation to this SA objective have been identified.
9	To protect, improve and where necessary restore land and soil quality.	**0**	
10	To contribute towards moving up the waste	**0**	

SA Objective		Assessment of Effect	
		Likely Effect	Justification and Evidence
	hierarchy in Oxfordshire.		
11	To enable Oxfordshire to be self-sufficient in its waste management and to provide for its local need for aggregates as set out in the LAA	**0**	
12	To support Oxfordshire's economic growth and reduce disparities across the county.	**0**	
Summary of Assessment and Mitigation Measures		Enhancements to the public rights of way network should have a significant positive effect on local communities (SA8) and indirect positive effects on the local road network by encouraging people to make local trips on foot or bicycle, reducing traffic conflicts on local roads (SA7). The supporting text notes that public access to restored mineral workings should be carefully managed so as to not adversely affect sensitive habitats and species resident in the restored area (particularly in Conservation Target Areas) and therefore effects on SA1 are considered to be neutral.	