



Centre for Sustainability

Dacorum Borough Council

Sustainability Appraisal (incorporating Strategic
Environmental Assessment)

Working Note for the Local Development Framework
Core Strategy Working Draft

Appendix C –
Draft Settlement Strategy Assessment

September 2010

Contents

- Methodology 1**
- 1 Hemel Hempstead 3**
 - 1.1 Spatial Strategy for Hemel Hempstead3
 - 1.2 Policy CS33 Hemel Hempstead Town Centre Design Principles8
 - 1.3 Hemel Hempstead Strategic Housing Allocations 11
- 2 Berkhamsted..... 16**
 - 2.1 Berkhamsted Spatial Strategy 16
 - 2.2 Berkhamsted Strategic Housing Allocations 19
- 3 Tring 24**
 - 3.1 Tring Spatial Strategy Assessment 24
 - 3.2 Tring Strategic Housing Allocation Assessment 26
- 4 Kings Langley..... 29**
 - 4.1 Kings Langley Spatial Strategy Assessment 29
- 5 Bovingdon..... 32**
 - 5.1 Bovingdon Spatial Strategy Assessment..... 32
 - 5.2 Bovingdon Strategic Housing Allocation Assessment 34
- 6 Markyate..... 36**
 - 6.1 Markyate Spatial Strategy Assessment including the Strategic Allocation at Hicks Road 36
- 7 Countryside..... 40**
 - 7.1 Countryside Spatial Strategy Assessment..... 40

Appendix C: Draft Settlement Strategy Assessment

Methodology

The following tables outline the symbols and abbreviations used to document the results of the assessment process.

Key to Assessment Scores

Scale		
Symbol	Meaning	Comment
L	Local	Within the settlement and immediate vicinity
R	Regional	Within the Dacorum Borough and neighbouring local authorities
N	National	UK or a wider global impact

Permanence		
Symbol	Meaning	Comment
P	Permanent	E.g. Effects lasting during and beyond the life of the plan
T	Temporary	E.g. Effects during construction

Timescale	
In the Short Term	0-10 years
In the Medium Term	10-20 years
In the Long Term	After life of plan

Significance Assessment	Description
✓✓	Very sustainable - Option is likely to contribute significantly to the SA/SEA objective
✓	Sustainable - Option is likely to contribute in some way to the SA/SEA objective
?	Uncertain - It is uncertain how or if the Option impacts on the SA/SEA objective
–	Neutral - Option is unlikely to impact on the SA/SEA objective
x	Unsustainable - Option is likely to have minor adverse impacts on the SA/SEA objective
xx	Very unsustainable - Option is likely to have significant adverse impacts on the SA/SEA objective

The table below outlines the Sustainability Objectives that have been used to focus the assessment process and details the reference term which is used in the assessment tables for the sake of brevity. The full framework of objectives and associated sub-objectives can be found in the main working note.

SA Objective		Reference Term
1	To protect, maintain and enhance biodiversity and geodiversity at all levels, including the maintenance and enhancement of Biodiversity Action Plan habitats and species in line with local targets	Biodiversity
2	To protect, maintain and enhance water resources (including water quality and quantity) while taking into account the impacts of climate change	Water quality/ quantity
3	Ensure that new developments avoid areas which are at risk from flooding and natural flood storage areas	Flood risk
4	Minimise development of land with high quality soils and minimise the degradation/loss of soils due to new developments	Soils
5	Reduce the impacts of climate change, with a particular focus on reducing the consumption of fossil fuels and levels of CO ₂	Greenhouse gas emissions
6	Ensure that developments are capable of withstanding the effects of climate change (adaptation to climate change)	Climate change proof
7	Achieve good air quality, especially in urban areas	Air Quality
8	Maximise the use of previously developed land and buildings, and the efficient use of land	Use of brownfield sites
9	To use natural resources, both finite and renewable, as efficiently as possible, and re-use finite resources or recycled alternatives wherever possible	Resource efficiency
10	To identify, maintain and enhance the historic environment and cultural assets	Historic & cultural assets
11	To conserve and enhance landscape and townscape character and encourage local distinctiveness	Landscape & Townscape
12	To encourage healthier lifestyles and reduce adverse health impacts of new developments	Health
13	To deliver more sustainable patterns of location of development.	Sustainable locations
14	Promote equity & address social exclusion by closing the gap between the poorest communities and the rest	Equality & social exclusion
15	Ensure that everyone has access to good quality housing that meets their needs	Good quality housing
16	Enhance community identity and participation	Community Identity & participation
17	Reduce both crime and fear of crime	Crime and fear of crime
18	Achieve sustainable levels of prosperity and economic growth	Sustainable prosperity and growth
19	Achieve a more equitable sharing of the benefits of prosperity across all sectors of society and fairer access to services, focusing on deprived areas in the region	Fairer access to services
20	Revitalise town centres to promote a return to sustainable urban living	Revitalise town centres

1 Hemel Hempstead

1.1 Spatial Strategy for Hemel Hempstead

SA Objective	Assessment of Effect					Mitigation and Enhancement		
	Nature of Effect Including where appropriate whether the effects are direct/indirect and likely/unlikely. Justification and Evidence	Permanence	Scale	Significance of Effects				
				In the short term	In the medium term		In the long term	
1	Biodiversity	The level of housing required in the town will require some development on greenfield land which could have adverse impacts on habitats and species due to landtake, habitat fragmentation and urban pollution issues. The significance of the effect will be dependent on the biodiversity value of the greenfield land to be developed. Any 'greening' of the urban areas could have benefits for biodiversity.	P	L	?	?	?	
		Loss of greenbelt land could have a negative effect on habitats and species more widely due to increased traffic and transport and increased numbers of visitors putting pressure on local wildlife sites, for example the Chilterns Beechwoods SAC and Shrubhill Common LNR.	P	L R	x	x	x	
2	Water quality/ quantity	The delivery of 8,600 new homes under Option 2 will put pressure on the waste water treatment works (WWTWs) and could result in adverse effects on water quality downstream of the works.	T	L	?	?	?	A local objective for Hemel is to accommodate waste water treatment and sewerage infrastructure which would alleviate these potential problems.
		Dacorum Borough is within an area already identified as 'over-abstracted' (Colne CAMS, EA). Providing 8,600 new homes in Hemel will put direct pressure on these already under pressure water resources. The effect may become more significant over time as more dwellings are built and	P	R	x	x	?	

SA Objective	Assessment of Effect					Mitigation and Enhancement	
	Nature of Effect Including where appropriate whether the effects are direct/indirect and likely/unlikely. Justification and Evidence	Permanence	Scale	Significance of Effects			
				In the short term	In the medium term		In the long term
	risk of periodic water shortages increases.						
	Housing development on greenfield sites will inevitably increase impermeable surfaces resulting in increased water run-off and potential pollution to water courses.	P	R	x	x	x	
	Within Maylands there are potential effects on groundwater and aquifer supplies resulting from new development, especially as there is existing potential contamination from the Buncefield incident.	P	R	x	x	x	
3	Flood risk						
	Parts of Hemel Hempstead lie within areas of flood risk, which may expand due to the implications of climate change. A number of the potential housing allocation sites are located within flood risk zones. Therefore, should these sites be developed there is potential for adverse effects on this objective.	-	-	?	?	?	
4	Soils						
	Housing development on greenfield land will have some adverse effects on this SA objective through soil sealing and soil loss.	P	L	x	x	x	
5	Greenhouse gas emissions						
	Housing development will result in an increase in ghg emissions from new housing and associated activities. Building 8,600 new homes could lead to an increase in greenhouse gas emissions of approximately 50,000 tonnes per annum. This is based upon estimated per capita domestic CO ₂ emissions of 2.4 tonnes multiplied by the average number of occupants per household in the Borough of 2.4 [Source: Audit Commission Local Area Profile].	P	N	x	x	x	
	Activities, including transport, relating to the new employment sites and the provision of new jobs within the town will result in some increases in greenhouse gas emissions. However increasing employment opportunities in the town could reduce the need to travel. In addition the development of a public transport interchange between the town centre, the railway station and Maylands should help to reduce the reliance on the private car and result in reduced transport emissions.	-	-	?	?	?	
6	Climate change proof						
	No predicted effects.	-	-	-	-	-	

SA Objective		Assessment of Effect					Mitigation and Enhancement	
		Nature of Effect Including where appropriate whether the effects are direct/indirect and likely/unlikely. Justification and Evidence	Permanence	Scale	Significance of Effects			
					In the short term	In the medium term		In the long term
7	Air Quality	Building new homes will contribute to background emissions through an increase in vehicles on the road in Hemel Hempstead. There are already two areas in Hemel Hempstead that have air quality issues and these could be exacerbated.	P	L	x	x	x	
		Activities relating to the new employment sites and the provision of new jobs, i.e. transport activities, will result in some increases in emissions to air therefore potentially having an adverse effect on local air quality close to these sites. The provision of an integrated transport network may help to mitigate these effects.	P	L	x	x	x	
		The development of a public transport interchange between the town centre, the railway station and Maylands should help to reduce the reliance on the private car and result in reduced transport emissions.	P	L	✓	✓	✓	
8	Use of brownfield sites	The level of housing required in the town will require some development on greenfield land.	P	L	x	x	x	
		The development associated with the regeneration of Hemel Hempstead should make best use of previously developed land.	P	L	✓	✓	✓	
9	Resource efficiency	Housing growth and other new developments proposed for Hemel Hempstead will put demands on natural resources and result in increased waste generation.	P	L	x	x	x	
10	Historic & cultural assets	The regeneration proposed through the spatial strategy and design principles associated with it should help to enhance the quality of the historic built environment with the Old Town and other areas of Hemel Hempstead.	P	L	✓	✓	✓	
		Housing other new developments could have adverse effects on known or undiscovered cultural heritage resources.	-	-	?	?	?	
		The regeneration proposed through the spatial strategy and design principles associated with it should help to enhance the townscapes within each of Hemel Hempstead town centre character zones.	P	L	✓	✓	✓	
11	Landscape & Townscape	The regeneration proposed through the spatial strategy and design principles associated with it should help to enhance the quality of the townscape.	P	L	✓	✓	✓	

SA Objective	Assessment of Effect					Mitigation and Enhancement		
	Nature of Effect Including where appropriate whether the effects are direct/indirect and likely/unlikely. Justification and Evidence	Permanence	Scale	Significance of Effects				
				In the short term	In the medium term		In the long term	
	Loss of greenbelt land could have a negative effect on local landscape character.	P	L R	x	x	x		
12	Health	Developing a new General Hospital within Hemel Hempstead will have benefits for health.	P	L	✓	✓	✓	
		Placing greater emphasis on the needs of pedestrians, delivery of new sports and leisure facilities, including a town stadium, and provision of a new Urban park will all help to promote healthy lifestyles.	P	L	✓	✓	✓	
13	Sustainable locations	Provision of high levels of new housing in Hemel Hempstead, particularly those in the town centre, should reduce the need to travel through closer integration of housing, jobs and services, including health facilities.	P	L	✓	✓	✓	
		Development on greenfield sites on the edge of the town will result in an increased need to travel to access the town's facilities. This is particularly the case with new development at West Hemel Hempstead which is some distance from the town centre and the main employment area at Maylands.	P	L	x	x	x	
14	Equality & social exclusion	Regeneration of the town centre, including the provision of improved retail, leisure, employment, health and residential opportunities should have a positive effect on this SA objective by improving access to these types of facilities.	P	L	✓	✓	✓	
		The development of new schools will help to improve educational provision within the town.	P	L	✓	✓	✓	
15	Good quality housing	The delivery of 8,600 new homes will provide a mix of housing types and tenures to help meet the housing needs of all sections of the local population.	P	L	✓	✓	✓	
16	Community Identity & participation	Enhancing employment, retail and leisure opportunities in the town could make the urban areas more attractive places to live, work and visit.	P	L	✓	✓	✓	
		Regeneration of Hemel Hempstead should result in a greater sense of community pride.	P	L	✓	✓	✓	
17	Crime and fear of crime	Town centre regeneration could result in a reduction in levels of crime in the area.	-	-	?	?	?	
18	Sustainable	Regeneration of the town, the provision of 8,600 new homes and	P	L	✓	✓	✓	

SA Objective	Assessment of Effect					Mitigation and Enhancement	
	Nature of Effect Including where appropriate whether the effects are direct/indirect and likely/unlikely. Justification and Evidence	Permanence	Scale	Significance of Effects			
				In the short term	In the medium term		In the long term
prosperity & growth	improving the provision of community facilities will support the economy by providing necessary infrastructure and producing a high quality urban environment in which people will want to live and work. This could encourage businesses to relocate to an expanded Maylands business area. In particular, regenerating the town centre and Maylands will help to support the expansion of the local economy.						
19	Fairer access to services	Expanding employment opportunities within the town should progress this objective through the provision of local jobs close to where people live. Regenerating the Maylands business area will provide local jobs and increase access to services for the business community working in Maylands.	P	L	✓	✓	✓
		Improving public transport services should improve access to employment opportunities for those people without access to a private vehicle.	P	L	✓	✓	✓
20	Revitalise town centres	Providing 1,800 new dwellings in the town centre is likely to have a positive effect on this SA objective due to the increasing the levels of people living within the centre of the urban area. The provision of new community facilities within the town centre should also help to progress this SA objective.	P	L	✓	✓	✓
		Regeneration of the town centre, including the provision of improved retail, leisure, employment, health and residential opportunities should have a positive effect on this SA objective. Regenerating Maylands should revitalise the local centre and promote sustainable development principles. Refurbishing the other local centres within the town will also help to progress this SA objective. However it should be noted that developing the Maylands site contradicts the SA objectives other aim of discouraging out of town centre development.	P	L	✓	✓	✓
Recommendations		None identified.					

1.2 Policy CS33 Hemel Hempstead Town Centre Design Principles

SA Objective	Assessment of Effect						Mitigation and Enhancement	
	Nature of Effect Including where appropriate whether the effects are direct/indirect and likely/unlikely. Justification and Evidence	Permanence	Scale	Significance of Effects				
				In the short term	In the medium term	In the long term		
1	Biodiversity	No predicted effects.	-	-	-	-	-	
2	Water quality/ quantity	No predicted effects.	-	-	-	-	-	
3	Flood risk	No predicted effects.	-	-	-	-	-	
4	Soils	No predicted effects.	-	-	-	-	-	
5	Greenhouse gas emissions	Measures to secure an integrated public transport hub and improve pedestrian access and movement should help to reduce the reliance on private cars with associated reductions in ghg emissions.	P	N	✓	✓	✓	
6	Climate change proof	No predicted effects.	-	-	-	-	-	
7	Air Quality	Measures to secure an integrated public transport hub and improve pedestrian access and movement should help to reduce the reliance on private cars with associated reductions in airborne emissions.	P	L	✓	✓	✓	
8	Use of brownfield sites	No predicted effects.	-	-	-	-	-	
9	Resource efficiency	No predicted effects.	-	-	-	-	-	
10	Historic & cultural assets	The town centre design principles promote high quality design which will help to promote the distinctiveness of Hemel Hempstead's built environment.	P	L	✓	✓	✓	
11	Landscape & Townscape	Ensuring that new development contributes to a coherent and distinctive sense of place for the town centre as a whole and enhancing the distinct identity of each character zone should help to progress this objective by protecting and enhancing the townscape. Providing high quality streets and public realm through a design strategy which aims to unify the town centre zones through a co-ordinated design	P	L	✓	✓	✓	

SA Objective	Assessment of Effect					Mitigation and Enhancement		
	Nature of Effect Including where appropriate whether the effects are direct/indirect and likely/unlikely. Justification and Evidence	Permanence	Scale	Significance of Effects				
				In the short term	In the medium term		In the long term	
		approach should also have a positive effect on this SA objective.						
12	Health	Placing greater emphasis on the needs of pedestrians and extending the riverside walk should encourage more active travel thereby leading to healthier lifestyles. If the policy leads to a reduction in private car use, particularly, in the town centre this could improve air quality which may have public health benefits.	P	L	✓	✓	✓	Consider measures to 'lock in' the benefits of reduced traffic, such as pedestrianisation, demand management measures (parking charges/reduction in parking spaces, vehicle restrictions), etc.
13	Sustainable locations	Providing additional retail development and other town centres uses including leisure, offices, hotels, and cultural facilities, within the town centre should reduce the need to travel to neighbouring key centres thereby helping to progress this SA objective.	P	L	✓	✓	✓	
14	Equality & social exclusion	Focusing retail development and other town centres uses including leisure, offices, hotels, and arts and entertainment, within the town centre should improve the provision of community facilities. Measures to improve access by walking, cycling and public transport should also help to progress this objective.	P	L	✓	✓	✓	
15	Good quality housing	No predicted effects.	-	-	-	-	-	
16	Community Identity & participation	All of the spatial principles should help to improve the quality of the town centre thereby making it a more attractive place in which to live, work and to visit. Requiring individual developments to contribute fully towards the achievement of town centre use, movement and design principles should have a positive effect on this SA objective.	P	L	✓	✓	✓	

SA Objective		Assessment of Effect					Mitigation and Enhancement	
		Nature of Effect Including where appropriate whether the effects are direct/indirect and likely/unlikely. Justification and Evidence	Permanence	Scale	Significance of Effects			
					In the short term	In the medium term		In the long term
17	Crime and fear of crime	Providing high quality design and public realm may help to design out crime.	-	-	?	?	?	
18	Sustainable prosperity & growth	Focusing retail development and other town centres uses including leisure, offices, hotels, and cultural facilities within the town centre should help to support the local economy, for example through the provision of employment opportunities. All of the spatial principles should help to improve the quality of the town centre which should also help to support the local economy.	P	L	✓	✓	✓	
19	Fairer access to services	Focusing retail development and other town centres uses including leisure, offices, hotels, and cultural facilities within the town centre should help to provide local employment opportunities. Measures to improve access by walking and public transport should also help to progress this objective by improving access to employment opportunities for those without access to a car.	P	L	✓	✓	✓	
20	Revitalise town centres	Focusing retail development and other town centres uses including leisure, offices, hotels, and cultural facilities within the town centre should improve the viability and vitality of the town centre. Also, all of the spatial principles should improve the quality of the town centre thereby helping to progress this SA objective.	P	L	✓	✓	✓	
Recommendations		The policy should consider how cyclists can be encouraged and accommodated within the design principles.						

1.3 Hemel Hempstead Strategic Housing Allocations

Hemel Hempstead Spatial Strategy: West Hemel Hempstead (north)

SA Objective		West Hemel Hempstead (north)	
1	Biodiversity	The strategic site is greenfield and there would therefore be loss or damage of some habitats.	x
2	Water quality/ quantity	No predicted effects.	-
3	Flood risk	This strategic site is in a low risk flood zone and not in flood risk zone 2 or 3.	-
4	Soils	This strategic site would result in a loss of greenfield land, and development would result in soil sealing.	x
5	Greenhouse gas emissions	This strategic site is located at a distance from shops and facilities, which could increase the need to travel by car to access them. Walking and cycling may be discouraged due to the topography of the area. These factors could increase the growth in ghg emissions.	x
6	Climate change proof	Neutral Effects.	-
7	Air Quality	This strategic site is located at a distance from shops and facilities, which could increase the need to travel by car to access them. Walking and cycling may be discouraged due to the topography of the area. This could lead to increased car use with associated adverse effects in terms of increasing the growth in airborne emissions.	x
8	Use of brownfield sites	This strategic site is greenfield.	x
9	Resource efficiency	Neutral Effects.	-
10	Historic & cultural assets	Neutral Effects.	-
11	Landscape & Townscape	The strategic site is located in the Greenbelt. Development will have a visual impact on the landscape of the Bulbourne Valley and parts of the area would be visible from the opposite valley side.	x
12	Health	The strategic site is located at a distance from facilities which could discourage walking and cycling. The topography of the area could also discourage walking and cycling. The local health facilities are at capacity.	x
13	Sustainable locations	The strategic site is located at a distance from local facilities and amenities.	x
14	Equality & social exclusion	The strategic site is located at a distance from local facilities and amenities. The local health facilities are at a capacity. There is potentially some capacity in the primary schools in the area.	x
15	Good quality housing	This strategic site could provide c.450 units of housing which would allow for the provision of affordable housing.	✓
16	Community Identity & participation	Neutral Effects.	-

SA Objective		West Hemel Hempstead (north)	
17	Crime and fear of crime	Neutral Effects.	-
18	Sustainable prosperity & growth	As development at this location should provide a significant amount of additional housing, the increase in the number of local residents would make facilities and local amenities more viable.	✓
19	Fairer access to services	Provision of housing could help the local economy and encourage provision of local services.	✓
20	Revitalise town centres	Development at this edge of town location does not support the objective to focus new development in the centre of urban areas.	✗

Hemel Hempstead Spatial Strategy: West Hemel Hempstead (south)

SA Objective		West Hemel Hempstead (south)	
1	Biodiversity	The strategic site is greenfield and there would therefore be loss or damage of some habitats.	✗
2	Water quality/ quantity	No predicted effects.	-
3	Flood risk	This strategic site is in a low risk flood zone and not in flood risk zone 2 or 3.	-
4	Soils	This strategic site would result in a loss of greenfield land, and development would result in soil sealing.	✗
5	Greenhouse gas emissions	This strategic site is located at a distance from shops and facilities, which could increase the need to travel by car to access them. Walking and cycling may be discouraged due to the topography of the area. These factors could increase the growth in ghg emissions.	✗
6	Climate change proof	Neutral Effects.	-
7	Air Quality	This strategic site is located at a distance from shops and facilities, which could increase the need to travel by car to access them. Walking and cycling may be discouraged due to the topography of the area. This could lead to increased car use with associated adverse effects in terms of increasing the growth in airborne emissions.	✗
8	Use of brownfield sites	This strategic site is greenfield.	✗
9	Resource efficiency	Neutral Effects.	-
10	Historic & cultural assets	Neutral Effects.	-
11	Landscape & Townscape	The strategic site is located in the Greenbelt and would have a visual impact on the landscape of the Bulbourne Valley and the nearby Chilterns AONB. Development could impact on the existing green link between Shrubhill Common and the countryside.	✗

SA Objective		West Hemel Hempstead (south)	
12	Health	The strategic site is located at a distance from facilities which could discourage walking and cycling. The topography of the area could also discourage walking and cycling. The local health facilities are at a capacity. The strategic site is located near the A41, and the railway which could result in noise levels that could affect health and wellbeing.	x
13	Sustainable locations	The strategic site is located at a distance from local facilities and amenities.	x
14	Equality & social exclusion	The strategic site is located at a distance from local facilities and amenities. The local health facilities are at a capacity.	x
15	Good quality housing	This strategic site could provide c.450 units of housing which would allow for the provision of affordable housing.	✓
16	Community Identity & participation	Neutral Effects.	-
17	Crime and fear of crime	Neutral Effects.	-
18	Sustainable prosperity & growth	As development at this location should provide a significant number of additional housing, the increase in the number of local residents would make facilities and local amenities more viable.	✓
19	Fairer access to services	Provision of housing could help the local economy and encourage provision of local services.	✓
20	Revitalise town centres	Development at this edge of town location does not support the objective to focus new development in the centre of urban areas.	x

Hemel Hempstead Spatial Strategy: Marchmont Farm

SA Objective		Marchmont Farm	
1	Biodiversity	The strategic site is greenfield and there would therefore be loss or damage of some habitats.	x
2	Water quality/ quantity	No predicted effects.	-
3	Flood risk	This strategic site is in a low risk flood zone and not in flood risk zone 2 or 3.	-
4	Soils	This strategic site is greenfield land, and development would result in soil sealing.	x
5	Greenhouse gas emissions	This strategic site is located near local shops and facilities, which could decrease the need to travel and reduce the level of growth in ghg emissions.	✓
6	Climate change proof	Neutral Effects.	-
7	Air Quality	This strategic site is located near local shops and facilities, which could decrease the need to travel	✓

SA Objective		Marchmont Farm	
		and lead to beneficial effects in terms of reducing the growth in airborne emissions.	
8	Use of brownfield sites	This strategic site is greenfield.	x
9	Resource efficiency	Neutral Effects.	-
10	Historic & cultural assets	Neutral Effects.	-
11	Landscape & Townscape	The strategic site is located in the Greenbelt. The strategic site could have a visual impact on the Gade Valley and Piccotts End.	x
12	Health	The strategic site is located near local facilities, which could encourage walking and cycling.	✓
13	Sustainable locations	The strategic site is located near local facilities and amenities.	✓
14	Equality & social exclusion	The strategic site is located near local facilities and amenities.	✓
15	Good quality housing	This strategic site could provide c.300 units of housing which would allow for the provision of affordable housing.	✓
16	Community Identity & participation	Neutral Effects.	-
17	Crime and fear of crime	Neutral Effects.	-
18	Sustainable prosperity & growth	As development at this location should provide a significant amount of additional housing, the increase in the number of local residents would make facilities and local amenities more viable.	✓
19	Fairer access to services	Provision of housing could help the local economy and encourage provision of local services.	✓
20	Revitalise town centres	Development at this edge of town location does not support the objective to focus new development in the centre of urban areas.	x

Hemel Hempstead Spatial Strategy: Old Town

SA Objective		Old Town	
1	Biodiversity	The site is greenfield and there would therefore be loss or damage of some habitats.	x
2	Water quality/ quantity	No predicted effects.	-
3	Flood risk	This site is in a low risk flood zone and not in flood risk zone 2 or 3.	-
4	Soils	Development at this strategic site would result in a loss of greenfield land, and development would result in soil sealing.	x

SA Objective		Old Town	
5	Greenhouse gas emissions	This strategic site is located near the town centre, which could decrease the need to travel to access facilities. This could decrease the growth in ghg emissions although walking and cycling may be discouraged due to the topography of the area.	✓
6	Climate change proof	Neutral Effects.	-
7	Air Quality	This strategic site is located near the town centre, which could decrease the need to travel to access facilities. This could lead to beneficial effects in terms of reducing the growth in airborne emissions although walking and cycling may be discouraged due to the topography of the area.	✓
8	Use of brownfield sites	This strategic site is greenfield.	✗
9	Resource efficiency	Neutral Effects.	-
10	Historic & cultural assets	The strategic site is located adjacent to the Old Town Conservation Area, and development may have an impact on its setting.	?
11	Landscape & Townscape	The strategic site is located in the Greenbelt although development would not encroach into open countryside.	✗
12	Health	The strategic site is located near local facilities and amenities, which could encourage walking and cycling, although the topography of the area may discourage use of these modes.	✓
13	Sustainable locations	The strategic site is located near local facilities and amenities.	✓
14	Equality & social exclusion	The strategic site is located near local facilities and amenities and the development is not expected to have an impact on local services e.g. school places.	✓
15	Good quality housing	This strategic site could provide c.80 new units which would result in the provision of some affordable housing.	✓
16	Community Identity & participation	Neutral Effects.	-
17	Crime and fear of crime	Neutral Effects.	-
18	Sustainable prosperity & growth	Provision of additional housing close to the town centre could help the local economy and support local services.	✓
19	Fairer access to services	Provision of housing could help the local economy and encourage provision of local services.	✓
20	Revitalise town centres	Development at this location close to the town centre supports the objective to focus new development in the centre of urban areas.	✓

2 Berkhamsted

2.1 Berkhamsted Spatial Strategy

SA Objective	Assessment of Effect						Mitigation and Enhancement	
	Nature of Effect Including where appropriate whether the effects are direct/indirect and likely/unlikely. Justification and Evidence	Permanence	Scale	Significance of Effects				
				In the short term	In the medium term	In the long term		
1	Biodiversity	The level of new housing proposed will require some development on greenfield land which could have adverse impacts on habitats and species due to landtake, habitat fragmentation and urban pollution issues. The significance of the effect will be dependent on the biodiversity value of the sites that are to be developed. Any 'greening' of the urban areas could have benefits for biodiversity.	P	L	?	?	?	
		The effect of the completion of the link between Tunnel Fields estate and New Road may impact on biodiversity as it would be cutting through open land and may impact on a wildlife site. However it is not certain that this completion will occur due to lack of funding. The uncertain assessment relates to both the potential impact of the link on biodiversity, and whether or not the completion of the link will go ahead.	P	L	?	?	?	
2	Water quality/ quantity	De-culverting the River Bulbourne where appropriate could have a positive impact on water quality and should help to maintain the water dependent wildlife sites in the area.	P	L	✓	✓	✓	
		Provision of new housing will have capacity implications for the waste water treatment works with associated risks relating to poor water quality downstream of the works.	P	L	x	x	x	See Water Cycle Scoping Report
3	Flood risk	There is potential for a breach or overtopping due to flooding of the Grand Union Canal but the risk is considered to be low. However it is stated that a cautious approach to development close to the embankment will be taken, ensuring a positive impact as this will reduce flood risk for new developments. If the river is deculverted and is subsequently better maintained it could provide improved flood attenuation compared to the culvert.	P	L	✓	✓	✓	

SA Objective	Assessment of Effect						Mitigation and Enhancement	
	Nature of Effect Including where appropriate whether the effects are direct/indirect and likely/unlikely. Justification and Evidence	Permanence	Scale	Significance of Effects				
				In the short term	In the medium term	In the long term		
4	Soils	Housing and school development on greenfield land will have some adverse effects on this SA objective through soil sealing and soils loss.	P	L	x	x	x	
5	Greenhouse gas emissions	Housing development will result in an increase in greenhouse gas emissions from new housing and associated activities. Building 1,200 new homes could lead to an increase in greenhouse gas emissions of approximately 6,912 tonnes per annum. This is based upon estimated per capita domestic CO ₂ emissions of 2.4 tonnes multiplied by the average number of occupants per household in the Borough of 2.4 [Source: Audit Commission Local Area Profile].	P	N	x	x	x	
		Promoting opportunities for sustainable travel including improved cycle routes and facilities could help to reduce greenhouse gas emissions. However increasing car parking spaces in the town is likely to counteract these benefits as it will not discourage car trips into the town centre.	P	N	?	?	?	
6	Climate change proof	No predicted effects.	-	-	-	-	-	
7	Air Quality	Promoting opportunities for sustainable travel including improved cycle routes and facilities could help to improve local air quality. However increasing car parking spaces in the town is likely to counteract these benefits as it will not discourage car trips into the town centre.	P	L	?	?	?	
		If the New Road / Springfield Road link goes ahead this could help to resolve current air quality issues in Northchurch.	P	L	?	?	?	
8	Use of brownfield sites	The level of housing required in the town and the provision of new schools will require some development on greenfield land.	P	L	x	x	x	
9	Resource efficiency	Housing growth will put demands on natural resources and result in increased waste generation.	P	L	x	x	x	
10	Historic & cultural assets	No predicted effects.	-	-	-	-	-	
11	Landscape &	Development of new housing and schools within and on the edge of the	P	L	?	?	?	

SA Objective		Assessment of Effect					Mitigation and Enhancement	
		Nature of Effect Including where appropriate whether the effects are direct/indirect and likely/unlikely. Justification and Evidence	Permanence	Scale	Significance of Effects			
					In the short term	In the medium term		In the long term
	Townscape	town could have adverse effects on local landscapes. However, the Core Strategy is clear that new development must not have an adverse impact on the sensitive valley sides and ridge top locations and views across the valley and along the valley floor will be safeguarded.						
12	Health	The spatial strategy commits to the protection and enhancement of open space and designated open land. This will safeguard existing, and provide new, opportunities for people to adopt healthier lifestyles through access to open land for recreation. Improvements to cycle routes and facilities should encourage more people to use bicycles as a healthy mode of transport.	P	L	✓	✓	✓	
13	Sustainable locations	Maintaining the key district shopping and service role of the town centre will help to progress this SA objective by reducing the need to travel to neighbouring centres due to closer integration of services.	P	L	✓	✓	✓	
14	Equality & social exclusion	Maintaining the vibrancy of Berkhamsted as a key district centre will help to ensure that facilities and services remain available to all sections of the community, particularly those without access to a private car.	P	L	✓	✓	✓	
		The development of new schools will help to improve educational provision within the town and address the current shortage of first school places.	P	L	✓	✓	✓	
15	Good quality housing	The delivery of around 1,200 new homes will help to provide a mix of dwellings to meet local needs, particularly the need for affordable housing.	P	L	✓	✓	✓	
16	Community Identity & participation	The delivery of the spatial strategy should make the town a more attractive place in which to live and work. This should progress this SA objective by contributing to providing a sense of community and identity.	P	L	✓	✓	✓	
17	Crime and fear of crime	No predicted effects.	-	-	-	-	-	
18	Sustainable prosperity & growth	Support for the British Film Institute should help this economically important site to remain competitive. Maintenance of a baseline in jobs in the B-Class uses will help to ensure that a mix of employment types are available with the town.	P	L	✓	✓	✓	

SA Objective		Assessment of Effect					Mitigation and Enhancement	
		Nature of Effect Including where appropriate whether the effects are direct/indirect and likely/unlikely. Justification and Evidence	Permanence	Scale	Significance of Effects			
					In the short term	In the medium term		In the long term
19	Fairer access to services	Maintaining both the provision of jobs in B-Class employment uses and the role of the town centre as a key district centre will help to ensure the local provision of jobs and services is maintained to the benefit of the town and its hinterlands.	P	L	✓	✓	✓	
20	Revitalise town centres	The spatial strategy recognises that there is a need to protect the key district shopping and service role of the centre.	P	L	✓	✓	✓	
Recommendations		None identified.						

2.2 Berkhamsted Strategic Housing Allocations

SA Objective		Option 1 Land off New Road	Option 3 Land adjacent to Hanburys, Shootersway
1	Biodiversity	The site is greenfield and there would therefore be loss of some habitats. x	The site is greenfield and there would therefore be loss of some habitats. x
2	Water quality/ quantity	Uncertain effect from this option on water quality and quantity. This is due to the proximity of the site to the canal and dependent on amount of run off. ?	No predicted effects. -
3	Flood risk	This option is in a low risk flood zone and not in flood risk zone 2 or 3. -	This option is in a low risk flood zone and not in flood risk zone 2 or 3. -
4	Soils	This option would result in a loss of greenfield land, and development would result in soil sealing. x	This option would result in a loss of greenfield land, and development would result in soil sealing. x
5	Greenhouse gas emissions	The site is located at a distance from the town centre, which could encourage greater car use to access the town. There x	The site is located at a distance from the town centre, which discourages walking and cycling, and there are poor bus services. This could x

SA Objective		Option 1 Land off New Road		Option 3 Land adjacent to Hanburys, Shootersway	
		is also poor pedestrian access to local facilities, which could mean there is an increase in car use. This could mean that there is an increase in the level of ghg emissions.		mean that the use of the car could increase, giving an increase in ghg emissions. The gradient between the town centre and the site may also make walking and cycling difficult. These factors could mean that there is an increase in the level of ghg emissions.	
6	Climate change proof	Neutral Effects.	-	Neutral Effects.	-
7	Air Quality	The site is located at a distance from the town centre, which could encourage greater car use to access the town. There is also poor pedestrian access to local facilities, which could mean there is an increase in car use. There could be adverse effects on air quality due to a possible increase in emissions.	x	The site is located at a distance from the town centre, which discourages walking and cycling, and there are poor bus services. This could mean that the use of the car could increase. The gradient between the town centre and the site may make walking and cycling difficult. There could be adverse effects on air quality due to a possible increase in emissions.	x
8	Use of brownfield sites	This option uses a greenfield site for development.	x	This option uses a greenfield site for development.	x
9	Resource efficiency	Neutral Effects.	-	Neutral Effects.	-
10	Historic & cultural assets	There is a potential impact on the setting of the Grand Union Canal, and the site is located in an area of archaeological significance. The area is classified as "18 th -19 th century enclosure" (HLC) ¹	x	There is no predicted effect of this option on historic assets. The area is classified as "built up modern" (HLC).	-
11	Landscape & Townscape	The site is located in a visually prominent, Greenbelt site, near the Chilterns AONB.	x	The site is located in the Greenbelt and could also impact on the setting of the British Film Institute (BFI) site. There could also be an effect on the transition area from urban to countryside.	x
12	Health	The site is located at a distance from the town centre, which could discourage walking and cycling. There is also poor pedestrian access to local facilities and lack of leisure facilities.	x	The site is located at a distance from the town centre, which could discourage walking and cycling. The site is located near the A41 which could result in noise levels that could affect health. The gradient between the town centre and the site may discourage walking and cycling.	x

¹ HLC= Hertfordshire Historic Landscape Characterisation

SA Objective		Option 1 Land off New Road		Option 3 Land adjacent to Hanburys, Shootersway	
13	Sustainable locations	The site is located at a distance from the town centre, and there is poor pedestrian access to local facilities.	x	The site is located at a distance from the town centre.	x
		The site is located near a school and local centre.	✓	The site is located close to the BFI site which would reduce the need to travel for those working at the site.	✓
14	Equality & social exclusion	The site is located at a distance from the town centre, and there is poor pedestrian access to local facilities.	x	The site is located at a distance from the town centre.	x
		The site is located near a school and local centre.	✓	The site is located close to the BFI site which reduces the need to travel by employees who occupy the new housing.	✓
15	Good quality housing	This option should provide affordable housing.	✓	This option should provide affordable housing.	✓
16	Community Identity & participation	Neutral Effects.	-	Neutral Effects.	-
17	Crime and fear of crime	Neutral Effects.	-	Neutral Effects.	-
18	Sustainable prosperity & growth	Provision of additional housing means there are more residents, making facilities and shops more viable. This would help with the local economy.	✓	This option could support expansion of the BFI site, which is a key local employer. This could create more jobs, helping the local economy. Provision of additional housing means there are more residents, making facilities and shops more viable. This would help with the local economy.	✓
19	Fairer access to services	Provision of housing could help the local economy and encourage provision of local services.	✓	Provision of housing could help the local economy and encourage provision of local services.	✓
20	Revitalise town centres	The option can help revitalise the town or local centres by providing additional housing to help maintain community vibrancy and vitality.	✓	The option can help revitalise the town or local centres by providing additional housing to help maintain community vibrancy and vitality.	✓

Berkhamsted Spatial Strategy: Egerton Rothesay School

SA Objective		Egerton Rothesay School	
1	Biodiversity	The site is partly greenfield and there would therefore be loss of some habitats. The option is adjacent to a wildlife site.	x
2	Water quality/ quantity	Neutral Effects.	-
3	Flood risk	The option is in a low risk flood zone and not in flood risk zone 2 or 3.	-
4	Soils	Upgrading the existing school building along with providing 200-240 new homes would likely result in some soil sealing and soil loss.	x
5	Greenhouse gas emissions	Providing 200-240 new homes will result in an increase in traffic and increase use of the car, especially due to the distance of the site from the town and the lack of easy access by public transport. These factors could result in an increase in the level of ghg emissions.	x
6	Climate change proof	Neutral effects.	-
7	Air Quality	Providing 200-400 new homes will result in an increase in traffic and increase use of the car, especially due to the distance of the site from the town and the lack of easy access by public transport. These factors could result in adverse impacts on air quality.	x
8	Use of brownfield sites	This option uses a predominantly greenfield sites for development.	x
9	Resource efficiency	This option involves the refurbishment of the existing building so would be a more efficient use of resources.	✓
10	Historic & cultural assets	The option is located in an "area of archaeological significance". The area is classified as "20th Century Agriculture" (approx 60%); "Built-up Areas Modern" (approx. 20%), "Woodlands" (approx 3%), and "Parks, Gardens, Recreation" (approx 17%) (HLC).	x
11	Landscape & Townscape	The school and housing development is located entirely outside of the Greenbelt. Playing pitches are proposed within the Greenbelt, although these are consistent with Greenbelt policy. There could however be a visual impact as it would result in the use of open space for development and the playing pitches.	x
12	Health	The site is located at a distance from the town centre, which could discourage walking and cycling. In addition, the site is located near the A41 which could result in noise levels that could affect health and wellbeing. Although there are plans for enhanced sports facilities and playing pitches there are uncertainties with regard to whether local residents would be encouraged to use them.	x
13	Sustainable locations	The option is located at a distance from the town centre; however it is located next to leisure space.	x

SA Objective		Egerton Rothesay School	
14	Equality & social exclusion	The option is located at a distance from the town centre.	x
		The option is located next to leisure space. Upgrading the school building should improve the quality of the education facility.	✓
15	Good quality housing	This option allows for 200-240 dwellings, which should provide some affordable housing.	✓
16	Community Identity & participation	Neutral Effects.	-
17	Crime and fear of crime	Neutral Effects.	-
18	Sustainable prosperity & growth	As this option should provide housing, there is potential for more residents to live in the town, making facilities and shops more viable. This would help support the local economy.	✓
19	Fairer access to services	Provision of housing could help the local economy and encourage provision of local services.	✓
20	Revitalise town centres	The option could help to revitalise the town or local centres as providing additional housing should help to maintain community vibrancy and vitality.	✓

3 Tring

3.1 Tring Spatial Strategy Assessment

SA Objective	Assessment of Effect						Mitigation and Enhancement	
	Nature of Effect Including where appropriate whether the effects are direct/indirect and likely/unlikely. Justification and Evidence	Permanence	Scale	Significance of Effects				
				In the short term	In the medium term	In the long term		
1	Biodiversity	The level of new housing proposed will require some development on greenfield land which could have adverse impacts on habitats and species due to landtake, habitat fragmentation and urban pollution issues. The significance of the effect will be dependent on the biodiversity value of the sites to be developed.	P	L	?	?	?	
2	Water quality/ quantity	Provision of new housing will have capacity implications for the waste water treatment works with associated risks relating to poor water quality downstream of the works.	P	L	x	x	x	See Water Cycle Scoping Report
3	Flood risk	No predicted effects.	-	-	-	-	-	
4	Soils	Housing development on greenfield land will have some adverse effects on this SA objective through soil sealing and soil loss.	P	L	x	x	x	
5	Greenhouse gas emissions	Housing development will result in an increase in greenhouse gas emissions from new housing and associated activities. Building 460 new homes could lead to an increase in green house gas emissions of approximately 2,650 tonnes per annum. This is based upon estimated per capita domestic CO ₂ emissions of 2.4 tonnes multiplied by the average number of occupants per household in the Borough of 2.4 [Source: Audit Commission Local Area Profile].	P	N	x	x	x	
6	Climate change proof	No predicted effects.	-	-	-	-	-	
7	Air Quality	No predicted effects.	-	-	-	-	-	
8	Use of brownfield sites	The level of housing required in the town will require some development on greenfield land.	P	L	x	x	x	

SA Objective		Assessment of Effect					Mitigation and Enhancement	
		Nature of Effect Including where appropriate whether the effects are direct/indirect and likely/unlikely. Justification and Evidence	Permanence	Scale	Significance of Effects			
					In the short term	In the medium term		In the long term
9	Resource efficiency	Housing growth will put demands on natural resources and result in increased waste generation.	P	L	x	x	x	
10	Historic & cultural assets	The unique uses of the Zoological Museum and the auction rooms will be safeguarded and the historic High Street will be protected.	P	L	✓	✓	✓	
11	Landscape & Townscape	Development of new housing on the edge of the town could have adverse effects on local landscapes.	P	L	?	?	?	
		The Core Strategy is clear that the setting and distinctive nature of Tring and views along the High Street and from Icknield Way will be safeguarded.	P	L	✓	✓	✓	
12	Health	The spatial strategy commits to the provision of new open space and playing fields as part of the new strategic housing allocation. This will provide new opportunities for people to adopt healthier lifestyles. The strategy also commits to delivering additional care facilities.	P	L	✓	✓	✓	
13	Sustainable locations	Maintaining the key local shopping and service role of the town centre and allowing some increase in retail provision in the town centre will help to progress this SA objective by reducing the need to travel to neighbouring centres due to closer integration of services.	P	L	✓	✓	✓	
14	Equality & social exclusion	Maintaining the vibrancy of Tring as a local centre will help to ensure that facilities and services remain available to all sections of the community, particularly those without access to a private car. The redevelopment of the Akeman Street employment area to include new social and community services will also help to progress this objective.	P	L	✓	✓	✓	
		The extension of the secondary school will help to improve educational provision within the town and address the current shortage of secondary school places.	P	L	✓	✓	✓	
15	Good quality housing	The delivery of around 460 new homes will help to provide a mix of dwellings to meet local needs, particularly the need for affordable housing.	P	L	✓	✓	✓	
16	Community Identity &	The delivery of the spatial strategy should make the town a more attractive place in which to live and work. This should progress this SA	P	L	✓	✓	✓	

SA Objective	Assessment of Effect						Mitigation and Enhancement
	Nature of Effect Including where appropriate whether the effects are direct/indirect and likely/unlikely. Justification and Evidence	Permanence	Scale	Significance of Effects			
				In the short term	In the medium term	In the long term	
	participation	objective by contributing to providing a sense of community and identity.					
17	Crime and fear of crime	No predicted effects.	-	-	-	-	-
18	Sustainable prosperity & growth	There are opportunities to maintain the amount of employment land by extending existing industrial estates. There is also further potential for Akeman Street employment area to provide diverse economic opportunities. This would have a positive effect on economic growth levels.	P	R	✓	✓	✓
19	Fairer access to services	Maintaining both the provision of employment land and the role of the town centre as a key local centre will help to ensure the local provision of jobs and services is maintained to the benefit of the town and its hinterlands.	P	L	✓	✓	✓
20	Revitalise town centres	The spatial strategy encourages a mix of services, employment and housing. This could help promote the role and the attractiveness of the local centre.	P	L	✓	✓	✓
Recommendations		None identified.					

3.2 Tring Strategic Housing Allocation Assessment

SA Objective		Option 1 Land to the West of Tring, Icknield Way	
1	Biodiversity	The site is greenfield and there would therefore be loss of some habitats.	x
2	Water quality/ quantity	Neutral Effects.	-
3	Flood risk	The site is in a low flood risk zone.	-
4	Soils	This option would result in a loss of greenfield land, and development would result in soil sealing.	x

SA Objective		Option 1 Land to the West of Tring, Icknield Way	
5	Greenhouse gas emissions	The strategic site is located near a local centre and is adjacent to the town's main employment area. However it is located 2km from the town centre. This could increase the use of the car to access town centre facilities and services, thereby increasing the growth of ghg emissions. There is also uncertainty around the level of out-commuting that may result from building the large number of houses on this site. If this is by car on the A41, there is the potential for ghg emissions.	?
6	Climate change proof	Neutral Effects.	-
7	Air Quality	The strategic site is located near a local centre and is adjacent to main employment area. However it is located 2km from the town centre. This could increase the use of the car, increasing the possibility of adverse effects on local air quality.	x
8	Use of brownfield sites	This site is located in greenfield.	x
9	Resource efficiency	Neutral Effects.	-
10	Historic & cultural assets	This site is located in an area classified as "20 th century agriculture" (HLC).	-
11	Landscape & Townscape	The site is in the Greenbelt and is located adjacent to the Chilterns AONB. Development of this site would be visible from Icknield Way and the Chilterns AONB, which could have adverse visual impacts.	x
12	Health	This option would allow for open space, but it would not be big enough for all the leisure space aspirations for Tring.	✓
		This strategic site is close to the A41, which means there would be noise disturbance which could affect the health and well-being of the new residents.	x
13	Sustainable Locations	The strategic site is located near the local centre and is adjacent to main employment area. However it is located 2km from the town centre.	x
14	Equality & social exclusion	The strategic site is located near the local centre and is adjacent to main employment area. However it is located 2km from the town centre.	x
15	Good quality housing	This strategic site would provide 380 dwellings with the potential for high levels of affordable housing.	✓
16	Community Identity & participation	Neutral Effects.	-
17	Crime and fear of crime	Neutral Effects.	-

SA Objective		Option 1 Land to the West of Tring, Icknield Way	
18	Sustainable prosperity and growth	Development of this site could involve provision of some employment space, thereby helping to support the local economy. Also, the new housing should help to support the local services in the town, maintaining their viability and boosting the local economy.	✓
19	Fairer access to services	This option provides new housing which could result in improved services and jobs for the town and should help to support the local services, thereby maintaining their viability.	✓
20	Revitalise town centres	The new housing should help to support the local services in the town, maintaining their viability and boosting the local economy, thereby helping to support sustainable urban living.	✓

4 Kings Langley

4.1 Kings Langley Spatial Strategy Assessment

SA Objective	Assessment of Effect						Mitigation and Enhancement
	Nature of Effect Including where appropriate whether the effects are direct/indirect and likely/unlikely. Justification and Evidence	Permanence	Scale	Significance of Effects			
				In the short term	In the medium term	In the long term	
1 Biodiversity	The level of new housing proposed will require some development on greenfield land which could have adverse impacts on habitats and species due to landtake and habitat fragmentation. The significance of the effect will be dependent on the biodiversity value of the sites to be developed.	P	L	?	?	?	
	The spatial strategy recognises that the canal is an important part of Kings Langley and that future development must relate well to the canal corridor. Therefore, this could have a positive impact on water quality and should help to maintain the water dependent wildlife sites in the area. Open space and designated Open Land will be protected and enhanced which should have benefits for biodiversity.	P	L	✓	✓	✓	
2 Water quality/ quantity	The spatial strategy recognises that the canal is an important part of Kings Langley and that future development must relate well to the canal corridor. Therefore, this could have a positive impact on water quality.	P	L	✓	✓	✓	
3 Flood risk	No predicted effects.	-	-	-	-	-	
4 Soils	Housing development on greenfield land will have some adverse effects on this SA objective through soil sealing and soils loss.	P	L	x	x	x	
5 Greenhouse gas emissions	Housing development will result in an increase in greenhouse gas emissions from new housing and associated activities. Building 70 new homes could lead to an increase in green house gas emissions of approximately 530 tonnes per annum. This is based upon estimated per capita domestic CO ₂ emissions of 2.4 tonnes multiplied by the average number of occupants per household in the Borough of 2.4 [Source: Audit Commission Local Area Profile].	P	N	x	x	x	
6 Climate	No predicted effects.	-	-	-	-	-	

SA Objective	Assessment of Effect						Mitigation and Enhancement	
	Nature of Effect Including where appropriate whether the effects are direct/indirect and likely/unlikely. Justification and Evidence	Permanence	Scale	Significance of Effects				
				In the short term	In the medium term	In the long term		
change proof								
7	Air Quality	No predicted effects.	-	-	-	-	-	
8	Use of brownfield sites	The level of housing required in the village may require some development on greenfield land.	P	L	x	x	x	
9	Resource efficiency	Housing growth will put demands on natural resources and result in increased waste generation.	P	L	x	x	x	
10	Historic & cultural assets	The spatial strategy requires that new development be consistent with the distinctive character of the village and will respect the Conservation Areas.	P	L	✓	✓	✓	
11	Landscape & Townscape	The spatial strategy requires that new development be consistent with the distinctive character of the village and will respect the key views along the Gade Valley and along the Grand Union Canal. Open space and designated Open Land will be protected and enhanced.	P	L	?	?	?	
12	Health	The village has a relatively high provision of informal open space and this will be protected and possibly enhanced. This could mean that there will be an increase in access for people to undertake recreational activities, thereby promoting healthier lifestyles.	P	L	✓	✓	✓	
13	Sustainable locations	Maintaining the local shopping and service role of the village centre will help to progress this SA objective by reducing the need to travel to neighbouring centres due to closer integration of services.	P	L	✓	✓	✓	
14	Equality & social exclusion	Maintaining the vibrancy of Kings Langley as a local centre will help to ensure that facilities and services remain available to all sections of the community, particularly those without access to a private car.	P	L	✓	✓	✓	
15	Good quality housing	The delivery of around 70 new homes will help to provide a mix of dwellings to meet local needs, particularly the need for affordable housing.	P	L	✓	✓	✓	
16	Community Identity & participation	The delivery of the spatial strategy should make the village a more attractive place in which to live and work. This should progress this SA objective by contributing to providing a sense of community and identity.	P	L	✓	✓	✓	
17	Crime and	No predicted effects.	-	-	-	-	-	

SA Objective	Assessment of Effect					Mitigation and Enhancement		
	Nature of Effect Including where appropriate whether the effects are direct/indirect and likely/unlikely. Justification and Evidence	Permanence	Scale	Significance of Effects				
				In the short term	In the medium term		In the long term	
	fear of crime							
18	Sustainable prosperity & growth	Maintaining the shopping and service role of the village centre will help to maintain the local economy.	P	L	✓	✓	✓	
		A number of local businesses are located on potential sites for housing development (e.g. Sunderlands Yard) and should this housing development proceed these businesses could be lost. If this occurs, there will be a loss of small scale employment sites in the Dacorum part of Kings Langley, placing more reliance on retention of employment sites in Three Rivers District.	P	L	?	?	?	
19	Fairer access to services	Maintaining the role of the village centre will help to ensure that the local provision of some jobs and services is maintained to the benefit of the village.	P	L	✓	✓	✓	
20	Revitalise town centres	The spatial strategy encourages a mix of services, employment and housing. This should help promote the role of the village centre.	P	L	✓	✓	✓	
Recommendations		None identified.						

5 Bovingdon

5.1 Bovingdon Spatial Strategy Assessment

SA Objective		Assessment of Effect					Mitigation and Enhancement	
		Nature of Effect Including where appropriate whether the effects are direct/indirect and likely/unlikely. Justification and Evidence	Permanence	Scale	Significance of Effects			
					In the short term	In the medium term		In the long term
1	Biodiversity	The level of new housing proposed will require some development on greenfield land which could have adverse impacts on habitats and species due to landtake and habitat fragmentation. The significance of the effect will be dependent on the biodiversity value of the sites to be developed.	P	L	?	?	?	
2	Water quality/ quantity	Provision of new housing will have capacity implications for the waste water treatment works with associated risks relating to poor water quality downstream of the works.	P	L	x	x	x	See Water Cycle Scoping Report
3	Flood risk	No predicted effects.	-	-	-	-	-	
4	Soils	Housing development on greenfield land will have some adverse effects on this SA objective through soil sealing and soil loss.	P	L	x	x	x	
5	Greenhouse gas emissions	Housing development will result in an increase in greenhouse gas emissions from new housing and associated activities. Building 150 new homes could lead to an increase in green house gas emissions of approximately 860 tonnes per annum. This is based upon estimated per capita domestic CO ₂ emissions of 2.4 tonnes multiplied by the average number of occupants per household in the Borough of 2.4 [Source: Audit Commission Local Area Profile].	P	N	x	x	x	
6	Climate change proof	No predicted effects.	-	-	-	-	-	
7	Air Quality	No predicted effects.	-	-	-	-	-	
8	Use of brownfield sites	The level of housing required in the village will require some development on greenfield land.	P	L	x	x	x	
9	Resource efficiency	Housing growth will put demands on natural resources and result in increased waste generation.	P	L	x	x	x	

SA Objective		Assessment of Effect					Mitigation and Enhancement	
		Nature of Effect Including where appropriate whether the effects are direct/indirect and likely/unlikely. Justification and Evidence	Permanence	Scale	Significance of Effects			
					In the short term	In the medium term		In the long term
10	Historic & cultural assets	The Conservation Area and other historic parts of the High Street will be protected.	P	L	-	-	-	
11	Landscape & Townscape	Development of new housing on the edge of the village could have adverse effects on local landscapes.	P	L	?	?	?	
		The Core Strategy is clear that the views from the Well will be respected.	P	L	✓	✓	✓	
12	Health	The spatial strategy commits to the provision of new open space as part of the new strategic housing allocation. This will provide new opportunities for people to adopt healthier lifestyles.	P	L	✓	✓	✓	
13	Sustainable locations	Maintaining the local shopping and service role of the village centre will help to progress this SA objective by reducing the need to travel to neighbouring centres due to closer integration of services.	P	L	✓	✓	✓	
14	Equality & social exclusion	Maintaining the vibrancy of Bovingdon as a local centre will help to ensure that facilities and services remain available to all sections of the community, particularly those without access to a private car.	P	L	✓	✓	✓	
15	Good quality housing	The delivery of around 150 new homes will help to provide a mix of dwellings to meet local needs, particularly the need for affordable housing.	P	L	✓	✓	✓	
16	Community Identity & participation	The delivery of the spatial strategy should make the village a more attractive place in which to live and work, particularly if the parking issues along the High Street can be resolved. This should progress this SA objective by contributing to providing a sense of community and identity.	P	L	✓	✓	✓	
17	Crime and fear of crime	No predicted effects.	-	-	-	-	-	
18	Sustainable prosperity & growth	Safeguarding Bovingdon Brickworks and HMP The Mount will help to protect local employment opportunities, whilst maintaining the shopping and service role of the village centre will help to maintain the local economy.	P	L	✓	✓	✓	
19	Fairer access to services	Maintaining the role of the village centre will help to ensure that the local provision of some jobs and services is maintained to the benefit of the	P	L	✓	✓	✓	

SA Objective	Assessment of Effect					Mitigation and Enhancement	
	Nature of Effect Including where appropriate whether the effects are direct/indirect and likely/unlikely. Justification and Evidence	Permanence	Scale	Significance of Effects			
				In the short term	In the medium term		In the long term
	village.						
20	Revitalise town centres	The spatial strategy encourages a mix of services, employment and housing. This should help promote the role of the village centre.	P	L	✓	✓	✓
Recommendations	None identified.						

5.2 Bovingdon Strategic Housing Allocation Assessment

SA Objective		Option 2 Rear of Green Lane	
1	Biodiversity	This greenfield site is located in a potentially important wildlife habitat, with old hedgerows.	x
		The site is within an area of biodiversity deficiency, so this option could provide opportunities for new habitat creation	✓
2	Maintain/ enhance water quality/ quantity	No predicted effects.	-
3	Flood risk	The strategic site is located in a low risk flood zone.	-
4	Soils	This option would result in a loss of greenfield land, and development would result in soil sealing.	x
5	Greenhouse gas emissions	The strategic site is located close to the village, which could encourage cycling and walking rather than use of the car, thereby helping to reduce the growth in ghg emissions.	✓
		There is traffic congestion in the village, which may increase with more people locating to the area. This could result in an increase in the level of ghg emissions.	x
6	Climate change proof	No predicted effects.	-
7	Air Quality	The strategic site is located close to the village, which could encourage cycling and walking rather than use of the car, thereby helping to improve air quality.	✓
		There is traffic congestion in the village, which may increase with more people locating to the area. This could result in a decline of local air quality.	x

SA Objective		Option 2 Rear of Green Lane	
8	Use of brownfield sites	The site is located in an area of predominantly greenfield.	x
9	Resource efficiency	No predicted effects.	-
10	Historic & cultural assets	The site is classified as "20 th century agriculture" (HLC).	-
11	Landscape & Townscape	The site is located in the Greenbelt and is situated outside an important boundary to the village. This option would mean there will be encroachment of the village into the countryside.	x
12	Health	This strategic site would provide opportunities for open space, and encourage walking and cycling.	✓
13	Sustainable locational development	This strategic site provides good access to facilities.	✓
14	Equality & social exclusion	No predicted effects.	-
15	Good quality housing	This strategic site could provide a significant level of affordable housing.	✓
16	Community Identity & participation	No predicted effects.	-
17	Crime and fear of crime	No predicted effects.	-
18	Sustainable prosperity and growth	Provision of additional housing means there are more residents, making facilities and shops more viable. This would help with the local economy.	✓
19	Fairer access to services	This strategic site would support provision of and access to jobs and services.	✓
20	Revitalise town centres	This strategic site could help promote the role of the local centre, providing services, housing and employment.	✓

6 Markyate

6.1 Markyate Spatial Strategy Assessment including the Strategic Allocation at Hicks Road

SA Objective		Assessment of Effect					Mitigation and Enhancement	
		Nature of Effect Including where appropriate whether the effects are direct/indirect and likely/unlikely. Justification and Evidence	Permanence	Scale	Significance of Effects			
					In the short term	In the medium term		In the long term
1	Biodiversity	The level of new housing proposed will require some development on greenfield land which could have adverse impacts on habitats and species due to landtake and habitat fragmentation. The significance of the effect will be dependent on the biodiversity value of the sites to be developed.	P	L	?	?	?	
		The protection and enhancement of Cheverell's Green as well as the protection of other small scale features of ecological importance will help to progress this objective. Deculverting the River Ver could result in biodiversity enhancements.	P	L	✓	✓	✓	
2	Water quality/ quantity	Deculverting the River Ver could result in water quality improvements.	P	L	✓	✓	✓	
		Provision of new housing will have capacity implications for the waste water treatment works with associated risks relating to poor water quality downstream of the works.	P	L	x	x	x	See Water Cycle Scoping Report
3	Flood risk	A large area of the Hicks Road site is in flood zones 2 and 3 and there would therefore be flood risk for new developments. However, deculverting the River Ver should provide an opportunity for improved river maintenance which could help reduce the flood risk.	P	L	x	x	x	
4	Soils	Housing development on greenfield land will have some adverse effects on this SA objective through soil sealing and soils loss.	P	L	x	x	x	
		Development on the Hicks Road site could mean remediation of any contaminated soils, thereby improving soil quality.	P	L	?	?	?	
5	Greenhouse gas emissions	Housing development will result in an increase in greenhouse gas emissions from new housing and associated activities. Building 140 new homes could lead to an increase in green house gas emissions of approximately 800 tonnes per annum. This is based upon estimated per	P	N	x	x	x	

SA Objective	Assessment of Effect					Mitigation and Enhancement	
	Nature of Effect Including where appropriate whether the effects are direct/indirect and likely/unlikely. Justification and Evidence	Permanence	Scale	Significance of Effects			
				In the short term	In the medium term		In the long term
	capita domestic CO ₂ emissions of 2.4 tonnes multiplied by the average number of occupants per household in the Borough of 2.4 [Source: Audit Commission Local Area Profile].						
	The Hicks Road site is located in the centre of the village. This could encourage cycling and walking rather than use of the car, which would help to reduce the growth in ghg emissions.	P	N	✓	✓	✓	
	The poor public transport connections in Markyate may result in higher car use to access the regenerated Hicks Road area. If this then exacerbates the existing congestion this could result in an increase in the level of ghg emissions.	P	N	x	x	x	
6	Climate change proof	No predicted effects	-	-	-	-	-
7	Air Quality	The Hicks Road site is located in the centre of the village. This could encourage cycling and walking rather than use of the car, which would thereby help to improve local air quality.	P	L	✓	✓	✓
		The poor public transport connections in Markyate may result in higher car use to access the regenerated Hicks Road area. If this then exacerbates the existing congestion this could result in an increase in the level of traffic emissions.	P	L	x	x	x
8	Use of brownfield sites	The Hicks Road site is brownfield.	P	L	✓	✓	✓
		The level of housing required in the village may require some development on greenfield sites.	P	L	x	x	x
9	Resource efficiency	Housing growth will put demands on natural resources and result in increased waste generation.	P	L	x	x	x
10	Historic & cultural assets	The historic parts High Street will be maintained along with the distinctive character of the village. This should promote local distinctiveness.	P	L	✓	✓	✓
11	Landscape & Townscape	The Core Strategy is clear that key views will be safeguarded. Small scale growth is envisaged in the village, but it is recognised that it is important to not let the growth interfere with the landscape of Markyatecell Park. Redevelopment of the vacant and redundant buildings in the existing	P	L	✓	✓	✓

SA Objective	Assessment of Effect					Mitigation and Enhancement	
	Nature of Effect Including where appropriate whether the effects are direct/indirect and likely/unlikely. Justification and Evidence	Permanence	Scale	Significance of Effects			
				In the short term	In the medium term		In the long term
	Hicks Road industrial estate would help to improve the appearance of this part of the village.						
12	Health	The provision of new public space in the Hicks Road area and an improved environment for pedestrians and cyclists should help to encourage more active lifestyles and a safer environment.	P	L	✓	✓	✓
		Provision of a replacement doctor's surgery will help to progress this objective.	P	L	✓	✓	✓
		New housing on the Hicks Road site would be affected by noise from commercial operations as well as from the nearby A5.	P	L	x	x	x
13	Sustainable locations	Expanding the range of local services in the village will help to progress this SA objective by reducing the need to travel to neighbouring centres due to closer integration of services.	P	L	✓	✓	✓
14	Equality & social exclusion	Redevelopment of Hicks Road will create a range of new local services and facilities which should help to ensure that facilities and services remain available to all sections of the community, particularly those without access to a private car.	P	L	✓	✓	✓
		Redeveloping Hicks Road for a range of different uses would mean there could be the potential for traffic congestion and conflict, as lorries etc travel through the village centre to access the businesses.	P	L	x	x	x
15	Good quality housing	The delivery of around 140 new homes will help to provide a mix of dwellings to meet local needs, particularly the need for affordable housing which is given specific emphasis in the spatial strategy.	P	L	✓	✓	✓
16	Community Identity & participation	By redeveloping Hicks Road, Markyate will be revitalised. This will help ensure that the village is an attractive place in which to live and work, and contributing to providing a sense of community and identity in the village.	P	L	✓	✓	✓
17	Crime and fear of crime	No predicted effects.	-	-	-	-	-
18	Sustainable prosperity & growth	The regeneration of the Hicks Road employment area will provide an expanded range of employment opportunities which should help to strengthen the local economy.	P	L	✓	✓	✓

SA Objective		Assessment of Effect					Mitigation and Enhancement	
		Nature of Effect Including where appropriate whether the effects are direct/indirect and likely/unlikely. Justification and Evidence	Permanence	Scale	Significance of Effects			
					In the short term	In the medium term		In the long term
19	Fairer access to services	Improvements to the range of services, facilities and employment opportunities within Markyate will help encourage the provision of and access to jobs and services.	P	L	✓	✓	✓	
20	Revitalise town centres	The spatial strategy encourages a mix of services, employment and housing. This should help promote the role of the village centre.	P	L	✓	✓	✓	
Recommendations		None identified.						

7 Countryside

7.1 Countryside Spatial Strategy Assessment

SA Objective	Assessment of Effect						Mitigation and Enhancement
	Nature of Effect Including where appropriate whether the effects are direct/indirect and likely/unlikely. Justification and Evidence	Permanence	Scale	Significance of Effects			
				In the short term	In the medium term	In the long term	
1 Biodiversity	The protection and enhancement of habitats and biodiversity will directly support this objective.	P	L	✓	✓	✓	
	The majority of development sites in the countryside will be in greenfield locations and development would therefore result in loss of some areas of habitat and impacts on species.	P	L	x	x	x	
2 Water quality/ quantity	The protection and enhancement of habitats and biodiversity will have indirect positive effects on water quality.	P	L	✓	✓	✓	
3 Flood risk	No predicted effects.	-	-	-	-	-	
4 Soils	The majority of development sites in the villages will be in greenfield locations and development would therefore result in some soil loss and sealing.	P	L	x	x	x	
5 Greenhouse gas emissions	The spatial strategy describes the Chilterns LEADER project, which aims to develop environmentally sustainable tourism and meet the challenges of climate change, as well as other aims. This could indicate that there are opportunities to reduce greenhouse gas emissions through more energy efficient tourist facilities and through sustainable modes of transport e.g. improved footpaths and cyclepaths as ways of accessing the countryside.	P	N	✓	✓	✓	
	Supporting the retention of village services and facilities will help reduce the need to travel to access day to day needs.	P	N	✓	✓	✓	
6 Climate change proof	No predicted effects.	-	-	-	-	-	
7 Air Quality	No predicted effects.	-	-	-	-	-	
8 Use of	No predicted effects.	-	-	-	-	-	

SA Objective		Assessment of Effect					Mitigation and Enhancement	
		Nature of Effect Including where appropriate whether the effects are direct/indirect and likely/unlikely. Justification and Evidence	Permanence	Scale	Significance of Effects			
					In the short term	In the medium term		In the long term
	brownfield sites							
9	Resource efficiency	No predicted effects.	-	-	-	-	-	
10	Historic & cultural assets	The production of Conservation Area Appraisals and use of the Chilterns Buildings Design Guide will help to protect the character and setting of villages.	P	L	✓	✓	✓	
11	Landscape & Townscape	The tranquillity of the countryside will be recognised and protected and the key landscape features of the area will be protected in line with other strategic policies in the Core Strategy.	P	L	✓	✓	✓	
		Village developments could result in some adverse effects on local landscapes.	P	L	x	x	x	
12	Health	The spatial strategy highlights the need for improved cycle routes and footpaths, which could encourage an increase in the number of cyclists. This could give opportunities for healthier lifestyles by providing access for recreational use.	P	L	✓	✓	✓	
13	Sustainable locations	The spatial strategy recognises there is a clear need to retain village schools, shops, pubs, places of worship, post offices, meeting spaces and open space. This should have a positive effect on this objective as it protects the existing integration of housing and services and reduces the need to travel to access everyday needs.	P	L	✓	✓	✓	
		Low levels of housing development could result in more people having to move into towns to live and then travel back to the villages to work.	P	L	x	x	x	
14	Equality & social exclusion	The potential for new community facilities and the support for farm diversification should strengthen the vitality of rural communities.	P	L	✓	✓	✓	
		The strategy allows for proposals which would go part of the way towards meeting local housing needs, particularly those for affordable housing. However, although the affordable housing that will be delivered will allow some people to remain living in their local area. There will be fewer built than if the full housing need from natural population growth were to be accommodated. As a result with fewer houses being built there is likely to	P	L	x	x	x	

SA Objective	Assessment of Effect					Mitigation and Enhancement		
	Nature of Effect Including where appropriate whether the effects are direct/indirect and likely/unlikely. Justification and Evidence	Permanence	Scale	Significance of Effects				
				In the short term	In the medium term		In the long term	
		be increased pressure on housing in sought after villages, which could see house price increases that would further disadvantage those on lower incomes.						
15	Good quality housing	The proposed level of affordable housing that will be delivered will allow some people to remain living in their local area. However there will be fewer than if the full housing need from natural population growth were to be accommodated. Therefore negative effects are forecast for this objectives. Nevertheless, local needs will be considered when determining locations and amounts of new housing to be developed. This, along with the identification of rural exception sites, could enable some local residents who need to stay living in their communities to do so.	P	L	x	x	x	
16	Community Identity & participation	The spatial strategy recognises that there is a clear need to retain village facilities and services. This will help ensure that the village remains an attractive place in which to live and work. It also contributes to providing a sense of community and identity. Although there is less potential for retaining community identity through a lower proportion of young residents being able to remain in the villages.	P	L	✓	✓	✓	
17	Crime and fear of crime	No predicted effects.	-	-	-	-	-	
18	Sustainable prosperity & growth	The strategy supports the local rural economies by allowing for farm diversification and development of new green tourism initiatives to provide alternatives to the traditional tourist 'honeypots'. These should help promote a sustainable agricultural economy and support a sustainable tourism industry. The strategy's support for farm diversification could also help provide opportunities to promote and retain local skills, and provide training in rural skills. The smaller number of houses and the subsequent decrease in predicted overall population of settlements however may mean that local services are no longer viable and are forced to close.	-	-	?	?	?	
19	Fairer access to services	The strategy supports the development of the rural economy including farming and green tourism which should to help provide a range of local	-	-	?	?	?	

SA Objective		Assessment of Effect					Mitigation and Enhancement	
		Nature of Effect Including where appropriate whether the effects are direct/indirect and likely/unlikely. Justification and Evidence	Permanence	Scale	Significance of Effects			
					In the short term	In the medium term		In the long term
		employment opportunities. However, it could also result in those who work in rural areas having to move to towns in order to find suitable affordable housing. This would reduce their access to their existing local jobs.						
20	Revitalise town centres	No predicted effects.	-	-	-	-	-	
Recommendations		None identified.						