



Dacorum Local Development Framework Core Strategy – Pre Submission

Sustainability Appraisal Report

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Dacorum Local Development Framework Core Strategy – Pre Submission Sustainability Appraisal Report

Clare Harmer and Rob Gardner (TRL)

Prepared for: Dacorum Borough Council, Strategic Planning and Regeneration

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1 Introduction

1.1 Background to Sustainability Appraisal/Strategic Environmental Assessment

New regulations require planning authorities to replace their Local Plans with Local Development Frameworks (LDF). Dacorum's Core Strategy and its other development plan documents, form part of its LDF¹ and must be subject to both Sustainability Appraisal and Strategic Environmental Assessment under the Planning and Compulsory Purchase Act (2004) and The Environmental Assessment of Plans and Programmes Regulations (2004) which implement European Directive 2001/42/EC, known as the Strategic Environmental Assessment (SEA) Directive.

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

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

1.1.1 Purpose of this Sustainability Report

The SEA regulations require that the sustainability appraisal results of the Pre-Submission Draft shall be consulted with statutory bodies and with members of the public to obtain their views prior to adoption of the DPD Core Strategy. In addition to declaring results of the assessment, the Sustainability Report proposes mitigation measures/ recommendations to enhance sustainability features of the Core Strategy Policies, as well as proposing a monitoring framework for all significant sustainability issues identified during the assessment. Whilst various versions of the SA Report were prepared at each stage of the Core Strategy, this report, together with any necessary updates, will accompany the Submission version of the DPD and will be taken forward for submission to the Secretary of State after completing the statutory procedures of the regulation.

1.1.2 Background to the Project

This SEA/SA is being carried out as part of a joint project commissioned by the four Hertfordshire local authorities situated in the south west of the county – Dacorum Borough Council, St Albans City and District Council, Three Rivers District Council, and

¹ Due to recent proposed changes to national planning policy and regulations, the Council has replaced references to the 'Local Development Framework' with 'Local Planning Framework' within its Pre-Submission Core Strategy. This is purely a change in terminology rather than content or approach.

Watford Borough Council. The Centre for Sustainability (C4S) at TRL Ltd and their project partners Halcrow Group Ltd have been appointed to undertake this project.

By joining together in this way the four authorities aim to make the project more efficient by utilising a common appraisal methodology; although authority specific issues will also be addressed.

Whilst this Sustainability Report is being produced specifically for Dacorum's Development Plan Documents, much of the data presented in this report also relates to all four authorities.

1.2 Sustainability Appraisal (SA)

Sustainability Appraisals (SAs) are a process of evaluating the social, environmental, and economic implications of emerging strategies, policies and plans. This process is intended to make certain that plans and their goals² and policies are in accordance with the underlying principles of sustainable development. SA seeks to ensure that the five principles and four agreed priorities for sustainable development are addressed³:

Principles:

1. Living within environmental limits;
2. Ensuring a strong healthy and just society;
3. Achieving a sustainable economy;
4. Promoting good governance; and
5. Using sound science responsibly.

Priorities:

- Sustainable consumption and production;
- Climate change and energy;
- Natural resource protection and environmental enhancement; and
- Sustainable communities.

1.3 Strategic Environmental Assessment (SEA)

European Union Directive 2001/42/EC requires a formal Strategic Environmental Assessment (SEA) of all plans and programmes which are likely to have significant effects on the environment. It aims: *"...to provide for a high level of protection of the environment and to contribute to the integration of environmental considerations into the preparation and adoption of plans and programmes with a view to promoting sustainable development, by ensuring that, in accordance with this Directive, an environmental assessment is carried out of certain plans and programmes which are likely to have significant effects on the environment"* (Article 1).

The Directive defines environmental assessment as a procedure comprising:

² Note that the term "objective" is used throughout this document in reference to SA/SEA objectives to be consistent with the vocabulary outlining these processes, despite the fact that they are not truly objectives.

³ As set out in "Securing the Future: Delivering a UK sustainable development strategy", DEFRA 2005

- The preparation of an Environmental Report on the likely significant effects of the draft plan or programme;
- Carrying out consultation on the draft plan or programme and the accompanying Environmental Report;
- Taking into account the Environmental Report and the results of consultation in decision making; and
- Providing information when the plan or programme is adopted showing how the results of the environmental assessment have been taken into account.

SEA is required to be undertaken alongside the preparation of the plan to which it relates to allow strategic alternatives to be formally incorporated into it at the earliest opportunity. This process, in conjunction with the requirements of the SA, should ensure that the environmental, social, and economic implications are fully integrated into emerging policies and strategies.

1.4 Methodology

Figure 1-1 illustrates the relationship between the DPD plan making and the SA/SEA process.

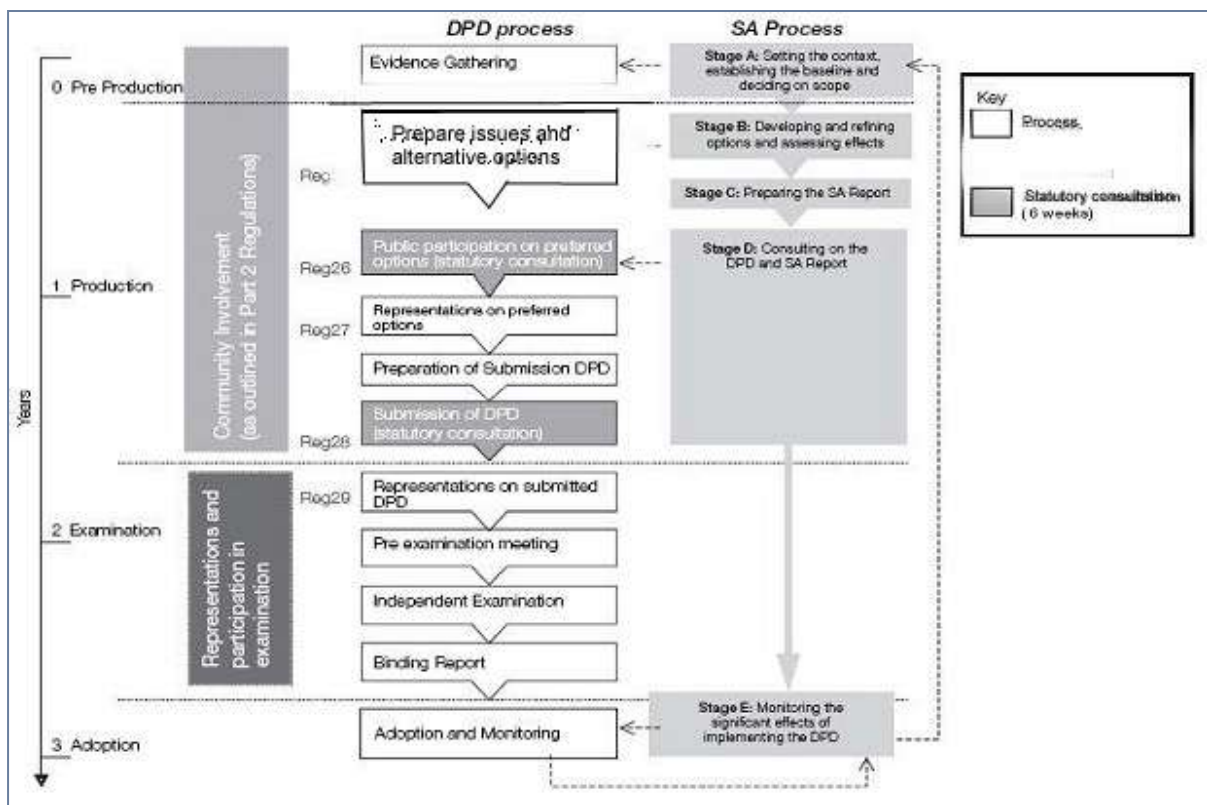


Figure 1-1: The DPD and SA/SEA process (Source: ODPM, 2005)

The key stages of the SA/SEA process are broadly presented in Table 1-1.

Table 1-1: Stages in the SA/SEA and Dacorum Core Strategy DPD

Dacorum Core Strategy DPD	SA/SEA Stages	Dates
Begin document preparation	<p>Stage A: Setting the context, establishing the baseline and deciding on the scope.</p> <p>A1: Identify other relevant policies, plans and document programmes, and sustainability objectives.</p> <p>A2: Collecting baseline information.</p> <p>A3: Identifying sustainability issues and problems.</p> <p>A4: Developing the SA framework.</p> <p>A5: Consulting on the scope of the SA (Scoping Report).</p>	<p>SA Scoping Report, prepared February 2006.</p> <p>Consultation on Scoping Report February 2006.</p>
<p>Preparation of Issues and Options (I&O) paper and consultation</p> <p>Preparation of preferred options, including consultation on possible preferred option</p>	<p>Stage B: Developing and refining options and assessing of effects.</p> <p>B1: Testing the DPD objectives against the SA framework.</p> <p>B2: Developing the DPD options.</p> <p>B3: Predicting the effects of the DPD.</p> <p>B4: Evaluating the effects of the DPD.</p> <p>B5: Considering ways of mitigating adverse effects preferred and maximising beneficial effects.</p> <p>B6: Proposing measures to monitor the significant effects of implementing the DPDs.</p>	<p>Consultation on Issues & Options (I&O) paper May 2006.</p> <p>Preparation of SA Working Note on I&O¹ June 2006.</p> <p>Supplemental I&O paper November 2006.</p> <p>Preparation of SA Working Note on Supplemental I&O in November 2006.</p> <p>Consultation on the Emerging Core Strategy June – August 2009.</p> <p>Preparation of SA Working Note on the Emerging Core Strategy June 2009.</p> <p>Preparation of SA Working Notes for: Housing Growth Options at Hemel Hempstead (August 2009); Strategic Allocations (February and April 2010) and Working Draft Core Strategy (September 2010)</p>
Public consultation on Preferred options	<p>Stage C: Preparing the Sustainability Appraisal Report.</p> <p>C1: Preparing the SA Report.</p> <hr/> <p>Stage D: Consulting on the preferred options of the DPD and SA Report.</p> <p>D1: Public participation on the preferred options of the DPD and the SA Report.</p> <p>D2 (i) Appraising significant changes.</p> <p>D2 (ii) Appraising significant changes resulting from representations.</p>	<p>Preparation of the SA Report of the Draft Core Strategy July - October 2010.</p> <p>Preparation of SA Report of the Pre-Submission Core Strategy August – September 2011.</p> <hr/> <p>Consultation on Draft Core Strategy and accompanying SA Report November 2010.</p> <p>Consultation on the Pre-Submission Core Strategy and accompanying SA Report October - December 2011.</p>

	D3: Making decisions and providing Information.
Submission of DPD to Secretary of State	<p>Stage E: Monitoring the significant effects of implementing the DPD.</p> <p>E1: Finalising aims and methods for monitoring.</p> <p>E2: Responding to adverse effects.</p> <p>Preparing the SEA Statement.²</p>

¹ This output is not required by the SEA Regulations but was produced to assist in selecting the preferred options.

² The SEA Statement is required by the SEA Regulations.

1.5 Report structure

The SEA Regulations require the Sustainability Report to clearly document findings of all stages of the SEA/SA process. The Report should show that the SEA Directive has been complied with and all components that meet these requirements should be easily identifiable. The reporting requirements and corresponding chapters contained in this report are shown below:

Chapter / Appendix	SEA Directive Requirement (abridged)
Chapter 2 Appendix A	Outline of contents, main objectives of the plan, and relationship with other relevant plans and programmes.
Chapters 3 and 4 Appendix B	<p>Environment, social and economic baseline and likely evolution of the current state without implementation of the plan/ programme; any existing environmental, social and economic problems which are relevant to the plan or programme</p> <p>Documenting environmental characteristics of areas likely to be significantly affected.</p>
Chapter 3 Appendix A	Environmental protection objectives set out in national and regional policies, its relevance to the plan/ programme and the way these objectives are considered in the SA process.
Chapters 5 and 6 Appendix E & F	The likely significant effects of the plan on the environment, including on issues such as biodiversity, water, soil, population, human health, material assets, cultural heritage, landscape and the inter-relationship between the above. These effects should include secondary, cumulative, synergistic, temporal and severity details.
Chapter 7	Mitigation measures to offset any identified significant effect.
Chapters 5 and 6	Outline of reasons (through SA) for selecting alternatives (Initial Options) and documentation of difficulties encountered in the assessment.
Chapter 8	Description of monitoring arrangements proposed.
Non-Technical Summary document	Non-technical summary of information under all the above headings.
Appendix D	Consultation – results of the consultation of the previous SA Report for the Core Strategy DPD.

1.6 Consultation

The SEA Directive requires consultation of documents at various stages of the SA process, as indicated in Table 1-1. To date consultation has been undertaken at several stages as outlined below.

The first round of consultation was undertaken at the end of the scoping stage in February 2006. The SEA Regulations and SA Guidance requires that the Scoping Report consultation and the Preferred Options Appraisal be carried out with stakeholders the Council finds appropriate to consult with, and four statutory environmental consultees i.e. Countryside Agency, English Nature (both now merged as Natural England), English Heritage and the Environment Agency. The aim of the scoping consultation was to ensure that all the relevant issues were identified and discussed at an early stage of the process so that they could be addressed during the SA and plan making. The list of those who responded, along with a summary of the comments received and how they have been addressed are included in Appendix D.

Consultation was then carried out on the Issues and Options SA Working Notes (in May and November 2006) and on the Emerging Core Strategy SA Working Note (in June 2009). Some consultation responses were received that made reference to the Sustainability Appraisal. These are summarised in Appendix D.

During November and December 2010, consultation was carried out on the SA Report of the Consultation Draft Core Strategy. Again, the list of those who responded, along with a summary of the comments received and how they have been addressed are included in Appendix D.

1.7 Geographic and Temporal Scope

The spatial scope for the assessment is largely local (Dacorum Borough); however the assessment takes into account potential regional impacts (such as on Three Rivers and St Albans) and national impacts, wherever appropriate. For example, the effect on CO₂ emissions is likely to have both local and national implications as any reduction will contribute to national targets, whereas effects on surface water quality may be most relevant to the regional water bodies as well as local water bodies, depending on presence of any such water features and on their existing quality.

The SA/SEA examines plans across three temporal scales:

- Short term effects: effects expected in the next 1-10 years;
- Medium term effects: effects expected in the next 10-20 years; and
- Long term effects: effects expected in the next 20+ years (after the life of the plan).

1.8 Habitats Regulations Assessment

In November 2007, a draft Screening Report was prepared to inform the Appropriate Assessment as part of Habitat Regulations Assessment (HRA). This report was finalised in April 2008. Screening is required where a plan, alone or 'in combination' with other plans, could affect Natura 2000 Sites (Special Protection Areas for birds – SPAs, Special Areas of Conservation for habitats - SACs) following Article 6(3) of the European Habitats Directive. These are sites which are designated by the EC Directive on the Conservation of Wild Birds 79/409/EEC and the EC Directive on the Conservation of

Natural Habitats of Wild Fauna and Flora 92/43/EC. This screening report was finalised in April 2008.

The first phase of this screening involved an analysis of Dacorum's Issues and Options to ascertain any likely significant effects that may compromise the conservation objectives of nearby Natura 2000 sites. In agreement with Natural England, the statutory consultee for Appropriate Assessment screening, it was decided that Chilterns Beechwoods SAC was the only site of relevance to this screening. The next phase of the AA screening involved examining all other plans, programmes and projects that may affect the Chilterns Beechwoods SAC in conjunction with the Dacorum Issues and Options. This included the Issues and Options papers of St Albans City and District Council, Three Rivers District Council and Watford Borough Council.

The AA screening concluded that minor wording changes to some of the questions in the Dacorum's Site Allocations Issues and Options DPD, including giving more prominence to Chilterns Beechwoods SAC, when discussing designated areas would assist in the SAC's protection. The biggest, if indirect, threat to the Chilterns Beechwoods SAC would come from any significant development to the west of Hemel Hempstead and/ or the implementation of the Hemel Hempstead Northern Bypass and the associated increases in recreational use and air pollution damage to the SAC. 'Significant development' was defined as any development larger in scale than a new residential neighbourhood.

Mitigation measures were recommended as being necessary if the options listed above were pursued (i.e. development to west of Hemel Hempstead, Hemel Hempstead Northern Bypass). However overall, the Issues and Options were not found to lead to any significant effects and it was not considered necessary to undertake a full Appropriate Assessment on the Dacorum Core Strategy Issues and Options.

As changes have been made to the Core Strategy since this work was undertaken in 2008 the HRA has been revisited to ascertain whether its assessment and conclusions still stand or need to be updated.

Since the 2008 version of the Core Strategy, many of the key developments that were originally considered for the borough have been removed from the Core Strategy. These include development at Gadebridge North and Boxmoor (formerly potential urban extensions to Hemel Hempstead), several potential major development sites in Berkhamsted and Tring, the Hemel Hempstead northern bypass and the tunnel fields link road. Further, overall housing numbers for the district have been reduced from the levels contained within the Regional Spatial Strategy before the Borough's housing target was quashed. This should effectively reduce the risk of air pollution and recreation disturbance, the principal impacts identified in the 2008 HRA, on Chilterns Beechwoods SAC.

The assessment matrices found no significant effects on Chilterns Beechwoods SAC from individual developments as a result of either air pollution or recreation disturbance. However, these impacts were examined in more detail and updated avoidance and mitigation measures for both impacts have been provided in order to ensure there are no cumulative significant impacts on the SAC due to development proposed around Hemel Hempstead and also in the wider region. Natural England is satisfied with the conclusions of the HRA and the avoidance and mitigation measures proposed.

2 Dacorum Core Strategy

2.1 Introduction

The LDF is the emerging development plan for Dacorum Borough. LDFs are the new form of spatial development plan introduced by the Government's planning reforms in the Planning and Compulsory Purchase Act (2004). The LDF will replace the existing Dacorum Borough Local Plan 1991-2011. The new LDF will set out the strategy for the way in which land is used and to guide new development in the Borough for the period up to 2031.

The LDF will consist of a portfolio of documents. Central to this portfolio is the Core Strategy, which sets out the overall vision for future development in the District and is the basis for later LDDs, including the Site Allocations DPD and Development Management Policies DPD. In addition to these statutory DPDs there will be a number of non-statutory Supplementary Planning Documents (SPDs), setting out more detailed guidance at a more specific level.

The Core Strategy will be the Council's first DPD. In July 2005, the Council produced a short Emerging Issues and Options Paper. In June 2006 the Council produced a more detailed consultation document on the Issues and Options of the Core Strategy. Additions to these options were made and a Supplemental Issues and Options Core Strategy produced in November 2006. The latter two documents were subject to a sustainability assessment and a SA Working Note was produced in June 2006 and an Additional Issues and Options SA Working Note was produced in November 2006.

Subsequently, based on other stakeholder responses to consultations, recommendations from the SA Working Note and emerging information from other regional and national policies, an Emerging Core Strategy was produced in June 2009. This document was again subject to a sustainability appraisal and refined with additions relating to strategic and non-strategic sites.

In July 2010, an informal Working Draft Core Strategy was published for targeted stakeholder consultation. An associated SA Working Note was published in September 2010. Based on the stakeholder responses, and other information from national, and regional policies, a Working Draft Core Strategy DPD was produced as a consultation draft in November 2011. An SA Report to accompany the Consultation Draft version of the Core Strategy was also produced. This compiled the SA process records since the Scoping Report Stage and made recommendations for monitoring any adverse effects identified by the SA.

A Pre-Submission Core Strategy has now been prepared following consultation on the draft Core Strategy. This SA Report is to accompany the Pre-Submission Core Strategy.

SA working notes have also been completed for the Site Allocations Issues and Options (November 2006), Site Allocations Supplementary Issues and Options (November 2008) and Issues and Options for the East Hemel Hempstead Area Action Plan (June 2009). Some of this parallel assessment work has also informed the content of the Core Strategy.

2.2 Vision

The Pre-Submission Core Strategy sets out a Spatial Vision, Strategic Objectives and a number of Policies. The Vision of what the Borough will be like in 2031 is as below:

DACORUM 2031: A VISION

Dacorum's Sustainable Community Strategy has been fulfilled. The community recognises Dacorum as a happy, healthy, prosperous and safe place in which to live and work and to visit.

The natural beauty of the Chiltern Hills and the varied character of the countryside is admired and cherished. The countryside is actively managed and supports a healthy local economy and diversity of wildlife. Water quality in the rivers is good. Towns and villages have sufficient water supply. Carbon emissions have been reduced and renewable energy production is sensitive to its surroundings. New woodlands have been planted for the future and the Borough looks much greener. Effective use has been made of developed land in the towns and villages, protecting the countryside.

Hemel Hempstead has been transformed through regeneration of the town centre and Maylands Business Park. The town is fulfilling its potential as a sub-regional business centre, important for green enterprise, and is meeting the locally generated demand for new homes.

The market towns of Berkhamsted and Tring and the large villages provide all the necessary services for their communities and surroundings.

The economy is buoyant and all parts of the borough have local employment opportunities, which are both varied and accessible.

Communities are inclusive and healthy. Minority groups are an accepted part of culture and diversity. New homes are affordable and cater for the needs of the population. Open space, facilities and services are accessible. New schools have opened and Hemel Hempstead has a new local hospital. Access to the Watford Health Campus is improved. Public transport is more widely used.

Differences in the character of each place are recognised and valued. Developments have added to character through their design, and sustainable construction is the norm. Special features, such as the Grand Union Canal, remain an active part of the heritage of the borough. The wider historic environment is valued and protected.

2.3 Strategic Objectives

The Spatial Vision is supported by set of 20 strategic objectives developed for the four Core Strategy Themes and for Implementation and Delivery. Three objectives (marked with an asterisk (*)) are considered to be crosscutting. This means that they will not be achieved solely through the implementation of the Sustainable Development Strategy policies, but through the combined effect of all policies within the Core Strategy.

The Sustainable Development Strategy

- To promote healthy and sustainable communities and a high quality of life for Dacorum.*
- To mitigate and adapt to the impacts of climate change.*
- To promote social inclusion and cohesiveness, embrace diversity and reduce inequalities.*
- To enable convenient access between jobs, homes and facilities, minimise the impact of traffic and reduce the overall need to travel by car.

- To promote Hemel Hempstead as the focus of the borough for homes, jobs and strategic services, reinforcing the role of the neighbourhoods in the town.
- To conserve and enhance the function and character of the market towns, villages and countryside.
- To ensure the effective use of existing land and previously developed sites.
- To create safe and attractive environments through high quality design.

Strengthening Economic Prosperity

- To promote a vibrant and prosperous economy:
 - to strengthen confidence in Hemel Hempstead's role as a thriving sub-regional business centre and shopping hub.
 - to develop the Maylands Business Park as a leader of "green enterprise" and focus of the low carbon economy.
 - to maintain commercial enterprise and employment opportunities in the market towns and large villages.
 - to support rural enterprise.

Providing Homes and Community Services

- To provide a mix of new homes to meet the needs of the population.
- To provide for a full range of social, leisure and community facilities and services

Looking After the Environment

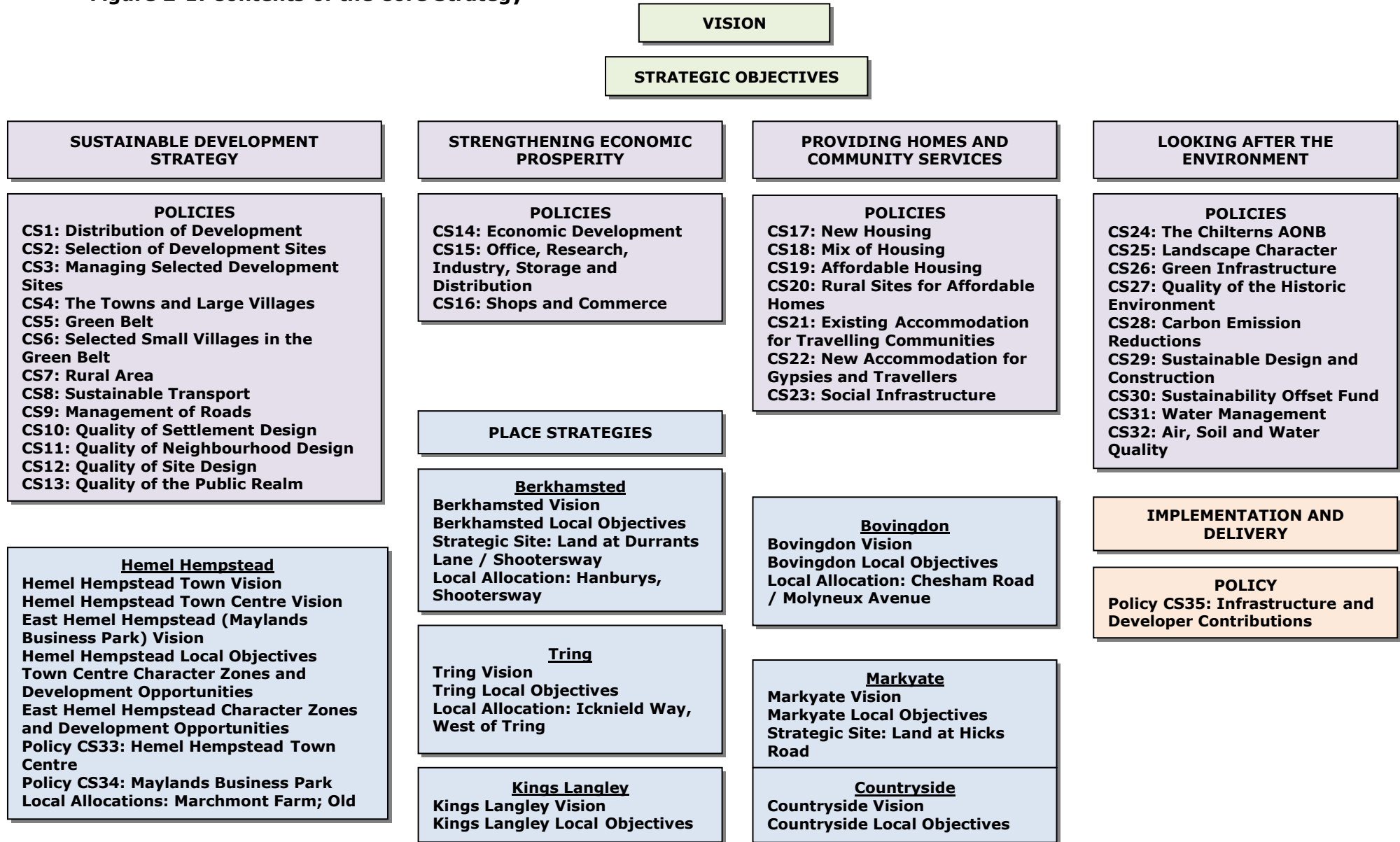
- To protect and enhance Dacorum's distinctive landscape character, open spaces, biological and geological diversity and historic environment.
- To promote the use of renewable resources, protect natural resources and reduce waste.
- To protect people and property from flooding.
- To minimise the effects of pollution on people and the environment.

Implementation and Delivery

- To co-ordinate the delivery of new infrastructure with development.
- To ensure that all development contributes appropriately to local and strategic infrastructure requirements.

The vision and objectives are supported by core policies and place strategies, more detail on these is provided in Figure 2-1.

Figure 2-1: Contents of the Core Strategy



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3 Environmental and Sustainability Planning Context

3.1 Introduction

This section summarises the findings from the SA scoping stage. The scoping process seeks to ensure that the Sustainability Appraisal encompasses the key sustainability issues relevant to the Borough in the context of the development plan system. This section provides the environmental and sustainability context by:

- Examining the relationship of the Core Strategy with other policies, plans and programmes, to identify all relevant environmental protection objectives and to identify potential conflicts to be addressed within the plan-making process; and
- Assembling baseline data on the current and future state of the Borough for the environment and sustainability topics which may be affected by the Core Strategy.

3.2 Review of Policies, Plans and Programmes

3.2.1 Introduction

The SEA process requires authorities to review the requirements of policies, plans and programmes (PPPs) relevant to the content of the Plan to outline:

- The relationship of the Development Plan (Core Strategy) with other relevant plans and programmes; and
- The environmental protection objectives- established at international, community or Member State level- relevant to the plan or programme and the way those objectives and any environmental considerations have been taken into account during its preparation.

To fulfil this requirement, a review of the relevant plans, policies and programmes (henceforth referred as PPP review) has been carried out to identify environmental objectives which may provide constraints or synergies with the plan being formulated. The PPP review has covered international conventions and EU policies through to local plans and strategies. A detailed PPP review was presented in the Scoping Report. Appendix A presents an updated PPP review taking into account changes subsequent to issue of the Scoping Report. A summary of the PPP review is presented in this chapter.

3.2.2 Summary of Review of other Plans and Programmes

Together, plans can be constraints (i.e. set formal limitations, policy contexts, requirements) or can be sources of useful background information as part of evidence gathering. These act together in a hierarchy where a sequence of precedence is established in a nesting, or tiering of plans. A review of other relevant policy documents is required to establish environmental, economic and social objectives that they contain, and it allows opportunities and synergies to be identified, as well as potential conflicts between aims, objectives or detailed policies. This review also highlighted sustainability drivers relevant to the DPD.

The Core Strategy has a direct or indirect relationship with number of national, regional and local policies, plans and programmes and is likely to support or interact with these

policies. A detailed review of all relevant PPP documents was discussed in the Scoping Report. This review has been updated with additional policies adopted subsequent to issue of the Scoping Report and updated version is presented in Appendix A.

NB: This does not provide an exhaustive review. There are a variety of other studies that have been used to provide the evidence base for the development of the Core Strategy which have not been included in this review. A full list of technical studies completed can be found at: <http://www.dacorum.gov.uk/planning>. At an international level various environmental policies such as Kyoto Protocol, EU Policies on greenhouse gas emissions, EU Second Climate Change Programme are for the Core Strategy to consider. Other supra-national conventions such as Ramsar Convention and the Habitats Directive should be considered in the DPD in relation to protection and enhancement of biodiversity. The Water Framework Directive is a major European policy that requires its Member states to achieve 'good ecological status' of all natural inland water bodies and protection/enhancements to ground waters. As a result all Member states are required to prepare River Basin Management Plans. Although these plans are under production, the Core Strategy will need to consider implications of these plans.

The majority of the Planning Policy Guidance and Planning Policy Statements that guides national planning and development are relevant to the Core Strategy. These include those related to delivering sustainable development (PPS1), housing (PPS3), sustainable economic growth (PPS 4), biodiversity and geological conservation (PPS9), planning for sustainable waste management (PPS10), transport (PPG13), and renewable energy (PPS22). The draft National Planning Policy Framework (2011) which will in due course replace the current guidance is also relevant to the Core Strategy.

This strategy is related to a number of regional and local plans and policies such as the Hertfordshire Biodiversity Action Plan, Hertfordshire Local Transport Plan 3, Level 1 Strategic Flood Risk Assessment for Dacorum, St Albans, Three Rivers and Watford, London Arc Employment Land Study, Hertfordshire Economic Development Strategy and various other plans and strategies developed by Dacorum Borough Council.

A list of the other plans, policies and programmes that have been included in the review is provided in Table 3-1.

Table 3-1: List of reviewed relevant policies, plans and programmes

International
Ramsar Convention on Wetlands of International Importance Especially as Waterfowl Habitat (1971)
Bonn Convention on the Conservation of Migratory Species of Wild Animals (1979)
Bern Convention on the Conservation of European Wildlife and Natural Habitats (1979)
The Convention on Biological Diversity, Rio de Janeiro (1992)
Kyoto Protocol on Climate Change (1997)
The UN Millennium Declaration and Millennium Development Goals (2002)
World Summit on Sustainable Development - Earth Summit (2002)
European
EU Directive on the Conservation of Wild Birds (79/409/EEC)
EU Waste Framework Directive (2008/98/EC)
EU Nitrates Directive (91/676/EEC)
EU Habitats Directive (92/43/EEC)
EU Directive on Ambient Air Quality and Management (1996/62/EC)

European Spatial Development Perspective (1999)
 EU Waste to Landfill Directive (99/31/EC)
 The Water Framework Directive (2000/60/EC)
 European Commission White Paper on the European Transport Policy (EC, 2001)
 EU Sustainable Development Strategy (2006)
 Åarhus Convention (2001)
 EU Directive to promote Electricity from Renewable Energy (2001/77/EC)
 Environment 2010: Our Future, Our Choice - EU Sixth Environment Action Programme (2002)
 EU Directive for the Promotion of Bio-fuels for Transport (2003/30/EC)
 The Johannesburg Declaration of Sustainable Development 2002
 European Landscape Convention (2004)
 Urban Waste Water Treatment Directive (91/271/EEC)
 Convention for the Protection of the Architectural Heritage of Europe 1985
 European Convention on the Protection of Archaeological Heritage 1992
 Directive 2002/49/EC The Environmental Noise Directive
 Health Strategy 2000 (EU Commission Communication COM(2000) 285 final)
 Programme of Community action in the field of public health (2003-2008)
 Second European Climate Change Programme 2005

National

Draft National Planning Policy Framework (2011)
 Draft PPS: Planning for a Natural and Healthy Environment (2010)
 PPS1 - Delivering Sustainable Development (2005)
 SPPS1 - Planning Policy Statement: Planning and Climate Change - Supplement to Planning Policy Statement 1 (2007)
 SPPS1- Planning Policy Statement: Supplement on Eco-towns- Supplement to PPS1 (2009)
 PPG 2 – Green Belts (1995)
 PPS 3 – Housing (2010)
 Delivering Affordable Housing (Companion Statement to PPS3) (2006)
 PPS 4 – Planning for Sustainable Economic Growth (2009)
 PPS 5 – Planning for the Historic Environment (2005)
 PPS 7 – Sustainable Development in Rural Areas (2004)
 PPG 8 – Telecommunications (2001)
 PPS 9 – Biodiversity and Geological Conservation (2005)
 PPS 10 – Planning for Sustainable Waste Management (2005)
 PPS 12 – Local Spatial Planning (2008)
 PPG 13 – Transport (2001)
 PPG 14 – Development on Unstable Land (1990)
 PPG 17 – Planning for Open Space, Sport, and Recreation (2002)
 PPS 22 – Renewable Energy (2004)
 PPS 23 – Planning and Pollution Control (2004)
 PPG 24 – Planning and Noise (1994)
 PPS 25 – Development and Flood Risk (2010)
 Wildlife and Countryside Act 1981 (as amended)
 UK Biodiversity Action Plan - UK BAP (1994)
 A Strategy for England's Trees, Woods and Forests (2007)
 UK Air Quality Strategy (2007)
 Countryside and Rights of Way Act – CRoW (2000)
 Government Urban White Paper: Our Towns, Our Cities, the Future. Delivering an urban renaissance (2000)

UK Waste Strategy (2007)
 Government Rural White Paper: Our Countryside, the Future – A Deal for Rural England (2000)
 Climate Change: The UK Programme (2006)
 Climate Change Act 2008
 Planning for a Sustainable Future: White Paper 2007
 The Historic Environment: A Force for Our Future (2001)
 UK Fuel Poverty Strategy (2001)
 'Working with the Grain of Nature': A Biodiversity Strategy for England (2002)
 Our Energy Future - Creating a Low Carbon Economy' - UK white paper on energy (2003)
 Towards a Sustainable Transport System: Supporting Economic Growth in a Low Carbon Worlds (DfT, 2007)
 Delivering a Sustainable Transport System (DfT, 2008)
 UK Climate Change Programme Review: Consultation (2004)
 England Rural Strategy (2004)
 Choosing Health: Making Healthier Choices Easier - Health White Paper (2004)
 Securing the Future – UK Government Sustainable Development Strategy (2005)
 Good Practice Guide on Planning for Tourism (2006)
 Sustainable Communities: Building for the Future - Communities Plan (2003)
 Sustainable Communities: People, Places and Prosperity (ODPM 2005)
 Water Act 2003
 Water for People and the Environment: Water Resources Strategy for England and Wales (2009)
 The Flood and Water Management Act (2010)
 Heritage Protection for the 21st Century: White Paper (DCMS, 2007)
 Homes for the Future: More Affordable, More Sustainable – Housing Green Paper (CLG, July 2007)
 The First Soil Action Plan for England, 2004-2006 (DEFRA, 2004)
 Natural Environment and Rural Communities (NERC) Act (2006)
 The Natural Choice: Securing the value of nature – White Paper (2011)

Regional – East of England

Sustainable Development Framework for the East of England (2001)
 Our Environment, Our Future – The Regional Environmental Strategy for the East of England (2003)
 Regional Social Strategy: A strategy to achieve a fair and inclusive society in the East of England (launched in May 2004)
 A Shared Vision: The regional economic strategy of the East of England (formally released on 1 December 2004)
 The London Plan (2004)
 Creating Sustainable Communities in the East of England (2005)
 Towns and Cities – Strategy and Action Plan: Urban Renaissance in the East of England (2003)
 Chilterns AONB Management Plan: A Framework for Action 2008-2013
 River Basin Management Plan: Thames River Basin District (2009)
 The Colne Catchment Abstraction Management Strategy (2007)
 Thames Region Catchment Flood Management Plan (CFMP) (2007)
 The East of England Regional Woodland Strategy – 'Woodland for Life' (2003)

County - Hertfordshire

Hertfordshire Structure Plan 1991-2011
 A 50 Year Vision for the Wildlife and Natural Habitats of Hertfordshire (1998) (revised 2006)
 Hertfordshire Waste Local Plan 1995-2005 (1999)
 Hertfordshire Economic Development Strategy 2009-2021
 The Hertfordshire Environmental Strategy (2001)

Hertfordshire Minerals Local Plan Review 2002-2016
 Rural Hertfordshire – an agenda for action (2001)
 Enjoy! A Cultural Strategy for Hertfordshire (2002)
 Hertfordshire Town Renaissance Campaign
 Hertfordshire Waste Strategy 2002-2024
 Hertfordshire Sustainability Guide (2003)
 Hertfordshire Minerals and Waste Development Framework Waste Core Strategy & Waste Development Policies Issues and Preferred Options 2 (2009)
 Hertfordshire Local Transport Plan (LTP3) 2011-2031
 London Arc Employment Land Study, 2009
 Level 1 Strategic Flood Risk Assessment: Dacorum, St Albans, Three Rivers and Watford (2007)
 Veolia Water Central Water Resources Management Plan (2010)
 Hertfordshire Sustainable Communities Strategy – Hertfordshire 2021: A Brighter Future

Local Authority – Dacorum Borough

Dacorum Borough Local Plan 1991-2011 (adopted April 2004)
 Dacorum’s Community Strategy: Towards 2021
 Dacorum Housing Strategy and HRA Business Plan 2004-07
 Dacorum Borough Nature Conservation Strategy (1999)
 Urban Capacity Study (2005)
 South West Hertfordshire Employment Space Study 2005
 Planning for Gypsy and Traveller Sites (2005)
 Dacorum BC Community Safety Strategy (2005-2008)
 Dacorum Borough Local Agenda 21 Strategy (2002 – but update online regularly)
 Hemel Hempstead Civic Zone –Development Brief (2005)
 Water Cycle Study: Scoping Study 2010
 Hertfordshire Renewable and Low Carbon Energy Study
 Dacorum BC Strategic Infrastructure Study: Transport, Social Infrastructure, Utilities and Physical Infrastructure (2011)
 Dacorum Corporate Environmental Policy (2009)
 Dacorum Urban Nature Conservation Study (2006)
 Level 2 Strategic Flood Risk Assessment: Berkhamsted and Hemel Hempstead (2008)
 Dacorum Development Programme 2011-2015
 Dacorum Green Infrastructure Study
 Dacorum BC Employment Land Update (2011)
 Dacorum BC Housing Land Availability Study (2011)
 Planning Obligations Supplementary Planning Document (2011)

3.3 Baseline Data

A key step in the SA process is establishing the current state of the environment and its likely evolution in the future without implementation of any plan. This process assists in the identification of sustainability and environmental issues/opportunities in the Borough. It is also important to consider the implications of the Core Strategy in its wider context. Baseline data is required to establish the present state of the Borough and its surrounding area and will be used subsequently for comparative purposes when monitoring and evaluating the LDF.

A practical approach is generally taken to data collection bearing in mind data availability and trend analysis, following which the actual data and gaps in information to consider in

the future are reported at the scoping stage. This reporting also takes into account uncertainties in the data.

The Scoping Report, issued in February 2006 reported baseline information under environmental, social and economic themes. The data was organised under the following headings – Air Quality, Biodiversity, Climatic Factors, Cultural Heritage, Landscape, Material Assets, Waste, Land use, Soil, Water, Flood risk, Social factor, Noise, Population, Housing, Crime, Accessibility, Social deprivation, Recreation, Sports and Leisure, Health, Education, Economic activity, Employment, Economic footprint, Enterprise and Innovation.

The baseline data provides an evidence base for identifying sustainability issues in Dacorum, as well as a mechanism for identifying alternative ways of dealing with them. The information has helped the development of the SA Framework, and will provide a basis for predicting and monitoring the effects of the Plan. In order to assess how the Core Strategy will contribute to sustainable development, it is essential to understand the present economic, environmental and social baseline of the Borough, and to predict how they may progress without implementation of the Plan. Prediction of future trends can be highly uncertain but key trends identified from the available baseline data, and therefore potential sustainability issues were identified and discussed in the Scoping Report. Key issues and opportunities are discussed in Chapter 4. The Scoping Report is available for reference from the Dacorum website at:

<http://www.dacorum.gov.uk/planning>

Baseline data collection is a continuous process that informs SA production and the Scoping Report information produced in February 2006 has been updated based on new information having become available. Updated information on the PPP review and on the baseline is presented in Appendices A and B respectively.

3.4 Evolution of the baseline without the plan

The SEA regulations require that information is provided on “...the relevant aspects of the current state of the environment and the *likely evolution thereof without implementation of the plan*”. It is recognised that the future baseline or the ‘business as usual’ scenario is difficult to describe, as trend data is often not available. However where possible the trends in the future baseline have been described for each of the SA/SEA topic areas in the baseline review (Appendix B).

In forecasting the ‘business as usual’ scenario it is necessary to determine what this means and what assumptions the scenario has been based on. Within this SA the business as usual scenario has been taken to mean a continuation of the current Local Plan.

4 Environmental and Sustainability Issues and SA/SEA Framework

4.1 Identifying Environmental and Sustainability Issues

The review of plans and programmes affecting the Borough, and the collation of the baseline data informed the identification of a series of environmental problems or issues that could be addressed by, or affect the strategies and measures developed in the DPDs. Such issues, problems and opportunities have been confirmed through:

- Review of the baseline data;
- Tensions/ inconsistencies with other plans, programmes and sustainability objectives;
- Scoping Workshop held in February 2006;
- Discussions with the Dacorum Borough Council Officers; and
- Response to the Scoping Report consultation.

The sustainability issues were identified at the scoping stage, and have since been revised in light of updated baseline data. Whilst a detailed note of the issues and opportunities can be found in the Scoping Report, Table 4-1 presents a summary of key sustainability issues and inter-relationships between the issues, for example, between biodiversity (environment) and health (social) are discussed to provide an integrated understanding of the sustainability issues.

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Table 4-1: Issues and opportunities in Dacorum

SEA Objective	Key Issue	Opportunities	Interrelationships
Air	<p>Whilst overall levels of pollutants have decreased across the Borough there are some areas where annual mean nitrogen dioxide concentrations continue to exceed the relevant Air Quality Objectives. As a result Air Quality Management Areas are to be designated at Lawn Lane, Hemel Hempstead; London Road, Apsley; and High Street, Northchurch.</p>	<p>Ensure potentially polluting processes incorporate pollution minimisation measures. Promote the development of Green Travel Plans. Improve cycle and pedestrian routes and links. Promote low emission vehicles.</p>	<p>Air quality influences human health which affects quality of life and also economic activity. Local residents and businesses experience air quality at the local level, which affects health and amenity.</p>
Biodiversity	<p>Dacorum falls within English Nature’s natural areas “Chilterns”, and “West Anglian Plain”.</p> <p>Dacorum contains one Special Area of Conservation (SAC) under the EC Habitats Directive: Chilterns Beechwoods</p> <p>8 Sites of Special Scientific Interest (SSSIs) covering 635 hectares can be found in Dacorum. The conditions of the SSSIs are above national target levels.</p> <p>There are three Local Nature Reserves in Dacorum:</p> <ul style="list-style-type: none"> • Howe Grove Wood (8 ha); • Long Deans and, • Shrubhill Common (11 ha). 	<p>Create new, and improve existing habitats, Green Infrastructure.</p> <p>Compensation for features lost to development where loss is completely unavoidable.</p> <p>Protection of existing networks of natural habitats including buffer areas, migration routes, stepping stones and landscape features of major importance for wildlife.</p> <p>Restoration of existing habitats and landscape features which could potentially be of major importance for wildlife.</p> <p>Linking and connecting isolated and fragmented habitats, important species populations and landscape features through creation of wildlife corridor (greenway) networks.</p> <p>LDF to promote the use of management agreements for designated sites, where this can be linked to development.</p>	<p>A healthy natural environment improves quality of life. Provides economic benefits through attracting inward investment and increased revenue through tourism.</p> <p>The diversity of habitats and species enriches people’s lives.</p> <p>Economic growth if undertaken unsustainably could adversely impact upon these assets and housing.</p>
Climatic Factors	<p>Carbon emissions per capita for Dacorum are above the regional average but below the national average.</p> <p>Domestic energy efficiency improved by 17.9% between 1/4/96 and 31/2/04.</p>	<p>Ensure development proposals do not exacerbate flooding elsewhere in catchment by adopting the sequential approach to site selection advocated in PPG25.</p> <p>Ensure consultation with the Environment</p>	<p>Climate change is likely to affect water resources (supply and demand), alter habitats, affect air quality and public health and increase flood risk. These</p>

		<p>Agency/Local Planning Authority.</p> <p>Sustainable Urban Drainage – porous surfaces, greenspace, wetlands, flood storage areas, urban forestry.</p> <p>Opportunity to decrease greenhouse gas emissions through reduced reliance on the private car.</p>	<p>could all adversely impact upon the borough's economy.</p> <p>Greenhouse gas emissions could lead to significant climate changes which could have significant implications for other aspects of quality of life.</p>
Cultural heritage	<p>Development pressures and changes in agricultural policy are the two major challenges for the East of England's historic environment.</p> <p>In Dacorum there are:</p> <ul style="list-style-type: none"> • 32 scheduled monuments, including two at risk: Bowl Barrow at Nettleden with Potten End and Roman settlement at the Cow Roast Inn, Northchurch; • 905 listed buildings; • 25 Conservation Areas; • Four registered parks and gardens: Markyatecell Park; Ashridge; Water Gardens, Hemel Hempstead; and Tring Park. 	<p>Recognise the importance of cultural heritage and archaeological features and the importance of regenerating and re-using important buildings, particularly those listed as 'buildings at risk'.</p> <p>Be proactive in preparing development briefs to renew, restore and redevelop neglected and deteriorating sites of historic character.</p> <p>Ensure there are strong and robust design standards for new development.</p> <p>Ensure that new and existing developments have regard to settlement patterns, the local vernacular style and incorporate local materials.</p> <p>Ensure that the public realm is effectively designed using quality materials that maintain or add to the character/distinctiveness of an area.</p> <p>Recognise the importance of archaeological features and advocate a programme of archaeological investigation prior to initial earthworks.</p> <p>Retain features of historic landscape significance, where possible.</p>	<p>Cultural heritage contributes to the overall diversity and value of the landscape.</p> <p>It also provides economic benefits and is a source of enjoyment and entertainment for the population.</p>
Landscape & Townscape	<p>Light pollution is rapidly increasing and tranquillity is rapidly decreasing in the East of England.</p> <p>Increase in light pollution.</p> <p>Dacorum falls into two Landscape Character Areas, "Chilterns" and "Bedfordshire and Cambridgeshire Claylands".</p> <p>Parts of Dacorum fall within the Chilterns AONB.</p>	<p>Recognise value of all landscapes, not just designated sites.</p> <p>Monitor light pollution levels. New lighting should be selected which minimises light pollution.</p> <p>Ensure landscape proposals for development schemes reflect local landscape character.</p> <p>Ensure that the character, diversity and local distinctiveness of all the landscapes of the borough</p>	<p>An attractive landscape improves quality of life which in turn could contribute to increase inward investment. Green infrastructure provides health and wellbeing benefits.</p>

		are maintained, enhanced or restored. Ensure that access to landscape character areas is socially inclusive.	Woodland provides an important role in carbon sequestration.
Material Assets	The percentage of household waste composted and recycled is increasing, and the amount of waste collected per head is also now decreasing. The percentage of houses built on previously developed land is high. However, previously developed land is a finite resource and might not be as readily available in the future, thus leading to greater pressure to build on greenfield sites.	Support a reduction in the amount of waste deposited in landfill. Support alternative methods of waste management, e.g. minimisation and recycling by incorporating facilities within development schemes. Encourage re-use and recycling of construction waste in development schemes through the use of planning conditions. Promote development on previously developed land and maximise the efficient use of land.	Material assets include resources such as land, building materials and other resources which are non-renewable. The topic is concerned with the efficient use of resources, including re-use of brownfield sites and sustainable waste management. The quality of the material assets in the borough contributes to overall quality of life and can impact upon the region's economy.
Soil	Southwest Hertfordshire's soils are mainly classified as grade 3 agricultural land, with some graded 2. A significant proportion is covered by urban areas. Dacorum contains mostly slightly acid loamy and clayey soils with impeded drainage.	Protect best and most versatile land. Promote good soil handling practices.	Soil resources are key to sustaining the agricultural economy.
Water	There are some issues with river water quality in Dacorum. The River Bulborne: overall status is moderate (ecological status is moderate, chemical status is good). The River Gade: overall status is bad (ecological status is moderate, chemical status is fail). Over abstraction of water resources is an issue in the region. The Chilterns Chalk Streams are particularly susceptible to over abstraction. Water usage by households using water meters is decreasing whilst non-metered households continue to use higher quantities of water per capita.	Recognise and implement Environment Agency's surface water protection policies. Consider overall siting of development schemes in order to minimise potential effects on water quality. Encourage the use of Sustainable Drainage Systems in new developments. Ensure efficient use of water resources in development schemes, this includes the use of recycled water. New developments should incorporate rainwater re-use. Ensure new polluting processes are located in areas where groundwater is not vulnerable.	Climate change is resulting in more extreme weather conditions and will heighten flood risk and demands on water resources. Negative synergy likely for flora and fauna when water bodies with low water flow combined with poor quality water

	<p>Some areas of Dacorum are at risk from flooding. The Water Cycle Scoping Study (April 2010) indicates that in relation to a housing growth level of 9,000 homes (2010 – 2031), for potable water supply; waste water and sewerage network capacity; flood risk; and the water environment, the only major constraints are those related to the Maple Lodge waste water treatment works which serve Hemel Hempstead and Kings Langley.</p>		
Population & Human Health	<p>Dacorum’s population was estimated at 138,000 in mid 2003. This saw an increase from the previous year which is forecast to continue at least until 2009. An ageing population means that there are fewer economically active people to support an increasing number of people coming up to retirement age. The health of people in Dacorum is generally better than the average for England. Deprivation levels are low and life expectancy for both men and women is longer than the England average. However there are inequalities within Dacorum. For example life expectancy for men living in the least deprived areas is over 6 years longer than for men living in the most deprived areas. Whilst some GP surgeries Hemel Hempstead are more crowded than the Hertfordshire average, across Dacorum as a whole there is considerable capacity within existing practices. However an assessment of future new demand associated with growth in Dacorum indicates that new surgeries will be required to accommodate growth. A large proportion of this demand will be at Hemel Hempstead. More than 1 child in 12 in Reception year is classified as obese. The level of children being physically active in school is worse than the England average. More than 1 adult in 5 is obese. The overall number of noise complaints received by councils in Hertfordshire rose in 2008/09 with</p>	<p>Ensure adequate housing, facilities and infrastructure whilst protecting and enhancing the local environment.</p> <p>Promote the dual use of facilities, e.g. post office incorporated in community hall etc.</p> <p>Invest in sustainable transport infrastructure to support expansion. Encourage reused and recycled demolition waste in development.</p> <p>Encourage mixed-use developments.</p> <p>Use planning obligations to help secure an appropriate range of facilities.</p> <p>Encourage healthy forms of travel and exercise, e.g. walking/cycling and access to leisure and recreational facilities.</p>	<p>Benefits of improved human health include employment provision and contribution to the local economy, training, research opportunities, reduced burden on social services and public finances.</p>

	domestic noise being the largest source of complaint.		
Housing	<p>At the start of 2003/04 6% of dwellings in Dacorum were unfit for dwelling (well below regional average of 27%).</p> <p>Dacorum has a higher proportion of local authority housing stock than most neighbouring local authorities.</p> <p>The price of housing compared to earnings is an issue in all four local authorities with the ratios having increased steadily from 2000 through to 2008, although levels did fall back in 2009.</p> <p>In Dacorum there was a downward trend in the proportion of affordable housing completions between 2002/3 and 2004/5.</p> <p>Additional growth is likely to increase the pressure on affordable housing in the borough.</p>	<p>Ensure provision of a range of housing types to satisfy demand including affordable housing and mixed use developments and a range of housing types of varying sizes.</p> <p>Provision of affordable housing in accessible locations.</p> <p>Ensure appropriate housing provision for the elderly, e.g. through Life-long homes and appropriate forms of affordable housing.</p> <p>Ensure that such housing is located near to the necessary services and facilities and public transport.</p>	<p>Provision of housing to meet local needs is important both for the wellbeing of communities and also for the local economy.</p>
Social Factors	<p>Crime continued to fall in the county in 2008/09 and Hertfordshire ended the year at its lowest level since 2002 making the county one of the safest in England.</p> <p>In Dacorum 61.9% of local authority buildings were classified as suitable for and accessible by disabled people, compared with an average of 47.1% in the region and 43.8% in England.</p> <p>Dacorum ranks 288/354 in terms of deprivation compared to other English local authorities (354 = least deprived). However there are pockets of deprivation in Dacorum, although there are no wards in the 25% most deprived in England.</p> <p>The proportion of all 18-24 yr olds in full time education or employment as of January 2001 in Dacorum was 88.3%.</p> <p>The forecast demand / supply gap (2012/13) for primary schools in Hertfordshire shows that Hemel Hempstead and Berkhamsted are areas of potential deficit. Overall there is 14% spare capacity in the Borough's secondary schools. However planned</p>	<p>Adopt 'planning out crime' design principles, e.g. encourage overlooking of space etc.</p> <p>Provision of a range of employment opportunities in accessible locations.</p> <p>Encourage the provision of convenience stores that provide fresh produce in accessible locations.</p> <p>Consider using voluntary agreements in relation to local recruitment and training.</p> <p>Use planning obligations to secure improvements to public transport.</p> <p>Provide and maintain safe and available infrastructure for healthy pursuits – cycleways, dedicated walkways.</p> <p>Require green travel plans.</p> <p>Ensure provision of a range of education facilities. Planning obligations used to enhance existing educational facilities</p> <p>Encourage working from home by providing the necessary infrastructure.</p> <p>Need to provide a range of employment</p>	<p>Poor health and well-being will adversely impact upon economic growth in the borough.</p>

	housing growth in the Borough will require expanded and new schools to be provided.	opportunities in different sectors.	
Economic Factors	<p>In Hertfordshire in 2008 estimated Gross Value Added shrunk by 0.1%, a slightly worse performance than that of the East of England, where it grew by 0.2%, and of the UK, where the growth was 0.9%.</p> <p>Levels of unemployment have increased significantly since 2007.</p> <p>GVA growth in Dacorum is expected to exceed that of the rest of the county (with growth at 3.5% per annum as opposed to the 3% expected for the rest of Hertfordshire)</p> <p>A low proportion of employees in the Region receive job-related training.</p>	<p>Provide a range of employment sites, including ones that will be attractive to inward investment.</p> <p>Provide incubator units and units with shared facilities, e.g. reception and meeting facilities etc. LDF to identify suitable locations.</p> <p>Planning obligations used to enhance existing educational facilities</p> <p>Provide a range of employments sites that will be attractive to knowledge based industries</p> <p>Support employment opportunities in higher value activities, e.g. knowledge based industries.</p>	<p>Social considerations and quality of life will impact on employment opportunities and ability to attract inward investment.</p>

4.2 Environmental and Sustainability Objectives

Current guidance on SA/SEA of land use and spatial plans advocates the use of objectives in the appraisal process. This section provides an outline of the objectives, criteria and indicators, organised under a SA Framework that was developed during the Scoping Stage and used in subsequent stages to appraise the DPD. This framework includes broad sustainability objectives, criteria explaining the broader objective in a more localised manner and indicators.

The purpose of the framework for the SA/SEA, set out in Table 4-2, is to provide a way in which the effects of the plan can be described, analysed, and compared. This process involves considering the content of the Core Strategy against identified SA/SEA objectives.

A more detailed framework which links the objectives and criteria to potential indicators to use in monitoring is presented in Appendix C. The indicators that are selected for monitoring will be finalised later in the SA/SEA process and agreed upon adoption of the Core Strategy.

The sustainability objectives outlined in the Appraisal Framework have been arranged under SEA/SA topics. The topics that have been selected relate to the same topics listed in: Annex I of Directive 2001/42/EC of the European Parliament on 'the assessment of the effects of certain plans and programmes' (the SEA Directive); and Sustainability Appraisal of Regional Spatial Strategies and Local Development Documents, ODPM, November 2005.

4.2.1 Sustainability Objectives (Column 1)

As this SA project is a joint commission by Three Rivers District Council, Dacorum Borough Council, St Albans District Council and Watford Borough Council, a sub-regional perspective (South-West Hertfordshire) was adopted for this study. Therefore the SA objectives have focussed on those issues, which are directly relevant to South West Hertfordshire and the scope of the DPDs. They are based on the sustainability objectives presented in the "Sustainable Development Framework for the East of England"⁴.

4.2.2 Criteria (Column 2)

Following on from the identification of objectives, a range of associated criteria and indicators were identified to provide further clarity in respect of future development directions as well as to assist in the appraisal process. The criteria were based on the key sustainability objectives outlined in the "Sustainable Development Framework for the East of England". They focus specifically on the items which are of direct relevance to the DPDs.

⁴ A Sustainable Development Framework For The East of England, The East of England Regional Assembly, October 2001

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Table 4-2: Core Strategy SA Framework

Objective	Criteria
Biodiversity	
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	To protect, maintain and enhance designated wildlife and geological sites (international, national and local) and protected species to achieve favourable condition
	To restore characteristic habitats and species, to achieve BAP targets
	To support farming and countryside practices that enhance wider biodiversity and landscape quality by economically and socially valuable activities (e.g. grazing, coppicing, nature reserves) [not applicable to urban boroughs, such as Watford]
	To manage woodlands and other habitats of value for biodiversity in a sustainable manner and protect them against conversion to other uses
	To recognise the social/environmental value and increase access to woodlands, wildlife & geological sites and green spaces particularly near/in urban areas
	To encourage people to come into contact with, understand, and enjoy nature
Water	
2. To protect, maintain and enhance water resources (including water quality and quantity) while taking into account the impacts of climate change	To raise awareness and encourage higher water efficiency and conservation by for instance promoting water reuse in new and existing developments
	To ensure water consumption does not exceed levels which can be supported by natural processes and storage systems
	To improve chemical and biological quality and flow of rivers and encourage practices which reduce nitrate levels in groundwater
	To improve flow of rivers
	To reduce the number and severity of pollution incidents
	To maintain or restore the integrity of water dependent wildlife sites in the area
3. Ensure that new developments avoid areas which are at risk from flooding and natural flood storage areas	To avoid developments in areas being at risk from fluvial, sewer or groundwater flooding (for instance natural flood plains) while taking into account the impacts of climate change
	To ensure that developments, which are at risk from flooding or are likely to be at risk in future due to climate change, are sufficiently adapted

	To promote properly maintained sustainable urban drainage systems to reduce flood risk and run off in areas outside Source Protection Zones 1 (SPZ)
Soil	
4. Minimise development of land with high quality soils and minimise the degradation/loss of soils due to new developments	To safeguard high quality soils, such as agricultural land grades 1, 2 and 3a) from development [Might not be applicable for urban boroughs, such as Watford]
	To limit contamination/degradation/loss of soils due to development
Climatic Factors	
5. Reduce the impacts of climate change, with a particular focus on reducing the consumption of fossil fuels and levels of CO ₂	To minimise greenhouse gas emissions (particularly CO ₂) for instance through more energy efficient design and reducing the need to travel
	To promote increased carbon sequestration e.g. through increases in woodland cover
	To adopt lifestyle changes which help to mitigate and adapt to climate change, such as promoting water and energy efficiency (through for instance higher levels of home insulation)
6. Ensure that developments are capable of withstanding the effects of climate change (adaptation to climate change)	To promote design measures which enable developments to withstand and accommodate the likely impacts and results of climate change (for instance through robust and weather resistant building structures)
Air Quality	
7. Achieve good air quality, especially in urban areas	To reduce the need to travel by car through planning settlement patterns and economic activity in a way that reduces dependence on the car and maintains access to work and essential services for non-car-owners
	To integrate land use and transport planning by for instance: <ul style="list-style-type: none"> • Promoting Green Transport Plans, including car pools, car sharing as part of new developments • Ensuring services and facilities are accessible by sustainable modes of transport
	To ensure that development proposals do not make existing air quality problems worse
	To address existing or potential air quality problems
Material Assets	
8. Maximise the use of previously developed land and buildings, and the efficient use of land	To concentrate new developments on previously developed land (PDL)
	To avoid use of Greenfield sites for development
	To maximise the efficient use of land and existing buildings by measures such as higher densities and mixed use

	developments
	To encourage the remediation of contaminated and derelict land and buildings
9. To use natural resources, both finite and renewable, as efficiently as possible, and re-use finite resources or recycled alternatives wherever possible	To encourage maximum efficiency and appropriate use of materials, particularly from local and regional sources
	To require new developments to incorporate renewable, secondary, or sustainably sourced local materials in buildings and infrastructure
	To safeguard reserves of exploitable minerals from sterilisation by other developments
	To promote renewable energy sources as part of new or refurbished developments
	To increase recycling and composting rates and encourage easily accessible recycling systems as part of new developments
	To promote awareness regarding waste/recycling and renewable energy issues through education programmes in schools and the community
Cultural Heritage	
10. To identify, maintain and enhance the historic environment and cultural assets	To safeguard and enhance the historic environment and restore historic character where appropriate, based on sound historical evidence
	To promote local distinctiveness by maintaining and restoring historic buildings and areas, encouraging the re-use of valued buildings and thoughtful high quality design in housing and mixed use developments – to a density which respects the local context and townscape character, and includes enhancement of the public realm
	To promote public education, enjoyment and access of the built heritage and archaeology
Landscape & Townscape	
11. To conserve and enhance landscape and townscape character and encourage local distinctiveness	To protect and enhance landscape and townscape character
	To evaluate the sensitivity of the landscape to new/inappropriate developments and avoid inappropriate developments in these areas
	To protect 'dark skies' from light pollution, and promote low energy and less invasive lighting sources while considering the balance between safety and environmental impacts
	To minimise the visual impact of new developments
Population & Human Health	
12. To encourage healthier lifestyles and reduce adverse health	To promote the health advantages of walking and cycling and community based activities
	To identify, protect and enhance open spaces, such as rivers and canals, parks and gardens, allotments and

impacts of new developments	playing fields, and the links between them, for the benefit of people and wildlife
	To include specific design and amenity policies to minimise noise and odour pollution, particularly in residential areas
	To narrow the income gap between the poorest and wealthiest parts of the area and to reduce health differential
13. To deliver more sustainable patterns of location of development	To reduce the need to travel through closer integration of housing, jobs and services
	To promote better and more sustainable access to health facilities
Social Factors	
14. Promote equity & address social exclusion by closing the gap between the poorest communities and the rest	To include measures which will improve everyone's access to high quality health, education, recreation, community facilities and public transport
	To ensure facilities and services are accessible by people with disabilities and minority groups
	To encourage people to access the learning and skills they need for high quality of life
	To ensure that the LDF does not discriminate on the basis of disability, ethnic minority, or gender
15. Ensure that everyone has access to good quality housing that meets their needs	Promote a range housing types and tenure, including high quality affordable and key worker housing
16. Enhance community identity and participation	To recognise the value of the multi-cultural/faith diversity of the peoples in the region
	To improve the quality of life in urban areas by making them more attractive places in which to live and work, and to visit
	To encourage high quality design in new developments, including mixed uses, to create local identity and encourage a sense of community pride
17. Reduce both crime and fear of crime	To reduce all levels of crime with particular focus on violent, drug related, environmental and racially motivated crime
	To plan new developments to help reducing crime and fear of crime through thoughtful design of the physical environment, and by promoting well-used streets and public spaces
	To support government-sponsored crime/safety initiatives, maximising the use of all tools available to police, local authorities and other agencies to tackle anti-social behaviour
Economic Factors	
18. Achieve sustainable levels of prosperity and economic growth	To support an economy in the Authority which draws on the knowledge base, creativity and enterprise of its people

	To promote and support economic diversity, small and medium sized enterprises and community-based enterprises
	To support the economy with high quality infrastructure and a high quality environment
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	To encourage local provision of and access to jobs and services
	To improve the competitiveness of the rural economy [not applicable for urban boroughs, such as Watford]
20. Revitalise town centres to promote a return to sustainable urban living	To promote the role of local centres as centres for sustainable development providing services, housing and employment, drawing on the principles of urban renaissance
	To encourage well-designed mixed-use developments in the heart of urban areas, create viable and attractive town centres that have vitality and life, and discourage out-of-town developments

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4.3 Compatibility of SA/SEA Objectives

A compatibility assessment of the SA/SEA objectives was undertaken at the scoping stage in order to identify whether there were any incompatibilities or tensions between certain objectives. Where potential incompatibilities have been identified these have been taken in to account when undertaking the assessment process and appropriate mitigation measures or alternative approaches in the Core Strategy considered. Details of the compatibility analysis can be found in the Scoping Report.

4.3.1 *Inter-relationships between SA/SEA objectives*

During the SA/SEA assessment the SA/SEA objectives should not be considered in isolation as many inter-relationships exist that need to be taken into account. Some of these relationships are clear cut and easy to understand, for example reduced greenhouse gas emissions and improved air quality which would both result from transport modal shift to sustainable travel modes. Others however can be less obvious, but are equally important and need to be understood when assessing the Core Strategy. For example there are inter-relationships between climate change adaptation measures and improvement in human health, from improved safety associated with reducing the risk of properties flooding, through to reduced levels of stress and improved well-being resulting from improvements to energy efficiencies of homes.

Close inter-relationships exist between environmental topics such as air quality, water quality, soil and biodiversity, with improvements or degradation to one often resulting in a similar effect on the other related media/topics. For example increased air pollution can have adverse effects on soil, water quality, and biodiversity through acidification. These effects can then cause issues relating to landscape degradation.

4.4 Compatibility of SA/SEA and Core Strategy Objectives

A compatibility assessment of SA/SEA objectives with the Core Strategy objectives was originally undertaken at the scoping stage and this was reported in the Scoping Report. However since then the Strategic Objectives of the Core Strategy have been updated (see Section 2.3) and as a result a further compatibility assessment has been undertaken (Table 4-3).

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Table 4-3: Compatibility of SA/SEA and Core Strategy Objectives

			Core Strategy Objectives (Abridged)																
			1. Healthy community	2. Climate change	3. Social inclusion	4. Convenient access	5. Hemel focus	6. Towns/villages	7. Effective use of land	8. High quality design	9. Vibrant economy	10. Meet housing need	11. Community facilities	12. Environment	13. Resource use	14. Flood protection	15. Minimise pollution	16 Infrastructure delivery	17. Local & strategic needs
SA Objectives (Abridged)	1	Biodiversity	C	C	-	-	C	-	?	-	?	N	-	C	-	?	C	?	-
	2	Water quality and quantity	C	C	-	-	-	-	-	-	-	N	-	C	C	?	C	-	-
	3	Flood risk	C	C	-	-	C	-	-	-	-	?	-	-	-	C	-	-	-
	4	Soils	C	C	-	-	-	-	-	-	?	N	-	C	-	-	C	?	-
	5	CO ₂ emissions	C	C	-	C	C	-	-	-	N	N	-	-	-	-	-	-	-
	6	Climate change proof	C	C	-	-	-	-	-	-	-	-	-	-	-	C	-	-	-
	7	Air quality	C	C	-	C	-	-	-	-	N	N	-	-	-	-	C	-	-
	8	Use of brownfield land	C	-	-	-	-	-	C	-	?	-	-	-	C	-	-	-	-
	9	Resource efficiency	C	-	-	-	-	-	C	-	-	-	-	-	C	-	-	-	-
	10	Historic and cultural assets	C	-	-	-	-	C	-	C	?	?	C	C	-	C	C	?	-
	11	Landscape & townscape	C	-	-	-	C	C	-	C	?	?	-	C	-	-	-	?	-
	12	Health	C	C	C	C	-	-	-	C	C	C	C	C	-	C	C	-	C
	13	Sustainable locations	C	-	-	C	C	C	-	-	C	-	C	-	-	-	-	-	-
	14	Equity and social exclusion	C	-	C	C	-	C	-	C	C	C	C	-	-	-	-	-	C
	15	Good quality housing	C	-	-	-	-	-	-	-	-	C	-	-	-	-	-	-	-
	16	Community identity and participation	C	-	C	C	C	C	-	C	-	?	C	-	-	-	-	-	C
	17	Crime	C	-	C	-	-	-	-	C	-	-	C	-	-	-	-	-	-
	18	Sustainable prosperity and growth	C	-	-	-	-	-	-	-	C	C	-	-	-	C	-	C	C
	19	Fairer access to services	C	-	C	C	-	C	-	-	C	-	-	-	-	-	-	C	C
	20	Revitalise town centres	C	-	-	-	C	C	-	C	?	-	C	-	-	-	-	C	C

(N) Potentially incompatible **(C)** Compatible **(?)** Uncertain **(-)** No significant relationship

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The Compatibility Matrix indicates that generally, the Core Strategy objectives are compatible with the SA/SEA objectives. However the assessment indicates that there are some potential conflicts and some uncertainties over the compatibility between the SA/SEA and Core Strategy objectives. Where potential incompatibilities have been identified, the reasons for these are discussed below for each affected Core Strategy objective.

It should be recognised that whilst some incompatibilities have been identified for specific objectives, there are other objectives that will help to overcome these. For example where incompatibility has been identified between housing and biodiversity, the Core Strategy objective to "To protect and enhance ... biological diversity ..." will help to ensure that adverse effects are minimised.

The Core Strategy includes a series of policies aimed at protecting and enhancing the environment and public realm and helping towards achievement of associated LDP objectives. These policies, supported by more detailed development control policies, will help towards mitigating the negative effects associated with new development that are identified in the sustainability appraisal.

Core Strategy Objective: "To ensure the effective use of existing land and previously developed sites"

This objective is potentially incompatible with the SA objective for biodiversity, as some brownfield sites can have a high biodiversity value.

Core Strategy Objective: "To promote a vibrant and prosperous economy"

This objective is incompatible with the SA objectives on greenhouse gas emissions and air quality as activities relating to the new employment sites, such as transport and travel, will result in increases in greenhouse gas emissions and other airborne emissions.

The aim also has uncertain compatibilities with a number of other SA objectives. For example, developing employment sites on greenfield land will have uncertain effects on biodiversity, soils, historic & cultural assets and landscape & townscape depending on the exact location and type of employment to be provided. The plan's aim to focus employment development at Maylands could see development on greenfield land, which is potentially incompatible with the SA objective on use of brownfield land.

There is also potential for incompatibility with revitalising town centres as the strategy aims to focus economic development in Maylands which is an out of town development.

Core Strategy Objective: "To provide a mix of new homes to meet the needs of the population"

This objective is potentially incompatible with a number of the SA objectives:

- The level of housing development required in the Borough will require development of greenfield land. Development of greenfield land is not compatible with biodiversity due to landtake, potential habitat fragmentation and urban pollution issues. Development on greenfield land would also result in soil sealing.
- Providing new homes in the Borough will put direct pressure on water resources which are already identified as 'over-abstracted'.
- Housing development will result in increases in greenhouse gas emissions from new housing and associated activities. It will also contribute to background

emissions through an increase in the number of vehicles on the road thereby reducing air quality.

The objective also has uncertain compatibilities with a number of the SA objectives:

- Parts of the Borough lie within areas of flood risk and a number of the potential housing sites are within these zones.
- Housing development on greenfield sites is potentially incompatible with the SA objectives on historic & cultural assets, landscape & townscape and community identity & participation depending on the location and quality of the development.

Core Strategy Objective: "To protect people and property from flooding"

This objective is potentially incompatible with the biodiversity and water objectives, because if this objective is achieved through measures other than simply the location of new development outside flood risk areas (e.g. through flood attenuation schemes) there could be adverse effects on local hydrology and any biodiversity associated with the water environment.

Core Strategy Objectives: "To co-ordinate the delivery of new infrastructure with development" and "To ensure that all development contributes appropriately to local and strategic infrastructure requirements"

Through the provision of local and strategic infrastructure to enable the successful delivery of new development there are potential incompatibilities with the SA objectives for biodiversity, soils, and historic & cultural assets and landscape & townscape as providing infrastructure, e.g. roads, utilities, services and community facilities, could lead to effects such as habitat fragmentation, soil sealing and adverse effects on the historic environment and landscapes, depending on the location and design of the infrastructure.

5 Development of the Core Strategy

5.1 Introduction

In order to be considered 'sound' a Core Strategy needs to be justified, effective and consistent with national policy. The proper consideration of options is key to developing a justifiable plan; Planning Policy Statement 12: Local Spatial Planning (PPS12) emphasises that DPDs must be the most appropriate strategy when considered against the reasonable alternatives⁵.

During the development of the Dacorum Core Strategy a wide range of options has been considered for delivering the plan objectives across the full range of spatial planning issues within the scope of the Core Strategy.

The first stage of this process was the consultation on the Emerging Issues in July 2005, with several subsequent rounds of plan preparation and consultation having followed. The following sections provide a summary of the various options considered, how and when they were appraised and information on where these assessments can be accessed.

All of the options considered throughout the development of the Core Strategy have been subject to sustainability appraisal. See Table 1-1 for an outline of the various reports that have been produced to date.

5.2 Core Strategy Issues and Options - 2006

Dacorum Borough Council consulted with members of the public, statutory authorities and other relevant stakeholders on the Core Strategy Emerging Issues and Options (July 2005), the Core Strategy Issues and Options Report in May 2006 and the Supplemental Issues and Options (Growth at Hemel Hempstead) in November 2006.

The latter two consultations were accompanied by SA working notes, which documented results of the sustainability appraisal of the Initial Options and Supplementary Issues and Options papers.

5.2.1 Initial Issues and Options – May 2006

The Initial Issues and Options consultation set out the overall vision for future development in the Borough and outlined the key issues under seven broad topics: Spatial Development Strategy; Housing; Employment; Retail; Transport and Infrastructure; Community Development; and Landscape Management and Biodiversity. Table 5-1 provides a summary of the different options considered in the paper.

NB: To maintain consistency and clarity with the Issues and Options paper, the options and consultation questions are numbered as they appeared in the paper.

⁵ Local development frameworks: guidance on options generation and appraisal. Planning Advisory Service, October 2009.

Table 5-1: Initial Issues and Options – May 2006

<p>Issue: 5.1, 5.2 and 7.2: Opportunity areas and Spatial Strategy</p> <p>1 (Q25) Promote concentrated & compact development at Hemel Hempstead. 2 (Q24) Distribute development opportunities between three settlements- Hemel Hempstead, Berkhamsted and Tring. 3a) Protect site for Employment only. 3b) Allow Mixed- land use development. 3c) Allow alternative land use, e.g., housing, on the site.</p>
<p>Issue 5.3 Protection of Greenspaces and Greenbelt</p> <p>1) Limit Greenfield site consumption by maximising Urban Capacity of all settlements. 2) Maximise Urban Capacity and allow Greenfield site consumption. 3) Seeks to utilise Greenfield sites prior to consideration of greenbelts.</p>
<p>Issue 5.4: Protection of countryside Open Spaces</p> <p>4) Strategy considers limited utilisation of land, beyond the green belt, in the open countryside to meet local demands.</p>
<p>Issue 10.5 Protection of Open Green spaces</p> <p>(Q52) Retain & protect open space from all developments. 2) (Q53) Can some open land be lost to improve the quality of other open space?</p>
<p>Issue 6.1 and 6.2: Housing Growth Scenarios</p> <p>1-A) Adopting RSS 14 recommendation of 6300 dwellings. 1- B) Council's estimate of housing need- 7100 dwellings. 1-C) RSS 14 original proposal of 8,200 dwellings. 1-D) 10,000 dwellings, suggested by RSS 14 objectors.</p>
<p>Issue 6.3: Housing density and location</p> <p>A (Q11) Focusing development within Hemel Hampstead. B (Q12) Distribute housing requirement, beyond Hemel Hampstead. 3-C (Q13) Options for housing development beyond 7100 dwellings: (i) Increase density at Hemel Hempstead town centre. (ii) Extend to Greenfield sites within Hemel Hempstead. (iii) Extend to Greenfield sites around other existing settlements. 3-D (Q14) Location for Greenfield extension, if necessary: (i) Around Hemel Hempstead. (ii) Around Berkhamsted. (iii) Around Tring. (iv) Settlements outside Greenbelt. (v) Distributed between different settlements. 4) (Q13, 16) Increase housing densities,50+ dwellings/ha, in all res neighbourhoods. 4-B Settlement considered for densification: (i) Hemel Hempstead. (ii) Berkhamsted. (iii) Tring.</p>
<p>Issue 6.6 Locating Affordable Housing</p> <p>3 Options on affordable housing location are proposed (Question 21): 1. On Large sites. 2. On Greenfield Sites. 3. On sites with high accessibility.</p>

Issue 8.1: Location of new retail space

- 1 (Question 29, Question 32): Adopt sequential approach to locate new retail spaces
- 2 (Question 30): Create opportunity for local retail shopping in business area

Issue 8.4: Landuse pattern at the Town Centre

- 3-1) Allow non-shop use in office use areas
- 3-2) Encourage mixed land use
- 3-3) Retain and protect office use in town centres.

Issue 8.5: Landuse pattern at the Local Centres

- 4-1) Retain and protect shopping facilities in local centres
- 4-2) Support a more flexible approach to non-shop uses in local centres

Issue 9.1: Traffic and Transport

- 1) Develop town and local centres.
- 2) Provide and improve public transport.
- 3) Encourage cyclist and pedestrian access to town and local centres.
- 4) Improve road infrastructure, without attracting more traffic.
- 5) Design Green Traffic plans for local and major traffic generators.

Issue 9.3: Accessibility

- 1) High density development near appropriate passenger transport interchange.
- 2) Low cost, affordable housing close to basic amenities.
- 3) Encourage live/work units.
- 4) Improve and promote cyclist and pedestrian network.
- 5) Consider accessibility to all, including the disabled.

Issue 10.1 Community Facility provision

- 1 (Q.41): Locate key community facilities in most accessible areas
- 2 (Q.42): Seek alternative community uses/ enhancing existing community facilities
- 3 (Q.43): Seek contributions from new developments for community facilities.

Issue 10.2 Education Provision/Improvisation

- 1) Provide extended school facilities in selected schools.
- 2) Utilisation of surplus school premise space for alternative community purposes.

The assessment of this Issues and Options paper explored the likely effects of the various options against the Sustainability Appraisal (SA) objectives.

The results of the appraisal can be found in the SA Working Note that accompanied the consultation. This can be accessed via the Dacorum Borough Council website at: <http://www.dacorum.gov.uk/planning>.

In addition to providing an assessment of the various options considered the working note also provided a series of recommendations against the themes of; protection of the environment; social progress; prudent use of natural resources; and economic development.

5.2.2 Supplemental Issues and Options - November 2006

This additional round of Issues and Options consultation considered how the potential expansion of Hemel Hempstead recommended by the independent panel report on the draft East of England Plan could be delivered. This consultation paper was prepared

jointly by Dacorum Borough Council and St Albans City and District Council to inform both of their Core Strategies.

The sustainability appraisal was undertaken at three levels:

- Firstly, the more general elements of the supplementary paper were appraised at a level appropriate to the level of detail contained in each section and the number of options proposed for each question.
- Secondly, the areas put forward as potential urban extensions were assessed at a level, which whilst aiming to remain strategic, examined the main sustainability constraints specific to the individual locations.
- Thirdly, the appraisal looked at how the potential increased growth would impact on the existing Core Strategies and the findings of the sustainability appraisal work undertaken to date. The significant increase in potential housing numbers compared to those covered by the original Issues and Options Papers could not be appraised in isolation and it was necessary to examine the wider implications on the immediate and surrounding areas.

As it was considered that many of the issues raised and questions posed in this Issues and Options document were not easily appraised using the SA framework, a commentary was instead provided in terms of the likely sustainability implications of taking forward the different proposals relating to the issues discussed. For the 17 potential urban extensions, sites Geographical Information System (GIS) was used to assess the sites in terms of potential constraints and opportunities. The questions asked in the Supplemental Issues and Options Report are outlined in the following box.

Questions asked in the Supplemental Issues and Options Report

1: Do you agree these planning principles should be followed?

2: Should the level of housing development that is supported be guided by threshold limits for these facilities?

3: Should the issue of a northern bypass around the town be explored further?

4: Which of the main opportunities for job growth do you support? Please indicate your preferences in order with 1 being the highest priority.

- Using existing surplus employment land
- Intensification in Maylands business area
- Intensification in the town centre area
- Extending into the Green Belt east of Maylands business area towards the M1 motorway
- Supporting development at Leavesden

5: Do you agree that the following options offer opportunities for more housing?

- Higher density on Local Plan greenfield sites
- Major growth in the town centre
- A housing target for Maylands business area
- Use of greenfield land at North East Hemel Hempstead
- Reuse of some Open Land

6: Excluding land in the Green Belt, are there any other additional sources of housing opportunity that should be pursued?

7: How much building should the councils support as being appropriate in the Green Belt?

- The full amount needed to meet the Panel's housing and employment target(s)
- Some building for:
 - housing purposes

Questions asked (continued):

- employment purposes
- other purposes (please specify)
- None

8: If the council's plan for some development (in the Green Belt), over what time period do you think this should be?

- a) 2001 – 2021 (i.e. for the plan period only); or
- b) 2001 – 2031

9: Do you agree with the constraints listed?

10: Do you support a new neighbourhood at Bunkers Park?

11: Do you support expansion of Nash Mills?

12: Do you think a new neighbourhood should be built at Shendish?

13: Do you support expansion of the residential area at Felden?

14: For a range of landscape and environmental reasons we conclude that new development in the Bulbourne Valley outwards from Boxmoor is not appropriate. Do you agree?

15: Do you think a new neighbourhood should be built at Pouchen End?

16: Do you think a new neighbourhood should be built north of Gadebridge?

17: Do you think the Old Town should be expanded northwards into:

- a) the smaller area immediately adjoining?
- b) the larger area beyond Fletcher Way?

18: Should Grovehill be extended through development at Marchmont Farm?

19: Do you think a new neighbourhood should be built north of Grovehill and Woodhall Farm?

20: Do you think a new neighbourhood should be built east of Woodhall Farm?

21: Do you support the development of:

- a) one new neighbourhood;
- b) two new neighbourhoods; or
- c) nothing at Wood End Farm?

22: Should land off Breakspear Way be designated as an extension of the Maylands business area?

23: If this land is designated in this manner, should it:

- a) be available for development during the plan period (i.e. before 2021); or
- b) held in reserve for development after 2021?

24: Do you support the development of the following neighbourhoods:

- a) Westwick (east of Westwick Row)
- b) Blackwater (south east of the town)
- c) Corner Farm (further to the south east)
- d) or, nothing at Leverstock Green

25: If the councils are required to plan for residential development in the Green Belt, what are your preferences among the following nine locations? Please number from 1 to 9 with 1 being your most preferred location and 9 your least preferred.

Shendish, Pouchen End, Holtsmere End, Wood End Farm, Leverstock Green, Nash Mills, Felden Old Town, Marchmont Farm

26: Is there any area you consider merits serious consideration as a location for growth and urban extension at Hemel Hempstead which has not been covered?

The results of the appraisal undertaken on the supplemental issues and options can be found in the SA Working Note that accompanied the consultation. This can be accessed via the Dacorum Borough Council website at:

<http://www.dacorum.gov.uk/planning>.

The appraisal found that if the proposed extra growth was required to be delivered at Hemel Hempstead it would be likely to have widespread sustainability implications. Whilst there may be positive social and economic effects, it is also likely that there would be some significant adverse environmental effects. These adverse effects are mainly linked to the intrusion into the Green Belt that would result from the growth considered. With this would come the direct impacts of loss of greenfield sites and a range of other direct and indirect impacts.

5.3 Emerging Core Strategy – 2009 and 2010

Consultation on the Emerging Core Strategy was undertaken in June 2009 and this was followed by further consideration in August 2009 on options for significant levels of housing growth at Hemel Hempstead, building on the work undertaken in November 2006. In addition strategic allocations in Tring, Berkhamsted, Markyate, Bovington and Kings Langley were considered in February 2010, followed by consideration of further strategic allocations in Hemel Hempstead in April 2010.

Sustainability appraisal was undertaken at all four of these stages and SA Working Notes were prepared to report the findings and recommendations. The sub-sections below summarise the SA outputs. The results of these appraisals can be found in the SA Working Notes which can be accessed via the Dacorum Borough Council website at:

<http://www.dacorum.gov.uk/planning>

5.3.1 Emerging Core Strategy – June 2009

The Emerging Core Strategy published for consultation in June 2009 built upon the previous work on Core Strategy Issues and Options and the findings of a range of technical reports produced as part of the LDF evidence base. The document included the following component chapters:

Borough Vision and Aims

Set out how the Core Strategy should support the vision for the Borough (which is set out in the Dacorum Sustainable Community Strategy).

Borough Themes

The second part of the consultation paper dealt with the four key themes that the Core Strategy would cover. These themes were:

- Sustainable Development;
- Social and Personal Welfare;
- Economic Prosperity; and
- Looking After the Environment.

Borough Places (Settlements and Countryside)

The Emerging Core Strategy contained spatial strategies for each of the main settlements within the Borough and the Borough's Countryside. Each spatial strategy contained the following elements which have been assessed against the SA objectives:

- A Vision;
- Development Options; and
- Themes
 - Theme 1: Looking after the Environment
 - Theme 2: Social and Personal Welfare
 - Theme 3: Economic Prosperity
 - Theme 4: Location and Access

As outlined above for each of the main settlements within the Borough various development options were considered. Table 5-2 provides a summary of the different development options considered in the paper.

Table 5-2: Development Options - June 2009

Berkhamsted	
Option 1: Land off New Road	
Option 2: Land south of Hilltop Road	
Option 3: Land adjacent to Hanburys, Shootersway	
Option 4: Land adjacent to Blegberry Gardens, Shootersway	
Bovingdon	
Option 1: Duckhall Farm	High Street Parking Options
Option 2: Rear of Green Lane	Option 1: Two small car parks
Option 3: Grange Farm	Option 2: Formal parking bays
Option 4: North of Chesham Road	
Hemel Hempstead	
No specific development options assessed due to uncertainty at the time resulting from the challenge to the East of England Plan. Options already considered in Supplementary Issues and Options Paper 'Growth at Hemel Hempstead', (November 2006)	
Kings Langley	
Option 1: Rectory Farm	
Option 2: Wayside and Broadfield Farms	
Markyate	
Option 1: Hicks Road (consolidated employment uses and 40 - 60 dwellings)	
Option 2: Hicks Road (100 dwellings and shops) plus the relocation of employment uses to a site on the southern edge of the village	
Tring	
Option 1: Land to the West	
Option 2: Land to the East	
Countryside	
Option 1: Would provide 389 dwellings (2006 – 2031) in the rural areas of the Borough this is not sufficient to allow the current level of population to be maintained. This is because a decrease in average household size, with more people living alone, means that more houses are required to provide the needs of the same sized population.	
Option 2: Would provide 567 dwellings (2006 – 2031) which would enable the current level of population to be maintained.	

The Emerging Core Strategy's Objectives were assessed for their compatibility with the SA objectives, while the other sections of the Emerging Core Strategy, including the development options, were assessed against the SA framework objectives. In addition a range of recommendations for improving the sustainability of the Core Strategy were proposed.

5.4 Housing Growth Options at Hemel Hempstead – August 2009

Building on the work undertaken on the Supplemental Issues and Options (Growth at Hemel Hempstead) in November 2006 (see Section 5.2.2) three options for delivering significant housing growth around Hemel Hempstead were developed and assessed as part of building the evidence base for Dacorum and St Albans' Core Strategies. The options considered were:

Option 1 – Eastern Growth Strategy

Based on development between the town and the M1 motorway – the majority of which falls within St Albans. To provide the required level of housing an additional new neighbourhood would also be required and this is proposed to the west of the town.

This option has been chosen as it focuses development to the east of Hemel Hempstead, using the M1 motorway as a key boundary to mark the edge of the expanded town.

It comprises new neighbourhoods at:

- Wood End Farm and Leverstock Green (Blue Blobs 12a, 12b, 14a, 14b and 14c), providing about 5,300 new homes; and
- West Hemel Hempstead (Blue Blob 6), providing about 1,200 new homes.

This option will also involve an extension to the existing neighbourhood of Grovehill through the development of land at Marchmont Farm (Blue Blob 9), providing about 300 new homes.

Option 2 – Northern Growth Strategy

Focussing development to the north and west of the town. This option would require the construction of a northern bypass for the town, running from Bourne End to Holtsmere End.

This option has been chosen as it focuses development in an arc around the west and north of Hemel Hempstead. It could help bring forward a new bypass and use this to mark the edge of the expanded town.

It comprises new neighbourhoods at:

- West Hemel Hempstead (Blue Blob 6), providing about 1,500 new homes;
- North of Gadebridge (Blue Blob 7), providing about 1,700 new homes;
- Grovehill and Woodhall Farm (Blue Blob 10), providing about 2,400 new homes; and
- Holtsmere End (Blue Blob 11), providing about 1,200 new homes.

Option 3 – Dispersed Growth Strategy

Based on a dispersed pattern of new neighbourhoods, providing a geographical spread around the edge of the town.

This option has been chosen as it looks to spread the impact of new development around the town.

It comprises new neighbourhoods at:

- Shendish (Blue Blob 3), providing about 1,100 new homes;
- West Hemel Hempstead, plus additional land at Fields End Farm (Blue Blob 6 plus adjacent land); and
- Wood End Farm (Blue Blobs 12a and 12b) and Leverstock Green (Blue Blobs 14a and part of 14b), providing about 4,000 new homes.

This option will also involve an extension to the existing neighbourhood of Grovehill through the development of land at Marchmont Farm (Blue Blob 9), providing about 300 new homes.

In March 2009, Dacorum BC developed and consulted upon a methodology for assessing these alternative growth scenarios for Hemel Hempstead. The approach aimed to assess the relative strengths and weaknesses of the growth options and was developed in consultation with a wide range of stakeholders. The SA team provided input at various stages during the development of the methodology to ensure that it was compatible with the SA process being undertaken alongside the work being undertaken by DBC. The key suggestions made by C4S on the draft prepared by DBC were to consider a range of additional constraints.

A comprehensive assessment of the three alternative growth options was undertaken by Dacorum BC officers and this assessment covered many of the issues within the SA framework. In order for the SA to add value to the evidence base, rather than repeating the assessment already undertaken, the SA therefore just assessed broader overarching issues relating to the three options of Dispersed growth, Eastern growth and Northern growth. The SA provided a comparative assessment between the options and also provided an assessment of the 'common features' for all of the growth options against the SA objectives.

The effects related to the Dispersed and Eastern growth options were found to be relatively similar given that the sites included in the options were largely the same. The Northern growth option was found to have the most potential for significant adverse effects on the environment, notably against the landscape and biodiversity objectives. All the options were found to perform poorly against the SA objective encouraging development on brownfield sites.

This 'Housing Growth Options at Hemel Hempstead' paper was not published for consultation due to the announcement that those parts of the Regional Spatial Strategy relating to housing growth at Hemel Hempstead had been quashed in the High Court. This followed a legal challenge brought by Hertfordshire County Council and St Albans City and District Council.

5.5 Additional Strategic Allocations – February 2010

This addendum to the August 2009 Working Note summarised the findings of the Sustainability Appraisal on a number of additional allocations put forward for consideration in Tring and Berkhamsted and on two different options for development at Egerton Rothesay School, Durrants Lane / Shootersway, Berkhamsted.

Tring

- Option 1: Waterside Way; and
- Option 2: Station Road.

Berkhamsted

- Land to the South; and
- Egerton Rothesay School
 - Option 1: Redevelopment of the site as currently proposed in the Local Plan.
 - Option 2: Redevelopment of the site in accordance with a revised landowner proposal.

For the Egerton Rothesay School site the decision to remove the site from the Green Belt has already been taken (Dacorum Borough Local Plan 1991-2011) and the assessment was therefore more focused on the comparison between the two different options being considered for the redevelopment of the Egerton Rothesay School site.

5.6 Further Additional Strategic Allocations – April 2010

This second addendum to the 2009 Working Note summarised the findings of the Sustainability Appraisal on a number of Additional Strategic Development Locations and Sites located in the Greenbelt around Hemel Hempstead. These sites were assessed individually, rather than as part of a broader growth location, as previously. These sites were:

- Shendish (North)
- Shendish (South)
- Felden
- West Hemel Hempstead (North)
- West Hemel Hempstead (South)
- Marchmont Farm
- Old Town; and
- Nash Mills.

5.7 Assessment of the Draft Core Strategy

5.7.1 Working Draft Core Strategy (July - September 2010)

In July 2010, an informal Working Draft Core Strategy was published for targeted stakeholder consultation. Based on this document an associated SA Working Note was published in September 2010 that assessed the elements contained within the Working Draft.

The Working Draft Core Strategy considered two options for housing growth that were assessed as part of the SA Working Note, these being:

- Option 1: 385 dpa⁶
- Option 2: 450 dpa

The appraisal also considered the sustainability implications of a third housing growth option based on meeting levels of natural growth of 500 dpa (based on the 2006 ONS Household Projections).

The SA Working Note can be accessed via the Dacorum Borough Council website at:

<http://www.dacorum.gov.uk/planning>

5.7.2 Draft Core Strategy (November 2010)

Following consultation on the Working Draft Core Strategy, and taking into consideration all the iterations to the emerging options, a Draft Core Strategy was then prepared and published for formal consultation (in November 2010) along with a Sustainability Appraisal Report. All of the Core Strategy policies, place strategies, local allocations and strategic sites were assessed against the SA objectives.

⁶ The SA Working Note referred in error to the figure of 398 dpa instead of 385 dpa. However this has no implications for the findings of the sustainability appraisal.

The Draft Core Strategy considered two options for housing growth, these being:

- Option 1: 370 dpa
- Option 2: 430 dpa

These figures are slightly lower than those contained within the Working Draft due to removal of windfall assumptions, as required by PPS3: Housing (i.e. they related to the housing target, whilst the Working Draft figures related to the wider housing programme).

The appraisal identified that delivery of the higher level of growth (Option 2), whilst helping to achieve objectives relating to housing provision and in particular affordable housing, would have adverse effects on local landscapes given the requirement to develop sites in the greenbelt. Conversely the lower level of growth, whilst reducing environmental effects, were identified as falling short in terms of meeting local needs for housing and associated community infrastructure that would be provided as a result of new development.

In addition to the two housing growth options contained in the Core Strategy, a natural growth option of 500 dpa was also assessed as part of the SA to provide a comparison assessment so that the implications of the two options could be compared with a situation in which all natural growth were to be met.

The SA found that delivering 500 dpa would result in the need for significant additional development in the Greenbelt with associated adverse effects on some of the environmental objectives, in particular a significant adverse effect against the landscape and townscape objective. Resource use would increase and there would be increased waste, increased emissions to air and additional loss of tranquillity. However, the higher levels of new dwellings would go further towards meeting the needs for new housing and supporting the planned levels of new job creation that were proposed in the November 2010 draft Core Strategy.

In terms of employment provision, the draft Core Strategy considered the creation of up to 18,000 additional jobs in the Borough between 2006 and 2031. As with all the elements of the Core Strategy this was appraised against the SA objectives, with significant positive effects predicted against the economic objectives, but with potential adverse effects in terms of greenhouse gas emissions due to the imbalance between jobs and housing which would be likely to result in increased levels of in-commuting.

The SA Report published in November 2010 can be accessed via the Dacorum Borough Council website at:

<http://www.dacorum.gov.uk/planning>

6 Assessment of the Pre Submission Core Strategy - September 2011

6.1 Introduction

A Pre Submission Core Strategy has now been prepared taking into consideration all the iterations to the emerging options and the consultation comments received on the Draft Core Strategy and this has now been appraised.

The appraisal used the assessment criteria as outlined in Figure 6-1. The effects were also forecast in terms of their:

- Permanence (permanent or temporary);
- Scale (local (within the Borough), regional (affecting local neighbouring authorities), national/international (affecting UK or a wider global impact)); and
- Timescale (in the short term (1-5 years), medium term (5-10 years) or long term (10+ years)).

Where appropriate the assessment also identified cumulative/synergistic effects, cross-boundary effects and interrelationships between the SA objectives. All of the SA Objectives have been afforded the same value in this assessment with no weighting of objectives being used.

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

Figure 6-1: Assessment Criteria

Based on the methodology described above, all Core Strategy policies, place strategies, local allocations and strategic sites were assessed and the results presented as detailed assessment matrices in Appendices E and F.

As few significant changes have occurred to the Core Strategy since the Draft was published for consultation, most of the assessment findings and scores remain unchanged from the previous SA Report (dated October 2010).

6.2 Summary of the Assessment

A summary of the assessment of the Pre Submission Core Strategy against the SA/SEA objectives is provided in Table 6-1.

The sections that follow summarise the results of the assessments for each Core Strategy element, followed by a summary of the assessment by SA objective (including any cumulative, synergistic and secondary effects). In addition, cross boundary effects are discussed in Sections 6.10.

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Table 6-1: Summary of Assessment

Policies (Abridged)	Sustainability Appraisal Objectives																			
	Biodiversity	Water quality/quantit	Flood risk	Soils	Greenhouse gas emissions	Climate change proof	Air Quality	Use of brownfield	Resource efficiency	Historic & cultural assets	Landscape & townscape	Health	Sustainable locations	Equity & social exclusion	Good quality housing	Community Identity	Crime & fear of crime	Sustainable prosperity	Fairer access to services	Revitalise town centres
CS1: Distribution of Development	✓	-	-	✓	✓	-	✓	?	-	✓	✓	✓	✓	✓	-	✓	-	✓	✓	✓
CS2: Selection of Sites; CS3: Managing Sites	✓ ?	-	-	?	✓	-	✓	?	✓	✓	?	✓	✓	✓	-	✓	-	✓	✓	✓
CS4: Towns & Large Villages	✓	-	✓	✓	✓	-	✓	✓	-	✓	✓	✓	✓	✓	-	✓	✓	✓	✓	✓
CS5 Green Belt; CS6: Small villages; CS7: Rural Area	✓	-	-	✓	✓ *	-	-	?	✓	✓	✓	-	✓	✓	✓	✓	-	✓	✓	✓
CS8: Sustainable Transport	✓	-	-	?	✓	-	✓	-	-	✓	?	✓	✓	✓	-	✓	✓	✓	✓	✓
CS9: Management of Roads	?	-	-	*	✓ ?	-	✓ ?	*	-	-	?	✓	-	✓	-	✓	-	✓	✓	?
CS10, CS11, CS12 & CS13: Design policies.	✓	-	✓	-	✓	✓	-	-	-	✓	✓	✓	-	-	✓	✓	✓	✓	-	✓
CS14, CS15, & CS16: Economy and Retail policies	?	-	-	*	✓ *	-	✓ *	✓	-	-	*	✓	✓	✓	-	✓	-	✓✓	✓	✓
CS17: New Housing	?	* ?	-	*	✓ *	-	* *	* *	*	?	*	?	✓ *	* ✓	✓	?	?	✓	✓	✓
Dwellings based on ONS projections 2008	?	* ?	-	*	✓ *	-	* *	* *	*	?	**	?	✓ *	* ✓✓	✓✓	?	?	✓	✓	✓
CS18: Mix of Housing; CS19: Affordable Housing; CS20: Rural Exception Sites	?	-	-	-	✓	-	-	-	-	-	?	✓	✓	✓✓	✓✓	✓	-	✓	✓	-
CS21 & CS22: Gypsy and Traveller policies	?	-	-	-	-	-	-	?	*	-	✓	✓	✓	✓✓	✓	✓	?	-	✓	-
CS23: Social Infrastructure	?	-	-	*	✓	✓	-	✓	-	✓	*	✓	✓	✓	-	✓✓	-	-	✓	✓

Policies (Abridged)	Sustainability Appraisal Objectives																			
	Biodiversity	Water quality/quantit	Flood risk	Soils	Greenhouse gas emissions	Climate change proof	Air Quality	Use of brownfield	Resource efficiency	Historic & cultural assets	Landscape & townscape	Health	Sustainable locations	Equity & social exclusion	Good quality housing	Community Identity	Crime & fear of crime	Sustainable prosperity	Fairer access to services	Revitalise town centres
CS24 – CS27: Natural Environment policies	✓✓	✓	✓	✓	✓	✓	✓	-	-	✓✓	✓✓	✓	-	✓	-	✓	-	-	-	✓
CS28 – CS32: Carbon and pollution policies	✓	✓✓	✓	✓	✓✓	✓	✓	✓✓	✓✓	?	?	✓	-	-	-	-	-	-	-	-
CS34: Infrastructure & Developer Contributions	✓	✓	-	-	-	-	-	-	✓	-	-	✓	✓	-	-	✓	-	✓	-	-
Spatial Strategy: Hemel Hempstead	? *	? *	?	*	* ?	-	* ✓	* ✓	* *	✓ ?	* ✓	✓	✓ *	✓	✓	✓	-	✓	✓	✓
CS33: HH Town Centre Design Principles	-	?	-	-	✓	-	✓	-	✓	✓	✓	✓	✓	✓	-	✓	?	✓	✓	✓
CS34: Maylands Business Park	?	?	-	*	✓ ?	-	✓ ?	* *	✓	-	✓ ?	✓	✓	✓	-	✓	-	✓	✓	✓
Spatial Strategy: Berkhamsted	? *	✓ *	✓	*	* ?	-	? *	* *	*	✓	? *	✓	✓	✓	✓	✓	-	✓	✓	✓
Spatial Strategy: Tring	? *	* *	-	*	* *	-	-	* *	*	✓	? ✓	✓	✓	✓	✓	✓	-	✓	✓	✓
Spatial Strategy: Kings Langley	? ✓	✓ *	-	*	* *	-	-	* *	*	✓	? *	✓	✓	✓	✓	✓	-	?	✓	✓
Spatial Strategy: Bovington	? *	* *	-	*	* *	-	-	* *	*	-	? ✓	✓	✓	✓	✓	✓	-	✓	✓	✓
Spatial Strategy: Markyate	? ✓	✓ *	* *	* ?	✓ *	-	✓ *	✓ *	*	✓	✓ *	✓ *	✓	✓ *	✓	✓	-	✓	✓	✓
Spatial Strategy: Countryside	✓ *	✓	-	*	✓	-	-	-	-	✓	* *	✓	✓ *	✓ *	* *	✓	-	?	?	-

6.3 Sustainable Development Strategy

6.3.1 Policy CS1: Distribution of Development

The policy should provide a good balance between focusing development in the key settlements whilst allowing for demonstrated local needs to be met in smaller settlements and rural areas. The growth in key settlements will help to support certain regeneration needs in the towns and improve levels of community vitality, with associated social and economic benefits. It will also help to service the needs of surrounding areas. By concentrating growth in Hemel Hempstead and the other larger settlements the impacts on the Borough's natural environment will be minimised.

6.3.2 Policy CS2: Selection of Development Sites; CS3: Managing Selected Development Sites

The sequential approach to the release of land and the management of site release proposed in the policies is predicted to have mainly positive effects against the majority of SA objectives. The approach to prioritising the development of sites within defined settlements will help reduce the need to develop in the Greenbelt, at least in the short to medium term, which will help to protect local landscapes. The same is the case for the prioritising of previously developed land, this helping to avoid the need to develop greenfield sites within settlements. Once the supply of brownfield sites has diminished the effects are more uncertain against the environmental objectives. Development within settlements is more sustainable in terms of reducing greenhouse gas emissions and maximising accessibility, particularly for those without access to private transport.

The phased approach in CS3 towards releasing sites looks to reduce impacts on communities by ensuring that sites aren't all released at the same time. However these effects will be dependent on the location of the site and the release date set within the Site Allocations DPD. Ensuring that all development is well located and accessible will help to reduce the need to travel and help towards meeting objectives for greenhouse gas emissions, air quality, health, equality, economy and fairer access to services. It will also help to improve the vitality and viability of settlements, particularly the town centres.

6.3.3 Policy CS4: The Towns and Large Villages

The policy supports a mix of uses for new developments which should help to maintain or improve the vitality and viability of town centres and the large villages. The provision of appropriately scaled employment opportunities, services and facilities to meet the needs of the local population will help to reduce the need to travel to other areas for day to day needs, whilst at the same time protecting the areas from developments which are incompatible with the local landscapes and townscapes. By aiming to meet the needs of local communities the policy will help to reduce inequalities, particularly for those without access to the private car as well as supporting local economies.

6.3.4 Policies: CS5 Green Belt; CS6 Selected Small villages in the Green Belt; CS7 Rural Area

Whilst allowing limited development in the villages/countryside could result in some adverse effects on soils, biodiversity and local landscapes the policies generally perform

well against the majority of the SA objectives. The policies allow for an appropriate level of development in the smaller settlements which should help to maintain community vitality and the viability of service provision as well as supporting local rural economies. The policies should also help reduce the need to travel to access local services as well as enabling access to everyday needs for those who do not have access to a private car. The policies also prevent the character of settlements from being adversely affected by an inappropriate scale of new development. If new employment development or countryside recreation activities result in an increase in vehicle use to travel into the area there would be adverse effects through increased greenhouse gas emissions.

6.3.5 Policy CS8: Sustainable Transport

The policy has been assessed as having positive effects against the majority of SA objectives. The policy aims to promote sustainable travel options which could contribute to a reduction in local air pollution and greenhouse gas emissions. The policy is also likely to bring health benefits through improving local air quality, reduced stress levels due to reduced congestion, and the promotion of walking and cycling leading to enhanced health and physical fitness benefits. Supporting alternative modes to the private car will increase the availability of alternatives for those without access to a private vehicle, increasing equality and reducing social exclusion, and fairer access to services. Providing efficient and accessible transport is essential in promoting economic growth and will therefore aid sustainable prosperity and growth. The promotion of walking, cycling and the use of public transport may enable greater interaction within communities and reduce severance associated with traffic, which could have positive effects for community identity and participation. Achieving a reduction in urban congestion will also help to make the town centre a more attractive place to visit, aiding the revitalisation of town centres.

6.3.6 Policy CS9: Management of Roads

The delivery of the Hemel Hempstead north-east relief road has been predicted as having some uncertain and negative effects as it would require development of some greenfield land. It may however help alleviate congestion within the Maylands Business Park, by providing an improved route for HGVs crossing the town.. However other elements of the policy have been assessed as having positive effects, particularly in relation to the safe movement of all road users which should encourage take-up of walking and cycling with associated health benefits. Directing all new development to the appropriate category of road should help to reduce adverse effects of traffic on local communities.

6.3.7 Policies: CS10 Quality of Settlement Design; CS11 Quality of Neighbourhood Design; CS12 Quality of Site Design; CS13 Quality of the Public Realm

The design policies have been forecast as having positive effects against many of the environmental objectives, with the natural and built environmental improvements that would be linked to the implementation of the policy being predicted to have associated positive effects on social and economic objectives. Improving the public realm should make urban areas more attractive places to live and also help to increase community identity and participation.

6.4 Strengthening Economic prosperity

6.4.1 Policies: CS14 Economic Development; CS15 Offices, Research, Industry, Storage and Distribution; CS16 Shops and Commerce

The policies support the development of a sustainable economy within the area and should help to reduce the need to travel to access employment opportunities. The policies aim to concentrate new development in Hemel Hempstead but should also help to maintain the vitality of local communities by enabling employment opportunities appropriate to the size and character of the settlements to be provided. The protection of employment areas should help ensure that communities do not suffer from the loss of important employment opportunities. No new employment land is proposed within the Greenbelt. However, existing designated employment sites within the Green Belt will be retained. These could potentially have adverse effects on local landscapes, although any redevelopment or intensification of use would need to be accompanied by landscape and wider environmental improvements.

New greenfield development of the gateway land at Hemel Hempstead could have impacts on biodiversity. By providing a range of employment opportunities and retail provision locally the needs of the local population are more likely to be met and this would have a positive effects in terms of reducing the need to travel (with associated greenhouse gas emissions) and providing fairer access to jobs and services. The jobs target has been reduced from that set out within the Draft Core Strategy to better reflect the planned level of future housing. Balancing homes and jobs provision will help reduce traffic congestion and carbon emissions which are exacerbated by high commuting levels.

6.5 Providing Homes and Community Services

6.5.1 Policy CS17: New Housing

6.5.1.1 Policy CS17: 430 dpa

Delivering this policy would result in the need for some development in the Greenbelt with associated adverse effects on some of the environmental objectives. Resource use will increase and there will be increased waste, increased emissions to air and some loss of tranquillity. Providing 430 dpa would put increased additional pressure on water resources and which could cause issues with potable water supply. The effect is likely to become more significant over time as more dwellings are built and risk of periodic water shortages increase. There is also uncertainty as to whether the local waste water treatment works will be able to accommodate this level of growth. Further water cycle study work will be required to support implementation of the proposals set out within the Core Strategy.

However the proposed level of new dwellings will help towards meeting the needs for new housing in the Borough and supporting the planned job expansion in Maylands, as well as the regeneration of Hemel Hempstead. The level of growth provides a balance between housing provision and planned new job creation. The policy will also result in the provision of affordable housing, and will help to maintain viability of existing services whilst also encouraging the provision of new and expanded facilities. This policy would go some way towards meeting the local housing need and could therefore help to reduce

levels of housing related ill health and low levels of wellbeing (e.g. as a result of overcrowding).

6.5.1.2 Dwellings based on ONS projections 2008: 538 dpa

In addition to the new housing policy contained in the Core Strategy, the SA has also assessed the potential impacts of the taking forward the 2008 Office for National Statistics (ONS) Projections of 13,450 houses total (equating to 538 dpa, i.e. 13,450 over 25 years).

Delivering this number of houses would result in the need for additional development on greenfield sites in the Greenbelt over Policy CS17, with associated adverse effects on many of the environmental objectives. In particular a significant adverse effect against the SA objective for landscape and townscape has been predicted. Resource use will increase and there will be increased waste, increased emissions to air and increased loss of tranquillity. The increased landtake also increases the potential for adverse effects on local biodiversity and archaeology, although these effects will be site dependent.

However, the higher levels of new dwellings could go further towards supporting the planned job expansion in Maylands as well as the regeneration of Hemel Hempstead. The option will result in a greater provision of affordable housing than Policy CS17, and will help to maintain viability of existing services whilst also encouraging the provision of new and expanded facilities. The imbalance between new homes and new jobs could however create issues relating to an under supply of jobs which may result in an increased need to commute out of the Borough for jobs.

This level of growth could result in higher level of new dwellings being provided in the villages and countryside of Dacorum which would better meet the natural population growth needs. However this would be dependent on policy decisions around how additional development would be distributed.

6.5.2 Policies: CS18 Mix of Housing; CS19 Affordable Housing; CS20 Rural Sites for Affordable Homes

These policies are forecast to have some significant positive effects against the social objectives as the provision of an appropriate mix of housing, including affordable housing aims will help to promote equality and social inclusion. The provision of rural sites for affordable homes could have some adverse effects on biodiversity and local landscapes, however this will be dependent on the sites selected.

6.5.3 Policies: CS21 Existing Accommodation for Travelling Communities; CS22: New Accommodation for Gypsies and Travellers

The policy performs well in terms of its contribution to achieving social objectives and it is likely to encourage a more participatory society. As a result significant positive effects have been identified for equality and social exclusion. The policies place constraints on the size and location of sites which should help to support achievement of some of the environmental objectives, however there could be some adverse effects dependent on the location and characteristics of the sites selected.

6.5.4 Policy CS23: Social Infrastructure

The provision of social infrastructure that provides service and facilities for the local community, as well as the protection of existing facilities, will help towards the achievement of many of the social objectives, particularly that for enhancing community identity and participation. However the provision of new school facilities on greenfield sites could have adverse effects on several of the environmental objectives although the effects will be dependent on the sites that are selected and the policy does aim to minimise effects on the countryside.

6.6 Looking after the Environment

6.6.1 Policies: CS24 The Chilterns Area of Outstanding Natural Beauty; CS25 Landscape Character; CS26 Green Infrastructure; CS27 Quality of the Historic Environment

The policies are forecast to have significant positive effects for biodiversity, cultural heritage and landscapes and other associated indirect positive effects, for example through green infrastructure helping to mitigate the effects of climate change. The protection and enhancement of the natural environment will also have positive effects on several of the social objectives, as creating a higher quality natural environment will encourage more people to use open spaces for recreation and will improve the attractiveness of local environments.

6.6.2 Policies: CS28 Carbon Emission Reductions; CS29 Sustainable Design and Construction; CS30 Sustainability Offset Fund; CS31 Water Management; CS32 Pollution Control

Significant positive effects relating to efficient water use, greenhouse gas emissions, remediation of contaminated land, waste reduction and energy efficiency have been predicted for this suite of policies. Other positive effects have been predicted against the environmental objectives particularly as a result of the sustainable design and construction policy. There is uncertainty as to how the provision of renewable energy generating equipment will affect local landscapes & townscapes as well as the historic environment. Limited effects have been identified against the social and economic objectives.

6.7 Place Strategies

A series of Place Strategies have been developed for each of the Borough's towns and large villages, together with the wider countryside. The role of these strategies is to take forward the settlement hierarchy. Within these place strategies, a number of strategic sites and local allocations have also been identified and along with the overall strategies these have each been assessed against the SA Framework. A summary of the findings is provided in the sub-sections below.

Where negative effects against SA objectives have been identified for certain sites, these will be mitigated through the application of other Core Strategy policies that are designed to reduce adverse effects and where possible deliver enhancements, as well as through site specific development requirements (e.g. the need to provide an additional healthcare facility).

6.7.1 Hemel Hempstead

Spatial Strategy

The level of proposed housing and employment development in the town is forecast to have negative effects for biodiversity and landscape and townscape as a result of loss of Greenbelt; water as a result of putting pressure on already under pressure resources and soils and use of brownfield sites as a result of development on greenfield land. Negative effects are also forecast on greenhouse gas emissions, air quality, and resource efficiency. Uncertainty has been identified in relation to flood risk, as a number of the potential housing allocation sites are located within flood risk zones.

Positive effects have been forecast against the majority of the social and economic objectives. For example, delivery of 8,800 new homes will help to meet local housing need, and enhancing employment, retail and leisure opportunities could make the town a more attractive place to live, work and visit.

Policy CS33: Hemel Hempstead Town Centre

Policy CS33 is forecast as likely to have positive effects on the majority of the objectives. For example, 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 greenhouse gas emissions and airborne emissions. Also focusing retail development and other town centre uses within the town centre should help to support the local economy and improve the viability and vitality of the area.

Policy CS34: Maylands Business Park

Policy CS34 which outlines design guidance for guiding development in Maylands is forecast as likely to have a positive effect on many of the objectives. For example, delivering a local centre in the Heart of Maylands should improve access to facilities and services and revitalise the local area. In addition, securing an integrated public transport network between the town centre and the rail station and the Business Park, as well as establishing an area wide Green Travel Plan and facilitating easier walking and cycling throughout the business park could reduce congestion, having a positive effect on the air quality and greenhouse gas emissions objectives.

The proposed delivery of a new north-eastern relief route has resulted in uncertain effects being forecast for biodiversity and landscape & townscape and adverse effects on soil and use of brownfield sites. Additionally, due to potential for induced traffic uncertain effects have been forecast on air quality and greenhouse gas emissions.

Local Allocation: West Hemel Hempstead

This allocation is forecast as having adverse effects on greenhouse gas emissions and air quality, as the site is located at a distance from shops and facilities, which could increase the need to travel. It is however noted that new facilities are planned as part of the development. Walking and cycling may be discouraged due to the topography of the area. Adverse effects have also been forecast for biodiversity, soils, and use of brownfield sites. The site is greenfield within the Greenbelt, and would therefore result in loss or damage of habitats, as well as soil sealing. The allocation would have a visual impact on the landscape of the Bulborne Valley, although this can be mitigated through the careful screening and layout of development.

In terms of health, the allocation is located at a distance from shops and facilities which could discourage walking and cycling, and the topography of the site may also

discourage these modes. The local health facilities are at capacity, which could have an adverse effect against the health objective. However a new doctor's surgery is one of the requirements of the development which would help to alleviate this issue.

In terms of equality and social exclusion, the allocation is located at a distance from local facilities, and local health facilities are at capacity. However there is potential capacity in local schools and a new two form entry primary school is required

Positive effects have been forecast against the majority of the social and economic objectives, including housing, sustainable prosperity and growth, and fairer access to services objectives. The allocation will provide up to 900 units of housing, including a proportion of affordable housing. The provision of additional housing means there will be more residents in the community, making facilities and shops more viable. This would help to support the local economy. However, this allocation could result in adverse effects on revitalising town centres, as by developing new homes in the Greenbelt around Hemel Hempstead this is not encouraging development in the centre of the urban area. Phasing of the local allocations to give priority to urban sites will help mitigate this impact.

Local Allocation: Marchmont Farm

This allocation is forecast as having positive effects on greenhouse gas emissions and air quality, as the site has good access to local facilities which could decrease the need to travel, reducing the level of growth in emissions.

Adverse effects have been forecast for biodiversity, soils, and use of brownfield sites. The site is greenfield within the Greenbelt, and would therefore result in loss or damage of habitats, as well as soil sealing. The allocation would have a visual impact on the landscape of the Gade Valley and Piccotts End, resulting in adverse impacts for landscape. Structural landscaping and the careful layout of development will help mitigate these effects.

The allocation is located near local facilities, which could encourage walking and cycling, resulting in positive effects on health. This allocation is considered to be more sustainable than other greenfield sites due to the proximity to the existing link road, schools and local shops.

Positive effects have been forecast against the majority of the social and economic objectives, including housing, sustainable prosperity and growth, fairer access to services objectives. The allocation will provide approximately 300 units of housing, including a proportion of affordable housing. The provision of additional housing means there will be more residents in the community, making facilities and shops more viable. This would help support the local economy. However, this allocation would result in adverse effects on revitalise town centres, as by developing new homes in the Greenbelt around Hemel Hempstead this is not encouraging development in the centre of urban areas. Phasing of the local allocations to give priority to urban sites will help mitigate this impact.

Local Allocation: Old Town

This allocation is forecast as having positive effects on greenhouse gas emissions and air quality, as the site has good access to local facilities, however walking and cycling may be discouraged due to the topography of the area.

Adverse effects have been forecast for biodiversity, soils, and use of brownfield sites. The site is greenfield and would therefore result in loss or damage of some habitats, as well as soil sealing. The site is located adjacent to the Old Town Conservation Area, and development may have an impact on its setting, resulting in uncertainty of the impact on historic and cultural assets. The layout and design of the scheme will help mitigate this impact. Development in the Greenbelt at this location would result in some adverse effects on local landscapes and townscape.

The allocation is located near local facilities, which could encourage walking and cycling, thereby having a positive effect on health, although the topography of the site may discourage these modes.

Positive effects have been forecast against the majority of the social and economic objectives, including the housing, sustainable prosperity and growth, and fairer access to services objectives. The allocation will provide housing, including a proportion of some affordable housing. The provision of additional housing means there will be more residents in the community making local facilities and shops more viable. This would help support the local economy. Development at this location close to the town centre supports the objective to focus new development in the centre of urban areas.

6.7.2 Berkhamsted

Spatial Strategy

Negative or uncertain effects are predicted for a number of the environmental objectives, as a result of the level of new housing proposed. Development on greenfield land could have adverse impacts on habitats and species, although the significance of the effect will be dependent on the biodiversity value of the sites to be developed. Housing development on greenfield land will also result in soil loss and soil sealing. New housing will adversely affect the capacity for the waste water treatment work with associated risks relating to poor water quality. In addition, housing development will result in an increase in greenhouse gas emissions, put demands on natural resources, and lead to increased waste generation.

Positive effects have been forecast against the majority of the social and economic objectives. Delivery of the spatial strategy should make the town a more attractive place to live and work by maintaining employment opportunities, providing housing, and protecting the key district shopping and service role of the town centre.

Strategic Site: Land at Durrants Lane/ Shootersway (Egerton Rothesay School)

Upgrading the existing school buildings and providing new homes is forecast as likely to result in a number of adverse environmental effects. The site is partly greenfield and therefore there would be loss of some habitats, as well as some soil sealing or loss. Although the school and housing development is located entirely outside of the Greenbelt, there could however be a visual impact, as it would result in the use of open space for development and playing pitches. The proposed new playing pitches would be located within the Greenbelt but this is an acceptable use under Greenbelt policy.

Providing 180 new homes will result in an increase in traffic and increased 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 greenhouse gas emissions and could also result in adverse impacts on air quality. The impact will be

mitigated by the planning requirement to promote sustainable transport options and reinforce cycle and pedestrian links.

Adverse effects have been forecast in relation to health, as the site is located at a distance from the town centre, which could discourage walking and cycling. There are plans for enhanced sports facilities and playing pitches which the development requirements specify these will be available for public use to help meet a local leisure deficit.

In relation to the other social objectives, upgrading the school building should improve the quality of the education facility and providing new homes should help to meet local housing needs, including those for affordable housing.

Positive effects have been forecast in relation to the economic objectives. Providing housing means that there is potential for more residents to live in the town, making facilities and shops more viable and this would help to support the local economy and maintain community vibrancy and vitality.

Local Allocation: Hanburys, Shootersway

In relation to this allocation adverse effects have been forecast for biodiversity, soils, use of brownfield sites and landscape, as the site is greenfield, within the Greenbelt and would therefore result in loss of landscape character, loss of habitats and soil sealing. Positive effects have been forecast on the housing, sustainable prosperity and growth, fairer access to services and revitalise town centres objectives. The provision of additional housing means there will be more residents in the community making facilities and shops more viable and this would help to support the local economy.

With regard to greenhouse gas emissions and air quality, the site is located at a distance from the town centre, which could encourage greater car use thereby leading to increasing emissions. The location of the site and the topography of Berkhamsted have also lead to the allocation being forecast as likely to have adverse effects on health, as active travel such as walking and cycling would be discouraged.

6.7.3 Tring

Spatial Strategy

Negative or uncertain effects are predicted for a number of the environmental objectives, as a result of the level of new housing proposed. Development on greenfield land likely due to the extent of the proposed new housing could have adverse impacts on habitats and species, although the significance of the effect will be dependent on the biodiversity value of the sites to be development. Housing development on greenfield land will also result in soil loss and soil sealing. New housing will adversely affect the capacity for the waste water treatment work with associated risks relating to poor water quality. In addition, housing development will result in an increase in greenhouse gas emissions, put demands on natural resources, and lead to increased waste generation.

Although development on edge of town could have an adverse effect on local landscapes, leading to some uncertainty in relation to the landscape objective, safeguarding the setting and distinctive nature of Tring and views along the High Street is forecast to have a positive effect. Positive effects are also forecast for historic and cultural assets, as the unique uses of the Zoological Museum and the auction rooms will be safeguarded and the historic High Street will be protected.

Positive effects have been forecast against the majority of the social and economic objectives. Delivery of the spatial strategy should make the town a more attractive place to live and work by maintaining employment opportunities, providing housing, and protecting the key local shopping and service role of the town centre. In addition, extension of the secondary school will help to improve educational provision in the town, and delivery of new open spaces and playing fields could provide opportunities for people to adopt healthier lifestyles.

Local Allocation: Icknield Way, West of Tring

As development of site would lead to development on greenfield land, within the Greenbelt and close to the Chilterns AONB, adverse effects have been forecast for the biodiversity, soils, use of brownfield sites and landscape & townscape SA objectives. The development requirements seek to mitigate these impacts through careful layout, design, density and landscaping. This site is located near to 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 greenhouse gas emissions and other emission to air. 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 increased levels of emissions.

Development of this site would provide for around 150 dwellings with the potential for affordable housing. However, the site is close to the A41, which means noise disturbance could affect the health and well-being of the new residents. Development would allow for open space; however it would not be large enough to fulfil all of the town's leisure space aspirations. Development of this site could involve the provision of some employment space, thereby helping to support the local economy. Also, the new housing on the site should help to support the local services in the town, maintaining their viability and boosting the local economy.

6.7.4 Kings Langley

Spatial Strategy

Negative or uncertain effects are predicted for a number of the environmental objectives, as a result of the level of new housing proposed. Development on greenfield land likely due to the extent of the proposed new housing could have adverse impacts on habitats and species, although the significance of the effect will be dependent on the biodiversity value of the sites to be development. Housing development on greenfield land will also result in soil loss and soil sealing. The level of development on greenfield land will however be relatively low as no local allocations are planned for the village. 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. The spatial strategy requires that new development be consistent with the distinctive character of the village and 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. However, uncertain effects are forecast on landscape and townscape as a result of potential for development on greenfield land. In addition, housing development will result in an increase in greenhouse gas emissions, put demands on natural resources, and lead to increased waste generation.

As the strategy recognises that the canal is an important part of Kings Langley and that all future development must relate well to the canal corridor positive effects are forecast on water quality and should help to maintain the water dependent wildlife sites in the area.

Positive effects have been forecast against the majority of the social and economic objectives. 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. Delivery of the spatial strategy should make the village a more attractive place to live and work, by providing housing and maintaining the role shopping and service role of the village centre. However, a number of local businesses are located on potential sites for housing and should this housing proceed these businesses could be lost. Therefore there remains some uncertainty in relation to the sustainable growth and prosperity objective. Close working with Three Rivers District Council will help mitigate this potential impact.

6.7.5 Bovingdon

Spatial Strategy

Negative or uncertain effects are predicted for a number of the environmental objectives as a result of the level of new housing proposed. Development on greenfield land likely due to the extent of the proposed new housing could have adverse impacts on habitats and species, although the significance of the effect will be dependent on the biodiversity value of the sites to be development. Housing development on greenfield land will also result in soil loss and soil sealing. New housing could adversely affect the capacity for the waste water treatment work with associated risks relating to poor water quality. In addition, housing development will result in an increase in greenhouse gas emissions, put demands on natural resources, and lead to increased waste generation. Development on the edge of the village could have an adverse effect on local landscapes; however the strategy is clear that views from the Well will be respected.

Positive effects have been forecast against the majority of the social and economic objectives. Delivery of the spatial strategy should make the village a more attractive place to live and work, by providing housing and maintaining the role shopping and service role of the village centre. Safeguarding Bovingdon Brickworks and HMP The Mount will help to protect local employment opportunities.

Local Allocation: Chesham Road/Molyneux Avenue

Development at this greenfield site would have adverse effects on biodiversity as it is located in a high value local wildlife corridor. Adverse effects have also been forecast for soils as a result of soil sealing, landscape & townscape as the site is located within the Greenbelt and air quality and greenhouse gas emissions as the site is separated from the village by a busy road, which could discourage cycling and walking.

Positive effects have been forecast for the majority of the social and economic objectives. The requirement to contribute towards educational and community facilities should have a positive effect on the equality and social exclusion and community identity and participation objectives. Developing this site could also provide a significant level of affordable housing. There is a busy road separating the site from the village centre which

may discourage the elderly, disabled people and children from moving around freely in the area.

An adverse effect has been identified in relation to crime as the site is located near the prison which could result in anxiety related to the fear of crime.

6.7.6 Markyate

Spatial Strategy and Strategic Site at Hicks Road

The level of new housing proposed in the village will require some limited 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. However, 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 the biodiversity objective.

Deculverting the River Ver could improve water quality and result in biodiversity enhancements. However, negative effects are also forecast in relation to water, as the provision of new housing may have capacity implications for the waste water treatment works with associated risks relating to poor water quality downstream of the works. 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, which will need to be mitigated through site design and layout. The development requirements require close liaison with the Environment Agency on this and related issues.

Housing development on greenfield land will result in soil loss and soil sealing. However, development on the Hicks Road site could result in the remediation of any contaminated soils, thereby improving soil quality.

Housing development will result in an increase in greenhouse gas emissions from the new housing and associated activities. In addition, the poor public transport connections in Markyate may result in higher car use to access the regenerated Hicks Road area. However as the 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 greenhouse gas emissions.

Positive effects have been forecast against the majority of the social and economic objectives. Delivery of the spatial strategy and redeveloping the Hicks Road site should make the village a more attractive place to live and work by providing a range of services, employment and housing. 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. It should be noted that the new housing on the Hicks Road site would be affected by noise from commercial operations, as well as from the nearby A5. This can be mitigated through the careful design and layout of the site.

6.7.7 Countryside

Spatial Strategy

Positive effects have been forecast for a number of the environmental objectives as a result of the strategy's aim to protect and enhance biodiversity, tranquillity and key landscape features. The production of Conservation Area Appraisals and use of the

Chilterns Buildings Design Guide will help to protect the character and setting of villages. In addition, supporting the retention of village services and facilities will help reduce the need to travel to access day to day needs, thereby having a positive effect on the greenhouse gas emissions objective.

However, 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 and some soil loss and sealing. Village developments could also result in some adverse effects on local landscapes.

A number of positive effects have been identified in relation to the social and economic objectives. 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. The potential for new community facilities and the support for farm diversification should strengthen the vitality of rural communities. Also the strategy recognises that there is a clear need to retain village facilities and services. This will help ensure that the villages remain attractive places in which to live and work and also contribute to providing a sense of community and identity.

Although the strategy allows for proposals which would go part of the way towards meeting local housing needs, particularly those for affordable housing, there will be fewer houses built than if the full housing need from natural population growth were to be accommodated. As a result there is likely to be increased pressure on housing in sought after villages.

Several uncertainties have been identified in relation to the objectives on sustainable prosperity and growth and fairer access to services. Although the strategy supports the development of the rural economy, including farming and green tourism, which should help to provide a range of local employment opportunities, it could also result in those who work in rural areas having to move to towns in order to find suitable affordable housing. The smaller number of houses and the subsequent decrease in predicted overall population of settlements may also mean that local services are no longer viable and are forced to close. The development of rural sites for affordable homes (Policy CS20) will help mitigate this impact.

6.8 Implementation and Delivery

6.8.1 Policy: CS34 Infrastructure and Developer Contributions

By requiring the provision/contribution towards physical, social and green infrastructure, positive effects have been forecast for a range of objectives. There could be some environmental enhancements resulting from the provision of green infrastructure as well as benefits to the local communities. Ensuring that new physical infrastructure is provided will help to avoid overloading existing infrastructure such as waste water treatment works, both protecting material assets as well as helping to avoid adverse effects on the natural environment. The provision of social infrastructure will support social objectives, whilst new physical infrastructure will help support the local economy.

6.9 Assessment by SA/SEA Topic Areas

The following section summarises the assessment of the Core Strategy by SA/SEA objectives. This includes the consideration of cumulative, synergistic and secondary effects.

6.9.1 Biodiversity

Policies aimed at concentrating housing and employment development in the urban areas and away from greenfield sites should help to protect, maintain and enhance designated sites and their buffer zones. It should reduce the loss of agricultural land which may have biodiversity value. However, given the level of proposed housing there is likely to be some development of greenfield land which could have adverse impacts on habitats and species due to landtake, habitat fragmentation and urban pollution issues. In addition there could be some possible adverse secondary effects on biodiversity as a result of increased water abstraction. The significance of the effect will be dependent on the biodiversity value of the greenfield land to be developed. In addition, encouraging economic development could mean additional land take, which could have adverse impacts on habitats and species. The implementation of the Hemel Hempstead North East Relief Road will also require a small amount of greenfield land. Cumulatively there could be adverse effects on biodiversity, depending on the level of housing and other development provided and the sites taken forward.

To counter this, significant positive effects on this objective have been forecast as a result of Policy CS26 which promotes the protection, extension and enhancement of a network of green infrastructure which should help to enhance biodiversity and could help to achieve Biodiversity Action Plan targets depending on the habitats created. This policy also supports the conservation and management of important habitats and species by protecting designated sites. Positive effects have also been forecast as a result of Policy CS10 which specifically aims to protect identified wildlife corridors and preserve and enhance green gateways. The objective is further supported by Policy CS12 which requires new developments to ensure that important trees are retained, encourages the planting of trees and shrubs, and the incorporation of trees, living walls and soft landscaping, all of which should all have positive effects on biodiversity.

6.9.2 Water, Flood Risk and Soil

Dacorum Borough is within an area already identified as 'over-abstracted' (Colne CAMS, EA). Providing additional housing will put direct pressure on scarce water resources with the effect likely to become more significant over time as more dwellings are built and risk of periodic water shortages increase. There is also uncertainty whether the local waste water treatment works will be able to accommodate the levels of proposed growth with any overload of the sewerage system potentially resulting in adverse effects on water quality. Housing growth will also result in greater areas of impermeable surfaces with a corresponding increase in the risk of polluted run-off entering watercourses.

However, significant positive effects on this SA objective have been identified as a result of three policies. Policy CS29 aims to safeguard water supplies. Policy CS31 promotes the efficient use of water in both the construction of, and through the occupancy of, new developments which should also progress this objective and mitigate the potential adverse effects. Policy CS30 provides funding for water efficiency improvements in the existing housing and public building stock. In addition, minimising emissions of

pollutants into the natural environment, i.e. into the ground, atmosphere or water, should have a positive effect on protecting and maintaining water quality.

In relation to flood risk, policies aimed at encouraging development that avoids Flood Zones 2 and 3 and requires Flood Risk Assessments to be submitted with planning applications in these areas should help to progress this SA objective. In addition the requirement for the use of permeable surfaces within urban areas (Policy CS29) should also help to reduce flood risk, as could the provision of trees, living walls and soft landscaping (Policy CS13). Requiring development to enhance green infrastructure could also help to reduce flood risk.

Policies aimed at protecting open spaces and limiting development in the countryside and on open land should help to preserve the natural environment and biodiversity. This could lead to indirect positive effects on soils. However, the level of proposed housing and economic development will result in some soil sealing and soil loss as a result of development on greenfield land.

6.9.3 Climatic Factors and Air Quality

Housing development will result in an increase in greenhouse gas emissions from energy used in new housing and associated activities including increases in traffic. Building a minimum of 10,750 new homes could lead to an increase in green house gas emissions of approximately 61,920 tonnes per annum⁷. In addition, delivering the proposed level of housing growth will require some development in the Greenbelt on the edge of settlements. This could result in increased car use to access town centre services with associated increases in CO₂ emissions, particularly if existing congestion is exacerbated.

However, significant positive effects have been forecast as a result of Policy CS28 which seeks carbon emission reductions in the generation and use of energy, building design and construction and the use of transport. Policy CS30 which provides funding for energy efficiency improvements in the existing housing stock should also progress this SA objective. In addition, the various policies which reduce the need to travel, i.e. through focusing development in the main centres, ensuring that all development will be well located and accessible, and supporting a mix of uses for new development, should have positive effects on reducing the growth of greenhouse gas emissions from transport. Policies which aim to reduce private car use and encourage alternative forms of sustainable transport through creating better public transport links and interchanges, providing better pedestrian links and additional cycle lanes could also help to reduce greenhouse gas emissions.

Both positive and negative effects have been described above, however in the absence of detailed modelling of greenhouse gas emissions it is not possible to determine what the overall cumulative effect of implementing the Core Strategy will be in relation to climatic factors.

Transport is a key source of air pollution. Similar to greenhouse gas emissions, focusing housing and economic development in the main settlements and making developments accessible should help to reduce the need to travel and the average distance travelled

⁷ This is based upon estimated per capita domestic CO₂ 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].

which should have a positive impact on reducing pollutants from transport. Also, encouraging the use of more sustainable modes of transport such as walking, cycling and passenger transport over the use of private car should have a positive effect on reducing pollutants from transport. Policies aimed at minimising emissions of pollutants should also have a positive effect on local air quality. However, allowing for housing and economic development will contribute to background emissions through an increase in vehicles on the road therefore having an adverse affect on air quality.

6.9.4 Cultural Heritage and Landscape

In the main, positive effects are forecast in relation to both the cultural heritage and landscape objectives. For example, the policies aiming to allow development that supports the existing character of a village and/or surrounding area and respects local character could encourage enhancement or protection of the historic environment. Similarly, the policies that protect and enhance the Green Belt, rural area and Chilterns AONB should have a positive effect on safeguarding and enhancing landscapes and townscapes. In addition, focusing growth in Hemel Hempstead and restraining growth in the countryside should reduce impacts on the Borough's rural landscapes.

Several policies, especially CS10 and CS11, aim to protect or enhance the views and the landscape character of surroundings. Policy CS10 aims to preserve and enhance identified green gateways, having positive impacts on landscape, and Policy CS14 should help to protect and enhance townscapes. The good design promoted through these policies should have overall positive effects on this objective.

However, constructing new dwellings is likely to result in some adverse effects on landscapes and townscapes. The effects will be more significant in the long term once brownfield sites have been used up and houses will have to be built on greenfield sites on the edge of settlements.

Significant adverse effects have been forecast if the Council were to adopt the housing level required to meet the 2008 ONS household projections. This would require more greenfield sites and additional Greenbelt land to be released with associated adverse effects on local landscapes and the potential for coalescence of settlements. There would also be a loss of tranquillity and increased light pollution in the area affected by the new developments.

Policy CS15 encourages economic development in Employment Areas within the Green Belt which could have adverse impacts on landscape, whilst other economic developments could have a visual impact on the landscape. However, retained Local Plan policies require layout and landscape improvements if any redevelopment of these sites occurs. In addition, the proposed delivery of a new north-eastern relief route could have negative implications on local landscape depending on the route/land take.

6.9.5 Population and Human Health

Although there is some uncertainty as a result of new housing development putting pressure on existing health care facilities, overall positive cumulative effects are forecast in relation to health. The policies aimed at focusing development in Hemel Hempstead and other market towns/large villages and making all development accessible could provide opportunities for physical activity by promoting access to recreation and by providing walkable and cyclable neighbourhoods, thereby encouraging healthy lifestyles.

In addition, promoting more sustainable modes of transport and giving priority to healthy forms of transport over the private car should encourage more active travel such as walking and cycling and should also help to improve air quality with associated health benefits.

Policy CS17 should help to meet local housing need and could therefore help to reduce levels of housing related ill health and low levels of wellbeing (e.g. as a result of overcrowding), while encouraging high quality development, such as that which considers protecting and enhancing significant views, protecting green gateways and promoting open spaces, could help to progress the human health objective as it encourages people to walk and cycle, which has positive implications for this objective. In addition, encouraging services and facilities to be provided for the community, including recreational facilities, as well as health services, would have a positive impact on this objective.

6.9.6 Equity, Housing, Communities and Crime

In general positive effects have been forecast in relation to the social factors, concerning equity, housing, community identity and crime. Providing a minimum of 10,750 new homes should help to progress the housing objective by increasing the number of houses available.

Significant positive effects have also been forecast in relation to policies which promote a mix of housing types and also those that require a minimum of 75% of the affordable housing units to be for rent helping to meet the needs of the more disadvantaged sections of society and the provision of housing for those with special needs. Significant positive effects have also been forecast in relation to the provision for gypsy and traveller sites.

Apart from a number of uncertainties in relation to new housing resulting from the potential for pressure to be put on existing facilities, positive effects have been forecast in relation to the SA objective on community identity and participation. For example, enhancing neighbourhood service provision in local centres should help to improve access to community services thereby making areas more attractive places to live, and development that respects local character should help maintain local identity. Policy CS23 Social Infrastructure encourages services and facilities to be provided for the community, which should enhance the community identity and thus have a significant positive effect on this objective.

Focusing development in locations which are most accessible by all forms of transport should improve access to facilities and services, particularly for those people without access to a private car. Also releasing sites for development based on the benefits it will bring to the settlement could have a positive effect on this objective.

No issues have been identified in relation to the Core Strategy potentially discriminating on the basis of disability, gender or ethnic minority. The provision of affordable housing, employment opportunities and community services will not necessarily benefit particular groups but should ensure increased access and opportunities for all.

Developing the level of homes set out in the 2008 ONS household projections would potentially result in more new dwellings being provided in the villages and countryside of Dacorum which would meet the natural population growth needs. The higher levels of affordable housing under this option would potentially also allow a larger number of

people to remain living in their local area. In addition, the larger number of houses could also help to make local facilities more viable, thereby preventing them from closing which would be particularly to the detriment of the more vulnerable members of the community (e.g. the elderly). It is important to note however that higher levels of growth under this option would put significant pressure on local infrastructure, particularly schools, many of which are already under pressure.

6.9.7 Economic Factors

The strategy is forecast to have a positive cumulative effect on economic factors, including sustainable prosperity, fairer access to services and revitalising town centres. Providing for economic growth in Hemel Hempstead should help to develop the local economy, leading to the provision of employment opportunities close to the major residential areas in the Borough and should contribute to improving the viability and vitality of the town centre. Significant positive effects have been forecast for the sustainable prosperity and growth objective in relation to the set of policies on economic development. Limiting the level of development in the market towns and large villages will help to maintain Hemel Hempstead as the key centre in the Borough and not undermine its key service role. While, improving neighbourhood service provision should promote the role of local centres.

Providing efficient and accessible transport is essential in promoting economic growth and will therefore aid sustainable prosperity and growth. For example, the proposed delivery of a new Hemel Hempstead North East Relief Road could improve the access to services and facilities and help minimise the impact of HGV movements. Achieving a reduction in urban congestion will also help to make the town centre a more attractive place to visit, aiding the revitalisation of the town centre. In addition, promoting the use of sustainable modes of transport could improve access to employment for those without access to a private vehicle.

The policies aimed at improving the public realm should attract people to the area, and thus help to improve the local economy. The high quality design of settlements could also have indirect positive effects on the local economy through the encouragement of new businesses to start up in these areas.

6.10 Cross Boundary Effects

Any housing and economic growth could have an effect on neighbouring areas through an increase in traffic and associated environmental and social impacts. Housing and employment development, particularly in the east of Hemel Hempstead could have an effect on St Albans. It should be noted that any housing development on the western edge of St Albans could have similar effects on Hemel Hempstead. Any housing development proposed in St Albans District, on the eastern edge of Hemel Hempstead, will be formally assessed through the SA/SEA being undertaken on the St Albans LDF. The SA of the St Albans LDF is being undertaken using the same methodology as for the Dacorum LDF SA and as appropriate the findings of the SA on the St Albans LDF and any cross boundary effects will be considered within the SA of the Dacorum LDF.

Increasing employment opportunities, particularly in Hemel Hempstead, may provide jobs for communities located outside of the Borough, within the immediate sub-region.

Due to the inter-connected nature of the water environment which links many rivers, streams and groundwater, any negative effects on water resources could be felt in the surrounding areas. Joint working with adjoining authorities is taking place on water cycle issues. A number of other pieces of technical work have been undertaken jointly with other authorities to ensure that cross-boundary issues are assessed, for example employment and housing studies.

6.11 Inter-relationships

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

The development of sites (residential, employment, shopping etc) may show inter-related effects on criteria such as biodiversity, air quality, greenhouse gas emissions, landscape and townscape depending on where they are located, how the development takes shape/is designed, and how it is accessed.

Positive effects can also occur from inter-relationships, for example, protecting landscape quality and/or soil, may lead to habitats and species being indirectly protected.

6.12 Difficulties encountered in undertaking the assessment

Although a range of local and regional information and studies were available to inform the assessment process, due to the strategic nature of the policies and insufficient information at a detailed site level, some effects were recorded as uncertain. These uncertainties are likely to be reduced as more detail is provided to the Local Development Framework through the Site Allocations, Development Management, and Area Action Plan DPDs.

7 Mitigation and Recommendations

7.1 Background

A key role of the SA/SEA is to provide recommendations as to how the sustainability performance of a plan can be improved. The Core Strategy includes a range of policies that seek to prevent and where possible enhance the environment and overall sustainability of development. The SA/SEA has built on this by identifying a range of recommendation as to how the Core Strategy can maximise its performance against the range of sustainability topics. Some of these recommendations seek to mitigate potential adverse effects, whilst others look to build on some of the opportunities that are provided by the Borough's natural environment.

Whilst undertaking the SA assessment of the Working Draft Core Strategy in July 2010 a number of specific recommendations, were suggested to DBC. The majority of these recommendations were taken on board as the Core Strategy developed into its current form. These are summarised in Table 7-1.

Table 7-1: Policy Related Recommendations

Location	Recommendation	Action Taken
Borough Vision	Cross refer to local visions and their role.	Actioned.
Strategic Objectives	Include a new / amended objective to cover the issues of healthy communities.	Actioned.
Policy CS3	Refer to strategic sites under the delivery section.	Actioned.
Policy CS6	Amend the policy title for clarity.	Actioned.
Para 9.3	Add reference to reducing the need to travel (by both car and non-car modes).	Actioned.
Policy CS8	Check wording of clause (c) for clarity. This should relate to the linking of different transport modes.	Actioned.
Policy CS10	Clause (g) – refer to 'protect and enhance.'	Actioned.
Policy CS12	Amend the location of the word 'and' as this clarifies that all clauses must be met.	Actioned.
Para 11.12	Add a brief reference to the role of telecommunications, the internet etc.	Actioned.
Policy CS14	Add supporting text to justify the jobs target in the light of the lower levels of housing growth now proposed.	Actioned.
Table 7	Provide greater clarity within the document regarding the differences between the two housing options and their implications for different places.	Actioned.
Para 16.7	Delete the words 'if they are not in the vicinity of new housing development.'	Actioned.
Para 17.14	Delete 'and Habitat Regulations Assessment issues.'	Actioned.
Policy CS28	Amend wording to better reflect available evidence and the loss of the Regional Spatial Strategy policy.	Actioned.
Policy CS29	Refer to 'impermeable' rather than 'hard' surfaces.	Actioned.
Para 19.36	Refer to any strategic waste sites that may be planned.	Actioned.

	Refer to minerals and waste safeguarding areas.	
Policy CS31	Refer to 'impermeable' rather than 'hard' surfaces. Check that the text does not repeat national policy. Amend clause (e) to refer to 'Groundwater Source Protection Zones.'	Actioned.
Policy CS32	Ensure policy covers air quality in areas that aren't AQMAs, but are borderline. Amend final paragraph to read 'Any development proposal which would cause harm from a significant increase in pollution.....' Check that supporting text covers hazardous substances.	Actioned.
Introduction to Place Strategies	Common local objectives – clarify tenth bullet point. Access to what? Explain how the indicative targets for each place have been derived for the two housing options and how they relate to the housing programme.	Actioned.
Hemel Hempstead Place Strategy	Check the vision for clarity i.e. who is it we are intending to entice? Visitors or new businesses? Clarify figures in the local objectives.	Actioned.
Policy CS8 (b)	Consider whether the reference to Policy CS29 is appropriate.	Delete reference.
Policy CS8	Consider whether a requirement for green travel plans for large development schemes should be referred to,	Include the reference in delivery section.
Policy CS8	Consider how infrastructure for cycling can be incorporated into new development.	Noted. No change is necessary.
Policy CS12	Consider referring to "Secured by Design" to complement Policies CS11 and CS13.	Add security to the list of factors in the policy.
Policy CS15	Clarify meaning of the second paragraph (referring to the employment land supply being maintained).	Delete paragraph.
Policy CS16	Strengthen policy to refer to good public transport accessibility. It is assumed rather than stated that by locating retail development in town centres it would be close to public transport routes.	Noted. No change is necessary to the policy. However the sequential approach referred to in the policy can be expanded to cover accessibility.
Policy CS33	Consider measures to 'lock in' the benefits of reduced traffic such as pedestrianisation and demand management.	Noted. No change is necessary to the policy. However the Town Centre Master Plan should consider appropriate traffic management (which is referred to in the policy) further.

In addition the comments received in relation to the SA from the different stages of consultation (see Section 1.6) have been taken into account to help update the sustainability appraisal and in turn feed through to changes in the Core Strategy.

7.2 SA/SEA influence on the development of the Core Strategy

To date the SA/SEA had had a range of influences on the development of the Core Strategy. Close liaison between the planning officers and SA/SEA consultants has meant that the SA/SEA has provided input at many stages during the development of the Core Strategy.

When the Core Strategy is adopted it will be accompanied by an SEA Adoption Statement which will need to describe how the Core Strategy has been influenced by the SA/SEA. Influences to date include the following:

- A Scoping Workshop attended by a wide range of stakeholders provided a useful forum for discussing environmental and other sustainability issues and how the LDF could respond to these issues. The workshop also helped in determining the scope of the SA/SEA;
- Production of the SA/SEA Scoping Report identified issues that the Core Strategy will need to help address. The information within the Scoping Report will also contribute to the LDF evidence base;
- Provision on input into the development of the Core Strategy objectives;
- Assessment of the Issues and Options and other emerging policy documents, which assisted in the process of formulating the Draft Core Strategy;
- Provision of ongoing input in relation to the development of the Core Strategy and its detailed policies and strategic allocations;
- Providing input during the development of the methodology for assessing strategic development locations and sites;
- Assessment of the Draft Core Strategy and providing recommendations for additions and changes; and
- Providing an assessment of changes incorporated into the Pre-Submission Core Strategy.

8 Monitoring

8.1 Introduction

The SEA Directive requires that the significant environmental effects of implementing a plan are monitored so that appropriate remedial actions can be taken if required.

The monitoring put in place needs to fulfil the following requirements:

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

The monitoring measures recommended in this report should be considered draft as this is based on assessment of the draft Core Strategy, which may be altered after the public examination or the baseline position may change at the time of adoption of this framework. Additionally the framework should be flexible to adapt to any changes in monitoring methods.

8.2 Approach to Monitoring

The SEA Directive (Article 10 (1)) allows for existing monitoring arrangements to be used if appropriate. Monitoring may cover several plans or programmes as long as sufficient information about environmental effects is provided for the individual plans or programmes.

Monitoring measures need not always relate to quantitative indicators, but could include, for example, monitoring to ensure that any Environmental Impact Assessments of major projects incorporate the recommendations made in the SEA.

A range of potential monitoring indicators are described below in Table 8-1 based on the indicators identified in the SA Framework. Indicators identified for monitoring the Core Strategy will also be considered for inclusion in the monitoring framework where appropriate.

The monitoring measures are likely to require alteration as the plan develops. Any such alterations will be documented in the SEA Statement which will be prepared to accompany the adoption of the Core Strategy.

8.3 Monitoring Requirements

The monitoring requirements typically associated with the SA/SEA process are recognised as placing heavy demands on authorities with SA/SEA responsibilities. For this reason, it is proposed that the monitoring framework will focus on those aspects of the environment that are likely to be significantly impacted upon, or where the impact is uncertain.

The assessment identified one significant adverse effect on the Landscape and Townscape objective. However this was in relation to the 2008 ONS Housing Projections

which was the high growth option that was included in the assessment, but which does not form part of the Pre-Submission Core Strategy.

Additionally, identified significant positive effects against the following objectives which will need to be monitored:

- Biodiversity in relation to Policies CS24 The Chilterns Area of Outstanding Natural Beauty; CS25 Landscape Character; CS26 Green Infrastructure; CS27 Quality of the Historic Environment.
- Water Quality/Quantity in relation to Policies CS28 Carbon Reduction Emissions; CS29 Sustainable Design and Construction; CS30 Carbon Offset Fund; CS31 Water Management; CS32 Air, Soil, Water.
- Greenhouse Gas Emissions in relation to Policies CS28 Carbon Reduction Emissions; CS29 Sustainable Design and Construction; CS30 Carbon Offset Fund; CS31 Water Management; CS32 Air, Soil, Water.
- Use of Brownfield Sites in relation to Policies CS28 Carbon Reduction Emissions; CS29 Sustainable Design and Construction; CS30 Carbon Offset Fund; CS31 Water Management; CS32 Air, Soil, Water.
- Resource Efficiency in relation to Policies CS28 Carbon Reduction Emissions; CS29 Sustainable Design and Construction; CS30 Carbon Offset Fund; CS31 Water Management; CS32 Air, Soil, Water.
- Historic and Cultural Assets in relation to Policies CS24 The Chilterns Area of Outstanding Natural Beauty; CS25 Landscape Character; CS26 Green Infrastructure; CS27 Quality of the Historic Environment.
- Landscape & Townscape in relation to Policies CS24 The Chilterns Area of Outstanding Natural Beauty; CS25 Landscape Character; CS26 Green Infrastructure; CS27 Quality of the Historic Environment.
- Equality & Social Exclusion in relation to Policies CS17 Housing Programme (Option 3); CS18 Mix of Housing; CS19 Affordable Housing; CS20 Rural Exception Sites; CS21 Existing Accommodation for Travelling Communities; CS21 New Accommodation for Gypsies and Travellers.
- Good Quality Housing in relation to Policies CS18 Mix of Housing; CS19 Affordable Housing; CS20 Rural Exception Sites.
- Community Identity & Participation in relation to Policy CS23 Social Infrastructure.
- Sustainable Prosperity in relation to Policies CS14 Economic Development; CS15 Offices, Research, Industry, Storage and Distribution; and CS16 Shops and Commerce.

Potential monitoring indicators for each of the SA objectives are included in the SA Framework in Table 8-1. In addition, within the Pre-Submission Core Strategy monitoring indicators are proposed for each of the policies which could also address the monitoring requirements of the SA.

A draft monitoring framework will be proposed in the Sustainability Report to accompany the Submission Core Strategy. The final monitoring plan will be published in the SA/SEA Statement, alongside the adopted Core Strategy. The SA monitoring will be published as

part of the Annual Monitoring Report for the LDF which will be the responsibility of Dacorum Borough Council.

Table 8-1: Potential Monitoring Indicators

SA Objective	Potential Indicators
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	<p>Herts QoL WH6 Condition of SSSIs (contextual indicator) and HBRC number, area and condition of SSSIs</p> <p>HBRC Change in areas designated for their intrinsic value</p> <p>HBRC Change in Priority Habitats</p> <p>Herts QoL WH3 Wildlife Sites and HBRC number and area of Wildlife Sites</p> <p>HBRC no. of Wildlife Sites lost or degraded by development or gained/secured by agreements</p> <p>Herts QoL WH1 Water voles</p> <p>Herts QoL WH2 Birds (contextual indicator)</p> <p>Herts QoL WH4 Pipistrelle bats</p> <p>Herts QoL WH5 Butterflies</p> <p>HBRC distribution/change of key species in Herts</p> <p>HBRC distribution/change of protected species in Herts</p> <p>COI 8 Changes in areas and populations of biodiversity importance</p>
2. To protect, maintain and enhance water resources (including water quality and quantity) while taking into account the impacts of climate change	<p>Average household water consumption per capita</p> <p>Commercial water consumption</p> <p>Proportion of housing (existing and new development) with installed water efficient devices/water meters</p> <p>Herts QoL WR3 River quality objectives</p> <p>EA Biological and chemical river quality (contextual indicator)</p> <p>Number and severity of pollution incidents to surface water and groundwater</p>
3. Ensure that new developments avoid areas which are at risk from flooding and natural flood storage areas	<p>Number of properties at risk from flooding</p> <p>Proportion of runoff from new developments which is directed into Sustainable Urban Drainage Systems (SUDs)</p>
4. Minimise development of land with high quality soils and minimise the degradation/loss of soils due to new developments	<p>Amount of high quality agricultural land degraded/lost to development</p> <p>Area/percentage of contaminated land remediated</p> <p>Number of development sites having a policy to safeguard soils</p> <p>Area of proposed new developments on greenfield sites</p>
5. Reduce the impacts of climate change, with a particular focus on reducing the consumption of fossil fuels and levels of CO ₂	<p>NAIE Emissions of greenhouse gases (particularly CO₂) per capita grouped per type of source</p> <p>BV 63 Energy efficiency - average SAP rating of authority dwellings</p> <p>BV 80a (i) Actual/'Typical' energy consumption LA buildings - electricity</p> <p>BV 80a (ii) Actual/'Typical' energy consumption LA buildings - fossil fuels</p> <p>Herts QoL EN1 Energy efficiency in homes - overall reduction in CO₂ emissions %</p> <p>Herts QoL EN2 Energy efficiency in public buildings</p>

6. Ensure that developments are capable of withstanding the effects of climate change (adaptation to climate change)	Percentage of new developments considered to be 'climate change proof' (For indicators regarding renewable energy see section on material assets)
7. Achieve good air quality, especially in urban areas	NAIE Levels of key air pollutants (e.g. Benzene, 1,3-Butadiene, CO ₂ , Lead, NO ₂ , PM10, SO ₂) within the local authority area, and within the East of England Herts QoL QoL27 Air Pollution Herts QoL TR1 Volume of motor traffic Herts QoL TR2 Modal split Number of days when air pollution reported as moderate or higher within the local authority area Number of designated AQMAs
8. Maximise the use of previously developed land and buildings, and the efficient use of land	COI 1(a) & (c) Amount of land developed for employment by type and percentage which is on previously developed land COI 1(b) Amount of land developed for employment by type, which is in development and/or regeneration areas defined in the LDF COI 2(b) Percentage of new and converted dwellings on previously developed land COI 2(c) Percentage of new dwellings completed at: less than 30, between 30 and 50 and above 50 dwellings per hectare Herts QoL LU3 Residential development on previously developed land BV106 % of new homes built on previously developed land
9. To use natural resources, both finite and renewable, as efficiently as possible, and re-use finite resources or recycled alternatives wherever possible	Amount and percentage of secondary and recycled materials (including minerals and aggregates) used in construction BV82a Household waste - percentage recycled BV82b Household waste - percentage composted BV82c Household waste - percentage of heat, power and other energy recovered BV82d Household waste - percentage landfilled BV84 Kg of household waste collected per head Herts QoL WS1 Household waste per capita Herts QoL WS3 Percentage of waste recycled Proportion of developments which incorporates design measures to facilitate sustainable household waste management
10. To identify, maintain and enhance the historic environment and cultural assets	Number of Listed Buildings at Risk Number and condition of Scheduled Ancient Monuments (SAMs) Number and condition of Registered Parks and Gardens Number of Conservation Areas % of Conservation Areas with character appraisals Percentage of historic buildings and structures open to the public Numbers of historic assets taken from the 'at risk' category Number of historic assets restored/reused Number of locally important buildings to be demolished

	<p>Changes inconsistent with historic landscape</p> <p>Quality in the built environment as measured by public perception surveys</p> <p>A measure of increased public access or interpretation of sites</p>
11. To conserve and enhance landscape and townscape character and encourage local distinctiveness	<p>CQC Changes inconsistent with (local) landscape character</p> <p>Area of designated landscapes affected by/lost to development</p> <p>CPRE Light pollution and tranquillity mapping</p>
12. To encourage healthier lifestyles and reduce adverse health impacts of new developments	<p>Length and condition of cycle / footpath network</p> <p>Number and condition of sports facilities</p> <p>COI 4(c) Percentage of eligible open spaces managed to green flag award standards</p> <p>Percentage of population with access to public open space</p> <p>Herts QoL NO1 Noise complaints received per 1000 population</p> <p>Herts QoL NO2 Source of noise complaints</p>
13. To deliver more sustainable patterns of location of development	<p>Percentage of health facilities accessible by sustainable modes of travel</p> <p>Herts QoL TR2 Modal split</p> <p>Accessibility modelling</p>
14. Promote equity & address social exclusion by closing the gap between the poorest communities and the rest	<p>Index of Multiple Deprivation</p> <p>BV156 % of local authority buildings suitable for and accessible by disabled people</p> <p>BV170a Number of visits to/usage's of museums per 1,000 population</p> <p>BV 117 Visits to libraries Number per capita</p> <p>Herts QoL SE3 Transport: access to public services</p> <p>COI 3(b) Percentage of new residential development within 30 minutes of a GP, hospital, primary & secondary school, employment and major health centre</p> <p>Herts QoL ED1 GCSE performance</p> <p>Herts QoL ED2 Adult education level 2*</p> <p>Herts QoL QoL9 Young people with Level 2 qualifications</p> <p>BV38 % of pupils achieving 5 or more GCSEs at grades A* - C or equivalent</p> <p>% pensioners in households with below average income</p> <p>% children in households with below have half average income</p>
15. Ensure that everyone has access to good quality housing that meets their needs	<p>COI 2(d) Affordable housing completions</p> <p>BV184a LA homes which were non-decent at start of year</p> <p>BV184b Change in proportion on non-decent homes (negative means deterioration in stock)</p> <p>Herts QoL HS1 Affordable housing (house price/earnings affordability ratio)</p> <p>Herts QoL HS2 Statutorily unfit homes</p> <p>Herts QoL HS3 Homelessness</p>
16. Enhance community identity	<p>Number of community facilities per 10,000 population</p>

and participation	Town centre health checks CABE design review of schemes with significant impacts (if conducted)
17. Reduce both crime and fear of crime	BV126a Burglaries No. per 1,000 households BV127a Robberies per 1000 population and percentage detected BV127b violent offences committed in a public place per 1,000 population BV127c violent offences committed in connection with licensed premises per 1,000 population BV127d violent offences committed under the influence per 1,000 population BV128a Vehicle crimes No. per 1,000 population BV174 Number of recorded racial incidents per 100,000 population Fear of crime statistics
18. Achieve sustainable levels of prosperity and economic growth	Herts QoL EC1 Percentage rise in GVA Herts QoL UN1 Long term unemployment Herts QoL QoL1 Proportion of people of working age in employment COI 1(f) Amount of employment land lost to residential development Business start up failures
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	Herts QoL QoL5 The percentage increase/decrease in the number of local jobs In/out commuting balance Rate of growth of businesses (urban and rural)
20. Revitalise town centres to promote a return to sustainable urban living	COI 4(b) Percentage of completed retail, office and leisure development in town centres

9 Next Steps

9.1 Consultation on the SA Report

The SEA Regulations set specific requirements for consultation with the Statutory Environmental Bodies, the public and other interested parties (these could include NGO's, and community groups for example). This SA Report will be published for consultation alongside the Pre-Submission Core Strategy and will be made available to all interested parties so that they can provide a response to the contents of the Pre-Submission Core Strategy and the accompanying SA Report.

Copies of the SA documents can be found on the Council's website www.dacorum.gov.uk/planning, at local libraries or at Borough Council Offices subject to opening times.

Comments on the SA Report should be sent in writing to:

By email: strategic.planning@dacorum.gov.uk

By post: Strategic Planning Team
Strategic Planning and Regeneration
Dacorum Borough Council
Civic Centre
Marlowes
Hemel Hempstead
Hertfordshire
HP1 1HH

By fax: 01442 228771

Responses must be received by **Wednesday 7th December**.

All comments received will be publicly available. When the consultation period has finished, the comments received will be considered during the next stage of the SA/SEA process.

9.2 Submission and Examination

Following the end of the consultation, the SA will need to assess any substantive changes made to the Core Strategy as it is finalised prior to Submission.

The SA Report prepared at the Submission Stage will be submitted alongside the Core Strategy and other supporting documentation when it is submitted for an independent examination to be undertaken by a planning inspector.

9.3 SA/SEA Adoption Statement

When the Core Strategy is adopted it will be accompanied by a SA/SEA Statement.

In line with the SEA Regulations, the SA/SEA Statement will provide the following information:

- How environmental considerations have been integrated into the plan;
- How the SA Report has been taken into account;

- How opinions expressed in relation to the consultations on the plan/ programme and SA Report have been taken into account;
- The reasons for choosing the plan or programme as adopted, in the light of the other reasonable alternatives dealt with; and
- The measures that are to be taken to monitor the significant environmental effects of the implementation of the plan or programme.

9.4 Post Adoption

Following the adoption of the Core Strategy there will be a need to undertake SA/SEA monitoring of the significant effects identified. It is envisaged that this monitoring will take place alongside the monitoring of the Local Development Framework and be published as part of the Annual Monitoring Report for the LDF which will be the responsibility of Dacorum Borough Council.

Glossary of terms and abbreviations

AA	Appropriate Assessment is part of the HRA process.
Alternatives	These are different ways of achieving the plan objectives. Also referred to as options.
AONB	Area of Outstanding Natural Beauty. A landscape area of high natural beauty which has special status, and within which major development will not be permitted, unless there are exceptional circumstances. Designated under the 1949 National Parks and Access to the Countryside Act.
AQMA	Air Quality Management Area. An area identified by local authorities where statutory UK air quality standards are being, or are expected to be breached up to the end of 2005.
BREEAM	Building Research Establishment's Environmental Assessment Method.
C4S	Centre for Sustainability.
CFMP	Catchment Flood Management Plans.
Conservation Area	An area designated under the Planning (Listed Buildings And Conservation Areas) Act 1990 as being of special architectural or historic interest, the character and interest of which it is desirable to preserve and enhance.
Cumulative Effects	The effects that result from changes caused by a project, plan, programme or policy in association with other past, present or reasonably foreseeable future plans and actions. Cumulative effects are specifically noted in the SEA Directive in order to emphasize the need for broad and comprehensive information regarding the effects.
DCLG	Department for communities and local government, formerly the ODPM.
EC	European Commission.
GHA	Global hectares.
GHG	Greenhouse Gas.
HRA	Habitat Regulations Assessment. Required to identify likely impacts on Natura 2000 sites.
Indicator	A means by which change in a system or to an objective can be measured.
LBAP	Local Biodiversity Action Plan.
LDF	Local Development Framework.
LSOA	Lower Super Output Area
Mitigation	Measures to avoid, reduce or offset the significant adverse effects of the plan on sustainability.
Monitoring	Activities undertaken after the decision is made to adopt the plan or programme to examine its implementation. For example, monitoring to examine whether the significant sustainability effects occur as predicted or to establish whether mitigation measures are

implemented.

Natura 2000 Sites (N2K)	Natura 2000 is the European Union-wide network of nature conservation sites to be established under the Council Directive on the conservation of natural habitats and of wild fauna and flora (92/43/EEC) – The EC Habitats Directive (on Europa website). Natura 2000 comprises Special Areas of Conservation (SACs) designated under that Directive and Special Protection Areas (SPAs) classified under the Council Directive on the conservation of wild birds (79/409/EEC) – The EC Wild Birds Directive.
NTS	Non Technical Summary
Objective	A statement of what is intended, specifying the desired direction of change.
ODPM	Office of the Deputy Prime Minister, now the DCLG.
Options	See Alternatives.
PPP	Plans, Policies and Programmes.
SA	Sustainability Appraisal. A form of assessment used in the UK (primarily for Regional Planning Guidance and development plans) since the late 1990s. Sustainability Appraisal considers social and economic effects as well as environmental effects.
SAC	Special Area of Conservation as designated under the European Union Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Fauna and Flora.
SAM	Scheduled Ancient Monument. A nationally important archaeological site included in the Schedule of Ancient Monuments maintained by the Secretary of State for the Environment under the Ancient Monuments and Archaeological Areas Act 1979.
Scoping	The process of deciding the scope and level of detail of the SEA. This also includes defining the environmental / sustainability effects and alternatives that need to be considered, the assessment methods to be used, the structure and contents of the Environmental / Sustainability Report.
Screening	The process of deciding whether a plan or programme requires SEA or an appropriate assessment.
SEA	Strategic Environmental Assessment. A systematic method of considering the likely effects on the environment of policies, plans and programmes.
SEA Directive	Directive 2001/42/EC "on the assessment of the effects of certain plans and programmes on the environment".
SPZ	Source Protection Zones.
SSSI	Site of Special Scientific Interest. The best sites for wildlife and geological features in England as designated under the Wildlife and Countryside Act 1981.
SUDS	Sustainable Drainage Systems.
Target	A specified desired end, stated usually within a specified time-scale.
UN	United Nations.