Clackmannanshire and Stirling Structure Plan 3rd Alteration

Strategic Environmental Assessment

Environmental Report

January 2008

Contents of the Draft Environmental Report

List of Appendices

1. Non Technical Summary

1.1 Legislation (The Environmental Assessment of Plans and Programmes (Scotland) Regulations 2004, now superseded by the Environmental Assessment (Scotland) Act 2005, requires that Councils, in developing new planning policy and Plans, should undertake a Strategic Environmental Assessment. This is a process that requires the decision maker (in this case Clackmannanshire Council as the responsible authority) to demonstrate that full account has been taken of the environment.

1.2 In this context this report sets out the steps that Clackmannanshire Council has taken, to date, to ensure that full account is taken of any potentially significant environmental issues arising from the current Alteration to the Clackmannanshire and Stirling Structure Plan.

1.3 The Structure Plan (the Plan) review is an Alteration to an existing Plan, as approved by Scottish Ministers in 2002. The Finalised Plan Alteration and the Environmental Report may be subject to change after submission to Scottish Ministers as there may be disagreement with some of the conclusions or consideration that other reasonable alternatives should have been considered. This report has been prepared to inform this stage in the process.

1.4 The Structure Plan sets the long term strategic land use planning framework for the area. It is prepared in the context of the Town and Country Planning Act and National Planning Policy. As such there are certain parameters on the issues that can be addressed and the approach that can be taken. The Plan establishes the future housing and economic development land requirement, the need for additional shopping and other developments, major roads and infrastructure projects as well as the policy framework to support and guide future development.

1.5 This current Alteration rolls the assessment of housing land forward to 2025 for Clackmannanshire, suggesting the need for up to 1500 additional houses in Clackmannanshire.

Section of Plan Affected by Change	Reason for Change	Reasonable Alternatives Considered?
Strategy		
Overall strategy: aspirational growth. Supports a household growth in excess of the 2004 GRO projections in Clackmannanshire.	To sustain population and economic growth.	**Baseline** **Medium Growth:** Lower levels of growth are predicted to have a lower environmental impact.
Support for "urban capacity" in Core Area.	The Alteration supports release of land in the medium term with some additional greenfield land release to supplement urban capacity and the programmed land supply.	All the locations in the strategy were assessed. This has informed the recommendation that development should concentrate on urban capacity sites and the Core Area.
Clackmannanshire's Eastern expansion area: 1000-1500 homes	To address population and economic growth objectives and to realise the potential offered by programmed accessibility improvements.	**Hillfoots Corridor** **Tullibody-Alloa Corridor**
Housing in Clackmannanshire		
Proposal HP1: The New Housing Land Requirement for Clackmannanshire	This proposal brings forward additional land in accordance with the locational strategy focusing on the Tullibody Alloa corridor and the eastern growth area.	None
Proposal HP2: Clackmannanshire Eastern Growth Area	This proposal sets out criteria for delivery of the Clackmannanshire Eastern growth Area.	None

1.6 A summary of environmental baseline data has also been produced to set out the current condition of the area's environment. This will form the basis of future monitoring of the potential effects that this Plan may have on the environment. The Structure Plan relates to the use of land and the location of

development and will also therefore have a direct influence on factors such as drainage, landscape, cultural heritage, biodiversity, flooding, air pollution, traffic and congestion.

1.7 This Environmental Report assesses the changes proposed to the Plan in terms of the potential environmental impact. In some cases these impacts are uncertain. They may not become clear until the Local Plan defines specific sites or indeed until the details of the development are defined through a masterplan or planning application. Assessment is made against a range of environmental objectives using a checklist approach. The objectives and approach were established in consultation with the statutory consultation authorities as defined in the legislation (Scottish Environment Protection Agency (SEPA), Historic Scotland and Scottish Natural Heritage (SNH)) in the May 2006 Scoping Report. With the amended, reduced scope of the Alteration, not all of the previous consultation remains relevant.

1.8 Environmental legislation requires that in formulating a plan, reasonable alternatives should be considered. For the Structure Plan this applies mainly to alternative scales and locations for proposed development. In this context a range of alternatives from low, medium and high scale growth have been considered. A range of possible general locations have also been assessed, although reasonable alternatives are constrained to some extent by the fact that this is an Alteration to the Plan and not a wholesale change of strategy. The Alteration is prepared in the context of the established locational strategy set out in the 2002 Plan.

1.9 Once the higher level of testing was completed, this informed the selection of options to be included in the Plan. There is no requirement for the Council to select the option which minimises environmental impacts as other considerations such as the economy and social inclusion will also carry weight in the decision making process. The process however provides a methodology to ensure awareness of the relevant environmental issues and to ensure that appropriate mitigation is addressed, where required.

1.10 The Environmental Report should be read alongside the Finalised Plan and the supporting background report. The Background Report sets out the detailed justification of why a particular proposal, policy or approach has been recommended. This report adds to this by focusing particularly on the reasonable alternatives, environmental issues and the required mitigation.

1.11 Land use planning already establishes a range of protective designations and a strategy of avoidance is generally adopted to minimise impacts on sensitive/protected locations. There are also total (cumulative) impacts of the Plan to consider as well as how the impacts of proposals and policies relate to each other. Chapter 2 of this Environmental Report sets out a summary of the findings of the assessment process and when read with the Plan and Background Report, this should provide a full picture of the process to date.

1.12 In summary, Clackmannanshire Council has proposed a growth strategy focusing on using urban capacity and minimising greenfield land release. With mitigation this is indicated to be the preferred environmental option. To accommodate a level of growth supporting other social and economic objectives, additional greenfield land release is however also proposed. The assessment recognises the potential environmental impacts of this and highlights the need for avoidance of designated locations and for appropriate mitigation.

1.13 This Report will be submitted to Scottish Ministers, along with the Finalised Alteration and other supporting documents. The Council has engaged with SEPA, SNH and Historic Scotland to seek their advice on finalising this report in accordance with current best practice.

1.14 Any significant change to the Plan in response to the Scottish Ministers comments may require further consideration in terms of the environmental implications.

2. Introduction and Summary

2.1 Purpose of this Environmental Report

2.1.1 As part of the preparation of the Clackmannanshire and Stirling Structure Plan Alteration, Clackmannanshire Council is carrying out a Strategic Environmental Assessment (SEA). SEA is a

systematic method for considering the likely environmental effects of certain Plans, Programmes or Strategies (PPS). SEA aims to:

- integrate environmental factors into the structure plan Alteration preparation and decision-making;
- improve the structure plan Alteration and enhance environmental protection;
- increase public participation in decision making; and
- facilitate openness and transparency of decision-making.

2.1.2 SEA is required by the Environmental Assessment (Scotland) Act 2005. The key SEA stages are:

Screening Determining whether the Structure Plan Alteration is likely to have significant environmental effects and whether an SEA is required.

Scoping Deciding on the scope and level of detail of the Environmental Report, and the consultation period for the report - this is done in consultation with Scottish Natural Heritage, The Scottish Ministers (Historic Scotland) and the Scottish Environment Protection Agency.

Environmental Report Publishing an Environmental Report on the Structure Plan Alteration and its environmental effects, and consulting on that report as part of the Structure Plan process.

Adoption Finalising the Environmental Report in the context of the Plan as it will be submitted to Scottish Ministers. This will include details of the consultation/comments received and how these have been taken into account; as well as the methods for monitoring the significant environmental effects of the implementation of the Structure Plan Alteration.

Monitoring Monitoring significant environmental effects in such a manner as to also enable the Responsible Authority to identify any unforeseen adverse effects at an early stage and undertake appropriate remedial action.

2.1.3 The purpose of this Environmental Report is to:

- provide information on the Clackmannanshire and Stirling Structure Plan Alteration;
- identify, describe and evaluate the likely significant effects of the Structure Plan Alteration and its reasonable alternatives;
- provide an early and effective opportunity for the Consultation Authorities and the public to offer views on any aspect of this Environmental Report;

This current report accompanies the Finalised Plan.

2.2 Legislative requirement to do SEA

2.2.1 The requirement to undertake Strategic Environmental Assessment (SEA) is established by the European Directive 2001/42/EC, 'the Assessment of the Effects of Certain Plans and Programmes on the Environment' (the SEA Directive). SEA was introduced into Scottish legislation through the Environmental Assessment of Plans and Programmes (Scotland) Regulations (the 2004 Regulations). These Regulations came into force on 20 July 2004. The Environmental Assessment (Scotland) Act 2005 extends the scope of the earlier Regulations to cover all policies, plans and programmes and came into force on 20th February 2006. However, the earlier Regulations will continue to apply to plans and programmes whose first formal preparatory act was on or before 19th February 2006.

2.3 Need for Structure Plan Alteration

2.3.1 The Structure Plan Alteration is a statutory land use Plan prepared under the Town and Country Planning Act 1997. In terms of this SEA Clackmannanshire Council are the Responsible Authority and therefore the point of contact. The Clackmannanshire and Stirling Structure Plan was approved by Scottish Ministers in 2002 and contained a commitment to review the housing land requirement at five yearly intervals. The need for such review has increased since the release of more current population and housing projections. A Third Alteration to the Structure Plan in relation to housing

provision in Clackmannanshire is therefore being undertaken and this SEA is required to examine the likely significant environmental effects of the proposed changes to the Plan.

Figure (i): Total area to which the Plan relates

2.3.2 Figure (i) indicates the total area to which the Structure Plan relates, although the 3rd Alteration will only apply to the Clackmannanshire Council administrative area. The current Structure Plan covers the period up to 2017 but the Alteration provides the opportunity for Clackmannanshire Council to look forward in housing provision terms to 2025. The timeframe of the SEA will therefore extend from a 2007 baseline (although in reality much of the baseline population, household and other data will be derived from 2004) to 2025.

2.3.3 The study area for the SEA is defined by the Clackmannanshire Council boundary, although it is possible that the impacts of the Alteration could extend beyond these boundaries.

2.4 Requirement for and Aim of the SEA

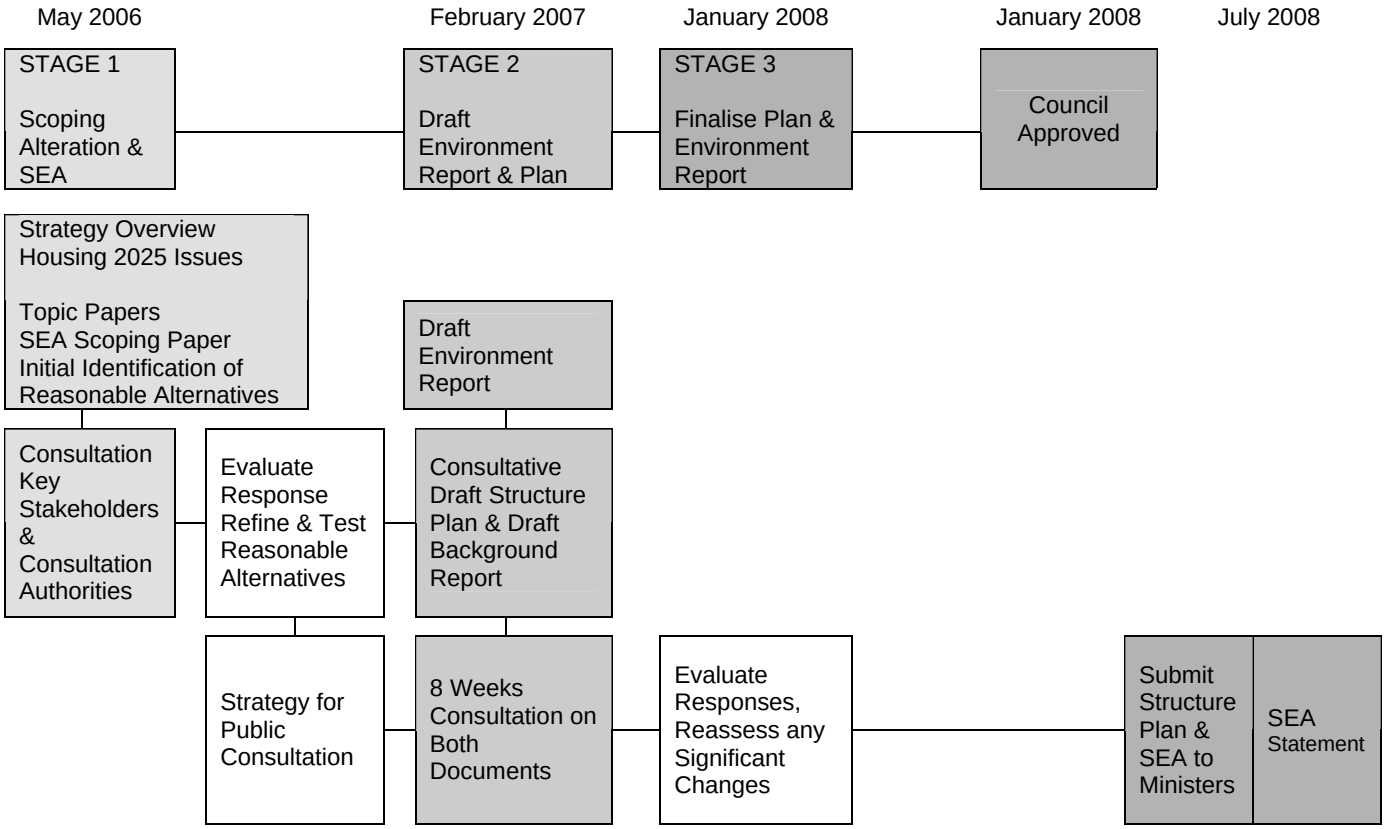
2.4.1 In terms of SEA Regulation 8, the formal preparation of the Clackmannanshire and Stirling Structure Plan 2002: Alteration No. 3, began after 20th July 2004, but before 20th February 2006. In terms of Regulations 9 and 14, the Plan is prepared for Town and Country planning purposes and is likely to have significant environmental effects. Its preparation therefore falls within the requirements of the 2004 Regulations (superseded by the Environmental Assessment (Scotland) Act 2005) and is subject to SEA.

2.4.2 The Regulations (superseded by the Environmental Assessment (Scotland) Act 2005) also require an assessment on whether the Structure Plan Alteration will affect 'Natura 2000' sites. There are 'Natura 2000' sites within the Structure Plan area, so the SEA process considers and consults on the impact on these sites of any changes to the Plan (see Appendix 1).

2.4.3 The overall aim of this SEA will be to help ensure that all relevant environmental issues are considered as an integral part of the process towards approval of the Clackmannanshire and Stirling Structure Plan Third Alteration (3rd Alteration).

2.5 Summary of SEA Process and SEA Activities

Figure 1: Diagram of SEA Process & Structure Plan Alteration Preparation



2.5.1 Figure 1 illustrates how the SEA process has formed an integral part of the Structure Plan preparation process. Figure 2 summarises the SEA activities to date in relation to the Clackmannanshire and Stirling Structure Plan Alteration to date.

Figure 2: Summary of SEA Process.

Stage	Activities	Timescale
A: Context, Objectives and Baseline Data	The start of the SEA process to inform the scope. This stage has been ongoing throughout the process including: • A review of related plans and programmes to identify environmental objectives and constraints and how the Structure Plan Alteration could take these into account; • Development of SEA objectives to describe, analyse and compare the environmental effects of the Alteration. Subject to revision throughout the SEA process; • Collection of existing environmental baseline data; • Identification of environmental issues/problems, and • Environmental assessment methods established.	 March 2006 March 2006 Feb/April 06 March 2006 March 2006
B: Scope and Developing Alternatives	Using information collected during Stage A, this stage includes: • Development of options; • Distribution of scoping report to consultation authorities; • Review of consultation and finalising SEA scope; and • Workshop to finalise scope of SEA • Identification of preferred options.	 March/April 06 May 06 June to Aug 06

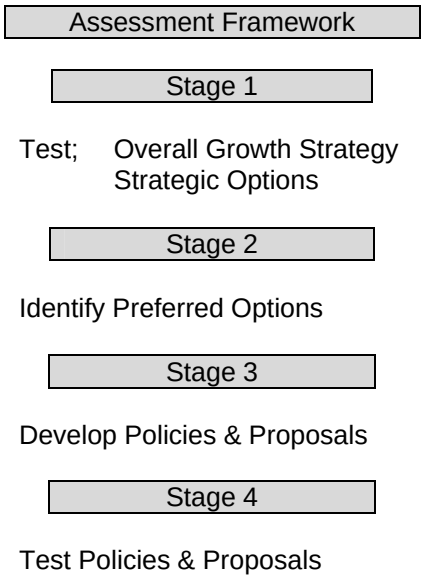
C: Assessment & Mitigation	Comparison of existing and future baseline conditions, including: • Assessment of Proposals and Policies; • Assessment Validation Workshop; • Appraisal of Alteration effects; • Development of mitigation measures; • Assessment of residual effects with mitigation in place, and • Draft Monitoring Report of the environmental effects of plan implementation.	Aug to Nov 06
D: Consultation	Stakeholder consultation on the draft Alteration and Environmental Report. • Consultation Authorities Consultation (2 months) • Public Consultation (2 months)	Feb/March 07
Next Steps	Make any post consultation amendments and finalise SEA. Produce SEA Statement. Clackmannanshire Council will undertake monitoring of the effects on the environment of implementing the 3rd Alteration.	 January 2008 Jan 2008 onwards

2.6 Hierarchy of Testing

2.6.1 Figure 3 illustrates the approach to testing which focused on testing the main strategy and reasonable alternatives to it first. Once the preferred options were selected through the development plan process (not always the preferred environmental options) the policies to support the selected strategy were developed and tested.

2.6.2 Since strategic options were assessed along with their reasonable alternatives, it was considered unnecessary to test alternatives to the policies that were developed to support them.

Figure 3: Hierarchy of Testing



2.7 Proposed Alteration and Reasonable Alternatives

2.7.1 In accordance with the hierarchy of testing described in Figure 3 above, Figure 4 summarises the main changes being proposed to the Plan, the reasons for these Alterations and the reasonable

alternatives. The table includes only significant changes which were subject to SEA testing and not other minor changes such as textual updates to reflect current circumstances, national policy and advice without having a significant land use implication (see Appendix 3).

2.7.2 The SEA process requires assessment of reasonable alternatives. The starting point for the Structure Plan was to consider the appropriate scale of growth to plan for the Clackmannanshire area. In supporting aspirational growth the 'do nothing' option, which would have minimised environmental impact, was not progressed through the Plan. Whilst minimising change and impact, a no growth option was not considered to present a reasonable alternative.

2.7.3 The scale of impact will increase with the proposed scale of development i.e. 100 houses will, depending on location, have less impact on the environment than a development of 1000 houses. The Council is proposing an aspirational scale of growth in accordance with the stated objectives of the Plan. A number of reasonable alternatives to accommodate this scale of growth were identified for assessment through the SEA process.

Figure 4: Sections to be Changed

Section of Plan Affected by Change	Reason for Change	Reasonable Alternatives Considered?
Strategy		
Overall strategy: aspirational growth. Supports a household growth in excess of the 2004 GRO projections in Clackmannanshire.	To sustain population and economic growth.	**Baseline** **Medium Growth:** Lower levels of growth are predicted to have a lower environmental impact.
Support for "urban capacity" in Core Area.	The Alteration supports release of land in the medium term with some additional greenfield land release to supplement urban capacity and the programmed land supply.	All the locations in the strategy were assessed. This has informed the recommendation that development should concentrate on urban capacity sites and the Core Area.
Clackmannanshire's Eastern expansion area: 1000-1500 homes	To address population and economic growth objectives and to realise the potential offered by programmed accessibility improvements.	**Hillfoots Corridor** **Tullibody-Alloa Corridor**
Housing in Clackmannanshire		
Proposal HP1: The New Housing Land Requirement for Clackmannanshire	This proposal brings forward additional land in accordance with the locational strategy focusing on the Tullibody Alloa corridor and the eastern growth area.	None
Proposal HP2: Clackmannanshire Eastern Growth Area	This proposal sets out criteria for delivery of the Clackmannanshire Eastern growth Area.	None

2.8 Environmental Objectives

2.8.1 Figure 5 summarises the Environmental Objectives against which those changes with potential to have significant environmental effects were assessed.

Figure 5: Environmental Objectives

Summary of Objective for Assessment	Relevant & related SEA Objectives	Env Objective relevant to the Structure Plan	Assessment Criteria
1. Conserve biodiversity, geodiveristy, fauna & flora.	Biodiversity, fauna, flora, air, water, soils, landscape.	Maintain and enhance geodiversity and biodiversity, avoiding irreversible losses affecting nationally designated sites, protected species and habitats both on national and local designations.	Does the proposal avoid potential losses and encourage enhancement by avoiding locations which could cause potential losses?
2. Conserve Natura habitats and species	Biodiversity, fauna, flora.	Maintain and enhance the qualifying habitats and species protected by Natura sites (Special Protection Areas (SPAs) and Special Areas of Conservation (SAC)).	Can it be demonstrated, through an appropriate assessment, that the proposal will not adversely affect the conservation status, qualifying interests or integrity of the SPAs or SAC?
3. Conserve European protected species	Biodiversity, fauna.	Maintain the favourable conservation status of European Protected Species and protect their habitats and resting places.	Will the proposal have a likely significant effect on the conservation status of European Protected Species?
4. Population & human health - recreation etc	Population and human health, cultural heritage, landscape.	Improve the quantity and quality of accessible and usable recreational and cultural opportunities.	Is the proposal potentially accessible to recreational/cultural opportunities?
5. Enable healthy lifestyles	Material assets, air, water, soil, population and human health.	Encourage forms of development that facilitate healthy lifestyles, address safety concerns, and avoid exacerbation of harmful factors (e.g. noise).	Does the proposal have potential to contribute to the principles of healthy urban planning?
6. Conserve soil	Soil, biodiversity, landscape and cultural heritage.	Protect and use land in a sustainable way.	Is the proposal likely to protect and/or avoid development on areas of prime or good quality, agricultural land, or lead to decontamination or other improvements in land quality?
7. Conserve and enhance the water environment	Water, biodiversity, population, human health, material assets, climatic factors, air, flora, fauna and material assets.	Avoidance of potential adverse impacts on the water environment and prevention of an increase in the risk of flooding.	Does the proposal avoid the likelihood of adverse impacts on the water environment?
8. Protect air quality	Air, climate factors, biodiversity, population and human health.	Maintain and enhance the quality of, and avoid exacerbating pollution of air.	Will the proposal significantly exacerbate existing pollution or cause new problems?

9. Reduce the need to travel	Air, climate factors, population, human health, water, biodiversity, fauna, flora.	Reduce the need to travel (by unsustainable means).	Does the proposal direct development to location(s), which reduce the need to travel?
10. Encourage sustainable modes of travel	Air, climate factors, biodiversity, population and human health.	Maintain and enhance accessibility by sustainable transport modes.	Does the proposal direct development to accessible location(s) with high quality frequent service public transport?
11. Climatic factors - avoid risks associated with climate change	Climatic factors, air, biodiversity, fauna, flora, population, human health, water, soils and landscape.	Avoid risks associated with climate change (e.g. flood risk avoidance; severe weather effects avoidance).	Does the proposal direct development to avoid areas of known risk, in particular areas at risk of flooding, and areas where development might exacerbate risks downstream?
12. Climatic factors - reduce emissions	Climatic factors, biodiversity, air, flora, fauna, population, human health, water, soils and landscape.	Encourage forms of development that enable reductions in greenhouse gas emissions.	Does the proposal encourage the reduction of greenhouse gas emissions?
13. Climatic factors - Energy efficiency	Climatic factors, air, biodiversity, flora, fauna, soils, population, human health, water and landscape.	Increase energy efficiency, contribute to the ability of communities to utilise and generate renewable energy.	Does the proposal encourage energy efficiency and promote renewable energy generation or preserve renewable energy potential?
14. Material assets - Reduce waste	Material assets, climatic factors, population and human health, air, water, soils.	Contribute to the ability of communities to minimise waste, and maximise waste recovery, recycling, composting etc.	Does the proposal promote the sustainable waste hierarchy through reducing waste volumes generated whilst increasing levels of reuse and recycling?
15. Material assets - Re-use land	Material assets, climatic factors, population and human health, air, water, soils.	Maximise re-use of land, buildings and building materials where compatible with other objectives (e.g. biodiversity).	Is there potential for the proposal to re-use land, buildings and building materials?
16. Material assets - Design quality	Material assets, climatic factors, population, human health, air, water, soils.	Encourage high design quality, and resilient forms of development that will not lead to repeated calls on environmental resources.	Will the proposal lead to improved design quality in developments?
17. Conserve cultural heritage	Cultural heritage, material assets, landscape.	Protect and where appropriate enhance the historic environment.	Will there be the potential for avoiding adverse impacts on features of the historic environment?
18. Consider pattern of settlement	Cultural heritage, material assets, human health, population, biodiversity and landscape.	Maintain and conserve the pattern and form, and the landscape and historic setting of settlements, particularly where locally distinctive.	Does the proposal promote the existing landscape settlement pattern and form whilst enhancing its distinctiveness?

19. Conserve and enhance landscape	Landscape, cultural heritage, material assets, biodiversity, soil, water.	Conserve and enhance landscapes.	Will the proposal significantly affect or enhance landscape character or quality?

2.9 Summary of Assessments

2.9.1 Appendices 5 and 6 illustrate the assessment forms which were used to test the policies and proposals against the environmental objectives stated above. These assessments were carried out by relevant officers involved in preparing the Plan, facilitated by an officer with no direct involvement in preparing the Plan. A validation workshop, which included officers working on the Plan and relevant internal specialists i.e. transport, biodiversity officers was then held and this resulted in some amendment of the initial assessments.

2.9.2 Figure 6 below summarises the conclusions of the assessments as detailed in the Appendix 6. It also summarises the recommendations and whether or not these have been actioned. Where alternatives have been selected or recommendations have not been actioned a brief explanation of this is included. Appendix 6 includes the detailed assessments of all the options and policies against the stated environmental objectives. It also includes comparison tables so that the various options can be compared with each other.

Figure 6: Summary of Assessments

Proposed Change/ Reasonable Alternative	Summary of Impacts	Recommendation from Environmental Report	Accepted? Reason
Baseline Growth - urban capacity sites only.	Avoids new greenfield release so lowest impacts.	This would minimise impacts but not address mitigation or improvement.	This option was rejected as it offers a poor fit with wider planning objectives.
Baseline plus moderate Growth - Circa 4250 houses,	Limits new greenfield release.	As above but some environmental impact with a scale of growth unlikely to support mitigation/improvement.	This option was rejected as it offers a poor fit with wider planning objectives.
Baseline plus aspirational Growth - circa 5550 houses.	Greatest land use implication so potentially most significant environmental implications.	Strategy of avoiding designated, protected areas will be required to address impacts- locational strategy to guide development to appropriate locations will be crucial.	Selected option as providing best fit with the Councils wider objectives.
Clackmannanshire Locational options- Urban Capacity Alloa/Tullibody Hillfoots corridor Clackmannanshire East	Growth in any of these locations will have environmental implications. These can be minimised by focus on urban capacity and the Alloa-Tullibody Corridor.	Focus development on Urban Capacity Alloa-Tullibody corridor.	Partially accepted with continued focus on Alloa/Tullibody corridor and to a lesser extent Hillfoots. A significant expansion to the east however fits with wider Council objectives to promote population and economic growth. Highlighted environmental issues carried forward to proposal/policy assessment.

Proposal HP2 Clackmannanshire Eastern Growth area.	Proposal seeks to address significant environmental implications of accommodating this scale of development in this area.	Add reference to energy efficiency including carbon reduction and renewables, include reference to principles of healthy urban planning and ENV13 as altered.	Accepted.

2.10 Summary of Conclusions and Recommendations

2.10.1 In conclusion the SEA process has paralleled that of preparation of the Clackmannanshire and Stirling Structure Plan. It has informed the selection of options and the development of appropriate policies and cross referencing to the relevant environmental policies within the Plan. In doing so it has ensured that due regard has been taken the environment through the Plan making process.

2.10.2 The Council as decision makers have been fully informed of the conclusions of the assessment in proceeding to approve the Consultative Draft Plan. Figure 7 below summarises the main conclusions of the Environmental Assessment.

Figure 7: Summary of Main Conclusions and Recommendations

- The proposals of the Plan in relation to housing development and associated infrastructure will have negative impacts in relation to a range of environmental objectives.
- These impacts are likely to be exacerbated if higher levels of growth are proposed, although the opportunities for mitigation may be enhanced.
- A strong locational strategy and policy framework to guide development to locations which do not impact directly or indirectly on designated sites, protected habitats and species will help to minimise negative environmental impacts.
- A Growth strategy supported by improved transport provision should reduce the need to travel and opportunities to use alternatives to the car.

The Structure Plan is a broad strategy and is not locationally specific so many of the potential impacts and opportunities for mitigation are uncertain. They will not be addressed until subsequent stages of the planning process- Local Plan, Development Guidelines, Masterplanning and Planning Applications.

3. Context of the Clackmannanshire & Stirling Structure Plan 3rd Alteration

3.1 Outline and Objectives of this Structure Plan Alteration

3.1.1 Schedule 2, paragraph 1 of the Environmental Assessment of Plans and Programmes (Scotland) Regulations 2004 (superseded by the Environmental Assessment (Scotland) Act 2005) requires that the Environmental Report includes “an outline of the contents and main objectives of the plan or programme”. The purpose of this section is to explain the nature, contents, objectives and timescale of this Structure Plan Alteration.

3.1.2 This is an Alteration to the approved 2002 Clackmannanshire and Stirling Structure Plan. Only the proposed significant changes to the Plan are being assessed through this SEA. The strategy of Working Towards Sustainable Development is therefore already approved. The only significant changes to the strategy, which are fully detailed through the Alteration and supporting background report, are:

- Addition of an objective relating specifically to support for Population and Economic Growth in Clackmannanshire
- Some change to the locational strategy as detailed in Figure 2.3 of the Alteration.

3.1.3 The focus of the Plan is on Alteration to the future housing land requirement in Clackmannanshire. To support the objective of supporting population and economic growth a total housing land target of 5500 houses is identified. Proposal HP1 and HP2 set out the locational framework for this growth. This report should be read alongside the Finalised Structure Plan and the Supporting Background

Report which fully details the changes proposed. The proposed changes are summarised in the introductory summary section of this report.

3.1.4 The Structure Plan has strong linkages with other strategies and Plans at a National and local level. At a National Level the Plan relates to the National Planning Framework and National Planning Policy. The Local Plan will set out the detail of the broad strategy addressing the details of specific locations, policy and delivery issues. There are also clear linkages to the Local Housing Strategy and to Local Transport Strategies. Appendix 1 to this report reviews those Plans, Programmes and Policies relevant to the Structure Plan Alteration.

3.1.5 The Structure Plan outlines a broad strategy for future development but is not location specific and it will be for subsequent stages of the planning process to address particular issues. All environmental issues cannot be addressed and/or do not relate to this Plan Alteration but may have a bearing on subsequent stages of the planning process. Appendix 3 to this report scopes the changes to the Plan determining whether these changes should be assessed as part of this Environmental Report. The changes are also summarised in section 2.8. A brief synopsis of the main environmental issues as they relate to the main topic areas to be addressed by this Alteration is highlighted below.

Housing Land Supply

3.1.6 New growth projections, particularly for households, signal the potential need for more greenfield land release but also the need to optimise the use of existing urban land. The approach to accommodating this development has a direct bearing on most of the environmental factors identified in the Regulations (superseded by the Environmental Assessment (Scotland) Act 2005). It has particular implications in terms of minimising landscape impact, the setting of towns and villages, open/green space, landscape character and quality, reducing the need to travel, energy efficiency and the general promotion of an environmentally sustainable pattern of development as well as having potential consequences on biodiversity. A number of reasonable alternatives to accommodating different growth scenarios and the locational implications (in strategic terms) have been assessed through the SEA as summarised in section 5 and fully outlined in the detailed appraisals.

Integrated Transport

3.1.7 The Clackmannanshire Council area experiences some traffic congestion and road capacity issues associated with existing development and growth in car ownership. The area generates a high level of in and out commuting. Current transport infrastructure improvements such as the Stirling to Alloa rail link and the new Upper Forth Crossing will have an impact on this. Accommodating additional development and population/household growth has potentially significant implications for the efficient and sustainable operation of the transport network in the area with consequent environmental implications in terms of resource efficiency, air quality and noise pollution. Potential scenarios for locating future growth will have to fully consider associated transport issues.

Local Issues

3.1.8 In assessing the impact of the Structure Plan on the environment it is important to be aware of any particular local issues as these may assist in the process of setting and refining the objectives against which the Plan is to be assessed. In this context the following issues were identified:

- The quality, character and distinctiveness of the Clackmannanshire Area. Maintaining the important qualities and relationships between the Ochils and the River Forth.
- The rural setting of settlements. The area is still predominantly rural: a pattern of towns and villages within a countryside setting.
- The importance of Green Belt. Protecting the setting of settlements and historic views.
- Flooding: The Clackmannanshire area contains some low lying areas with potential flooding impacts.
- Diversity of habitats and species within the area. The Local Biodiversity Action Plans identify a wide range of species and habitats within the Clackmannanshire area.
- Protect Natura 2000 sites and species. Maintain the interests of the Firth of Forth SPA.

3.2 Relevant Aspects of the Current State of the Environment

3.2.1 Schedule 2, paragraph 2 of the Environmental Assessment of Plans and Programmes (Scotland) Regulations 2004 (superseded by the Environmental Assessment (Scotland) Act 2005) requires that the Environmental Report includes a description of "the relevant aspects of the current state of the environment and the likely evolution thereof without implementation of the plan or programme", and "the environmental characteristics of areas likely to be significantly affected". This section aims to describe the environmental context within which this structure plan Alteration operates and the constraints and targets that this context imposes on the structure plan Alteration.

3.2.2 Clackmannanshire is the smallest mainland authority in Scotland, and is situated on the North of the River Forth bordering the Councils of Stirling, Perth & Kinross, Fife and Falkirk and covers roughly 15,864 hectares of land. Bounded by the Ochil Hills to the north and the River Forth to the south, the district comprises a number of small towns and villages. Clackmannanshire's main urban area is Alloa with other settlements including Sauchie, Alva, Clackmannan, Tillicoultry, Devonside & Coalsnaughton and Tullibody & Cambus.

The relevant aspects of the current environment and a summary of environmental baseline data for Clackmannanshire can be seen in Figure 8 below.

Figure 8: Relevant Aspects of the Environmental and Baseline Data

Biodiversity, Flora & Fauna
Protected Sites Clackmannanshire contains 13 SSSI's. Roughly 249 hectares of Clackmannanshire are within a Special Protection Area (SPA) and a Ramsar Site on the Forth Estuary. The area was recently designated primarily for the protection of migratory bird species visiting the Forth Estuary. Within the Council area is Gartmorn Dam, the site of the Country Park and Local Nature Reserve, which overlap. Of specific note in the Clackmannanshire area is the Firth of Forth SPA which has specific significance for conservation. **Priority Habitats** There are 11 UK priority habitats within the Clackmannanshire area. The extent of these are recorded in the Local Biodiversity Action Plan (LBAP). **Priority Species** There are many UK priority species that occur, or have recently occurred in the Clackmannanshire area with a total of 20 UK priority species recorded in the Clackmannanshire district.
Population & Human Health
Population Data & Trends Between 1995 and 2005 Clackmannanshire's population increased by 0.1% from 48,570 to 48,683. Overall the population of the Structure Plan area increased by 3.5%, from 130,990 to 135,560. This increase is in contrast with the overall population of Scotland, which decreased by 0.2% over this ten-year period. The GROS 2004 population projections indicate that Clackmannanshire's population will decrease from 48,240 in 2004 to 47,587 in 2024: a projected decrease in population of 1.35% over the 20 years from 2004. Overall, the population of the structure plan area is predicted to increase by 3.0% from 134,610 to 138,694. This increase is above the predicted population increase for Scotland as a whole, which is 0.8%. **Age Data & Trends** Men and women in Scotland continue to have the worst life expectancy in the United Kingdom (male 73.5 years, female 78.8 years). Within Forth Valley, Clackmannanshire has the lowest life expectancy for males and life expectancy in general is lower than the Scottish average. Population estimates show that a large percentage of the population are between the ages of 25 and 64, projections show an ageing population indicating that the vast majority of the population will be over 30 by

2024 if population numbers and projections do not change.

Projected population by broad age group 2004 to 2024

Age Group	0-15	16-29	30-49	50-64	65-74	75+
Clackmannanshire	-16%	-8%	-24%	6%	43%	94%

Location of Population
Around 85% of Clackmannanshire's population lives in urban areas or accessible small towns. There is no remote rural population in Clackmannanshire.

Air Quality

The air quality in Clackmannanshire is generally of a high standard in terms of meeting national air quality targets. It has been determined that Clackmannanshire's air quality is at no risk of exceeding any of the national air quality objectives for any listed pollutants.

For this reason, there are no Air Quality Management Areas (AQMA) in the Clackmannanshire area.

Nitrogen dioxide limits
Annual mean levels of NO2 from 2001-2005 in Clackmannanshire were found to be well below the EU air quality objective levels.

Since 2000 NO2 levels in Clackmannanshire have remained fairly constant, although Clackmannan Road and Norwood Avenue have recorded increases of approximately 15% in the past five years. However, the annual mean NAQS objective for NO2 was not exceeded in 2004 within Clackmannanshire. There was a general decrease in concentration of NO2 in Clackmannanshire in 2004 and a minor decrease was predicted for 2005.

PM10 limits
There is a positive decreasing trend in PM10 annual mean levels from 2001-2005 and Clackmannanshire's PM10 levels were found to be well below the 2005 and 2010 national air quality objectives.

Sources of Air Pollution
The main source of air pollution in the Clackmannanshire area is traffic, there is only a little industrial activity within Alloa with the majority of the county being rural in nature.

Water Quality

Water Sources
Clackmannanshire is supplied with water from two sources. The main supply to the district is through Loch Turret which is located outside the boundary of the authority. In Clackmannanshire surface water catchments in the district include the River Devon, River Black Devon and Upper Forth Estuary. Clackmannanshire is relatively poorly served by open water and Gartmorn Dam is the single largest area of open water. Clackmannanshire Council manages Gartmorn Dam as part of the Gartmorn Dam Country Park.

River Quality
Rivers flowing through Clackmannanshire are classed Good (A2) to Fair (B) – the River Devon is classed B (from Cambus to Menstrie) and A2 (from Menstrie to upstream); the Black Devon is classed A2 (but downgraded to B as it flows through Clackmannan). SEPA's work has been significantly aimed at eliminating the most seriously polluted class C and D waters, and the incidence of these is steadily declining.

From Alloa to just east of Stirling the Forth Estuary is classified as class C, due to the low levels of dissolved oxygen in this low salinity section of the estuary. However the Forth Estuary is not expected to achieve class A because of its inherently turbid nature and the large number of industrial and domestic discharges it receives.

Sustainable Drainage Systems
Clackmannanshire Council promotes the use of Sustainable Drainage Systems (SuDS), in association with SEPA. Information on the number of developments incorporating SuDS is not available as of yet but there

are plans to monitor this from 2007 onwards.

Groundwater
Little information is currently held about the Structure Plan area groundwater quality as this data is held at national level by SEPA.

Soil Quality

At this time, many of the traditional industries are being replaced and newer service orientated businesses are appearing within the boundaries of Clackmannanshire. There remain, however, industries linked to the industrial heritage of the district which continue to thrive. Thus the district can be seen in a transitional economic phase but with a heritage which indicates previous contaminative use throughout the various towns and villages that make up Clackmannanshire.

Vacant or Derelict Land
In 2005 the Scottish Vacant and Derelict Land Register (SVDLS) contain records of 91 hectares (45 ha derelict and 46 ha urban vacant) of urban vacant and derelict land in Clackmannanshire. This represented an increase of 20 ha.

Contaminated Land
Under Part IIA of the Environmental Protection Act of 1990, the Council has a duty to identify contaminated land in their area. Clackmannanshire has identified 260 High Priority sites, 320 Medium Priority sites and 329 Low Priority sites, and is developing a system to identify the total area of land in each of the categories. The priority of sites can change as a result of further investigation works and they can move either up or down the priority list.

Restoration
Many of the significantly contaminated sites in Clackmannanshire have received remediation including Old Town gas works, the Tullis Factory in Tullibody and the Old Burgh in Dollar.

Prime Agricultural Land
There are a few small pockets of prime agricultural land in Clackmannanshire. However the importance of soil as a non-renewable resource essential to a sustainable environment must be recognised. Detailed information on soil quality is not readily available.

Climatic Factors

Domestic Energy Consumption
Clackmannanshire's average domestic energy consumption per household per year is slightly less than the Scottish Council average.

Carbon Dioxide Emissions
The average per capita CO2 emissions in Scotland in 2003 was 10 tonnes with Clackmannanshire equalling that average.

Transport Infrastructure
There are several A class roads which pass through Clackmannanshire, principally A991, the A977 and the A907. There are numerous other A and B roads that link Alloa and the surrounding towns. The new Upper Forth Crossing will also exit on to the Gartarry Roundabout in Clackmannanshire and the new passenger rail link to Alloa and rail freight link to Kincardine is under construction.

Renewable Energy
A windfarm is at the planning stage at Burnfoot Hill.

Areas of Flood Risk
In Clackmannanshire the low lying floodplains of the Rivers Devon and Black Devon are two key areas where the risk of inundation is important. Areas adjacent to the Forth Estuary may be at risk from tidal flooding, caused by a combination of sea level rise, high tides storm surge and high winds. Flooding can also occur in the higher areas as burns overtop their banks, due to heavy rainfall and localised blockages. The potential for flooding is greatest alongside the rivers Forth, Devon and Black Devon.

Flood Prevention Infrastructure
Clackmannanshire are currently reviewing their flood prevention infrastructure plans.

Material Assets

Minerals

Open-cast Mining
Shallow coal reserves that may be suitable for opencast working are found across much of Clackmannanshire, extending along the Forth and Devon valleys to the eastern extremity of Clackmannanshire. Currently there is no active working, although there has been considerable recent exploitation of the reserves in East Clackmannanshire and it is expected that pressure for working will continue for the foreseeable future. The main market for locally sourced coal is Longannet Power Station.

Within Clackmannanshire, an area of low constraint has been identified to the south of Clackmannan. Subject to detailed assessment, there may be community benefit in exploiting the shallow coal resource.

Waste

Household Waste
Figures from 02/2003 to 04/2005 show household waste produced in Scotland has risen slightly and this trend is followed in Clackmannanshire. However in the same period the % of this waste composted or recycled has increased significantly. Clackmannanshire (37.9%) has greatly exceeded the Scottish average (17.5%) in 04/05.

Landfills
There are no landfill sites within the area.

Historic & Cultural Heritage

Conservation Areas
There are 7 conservation areas located in Clackmannanshire.

Listed Buildings
There are 301 listed buildings in Clackmannanshire (of which 56% are A or B listed).

Archaeological Sites
There is a wealth of archaeological sites in the area i.e. approximately 580 in Clackmannanshire.

Scheduled Ancient Monuments (SAM)
There are 17 SAM's in Clackmannanshire.

Gardens and Designed Landscapes
There is 1 garden and designed landscape in Clackmannanshire.

Landscape

Landscape Use and Character
The Structure Plan area may be broadly characterised as rural in terms of landscape and settlement pattern, but with the bulk of the population, employment and development activity concentrated in a small number of the larger urban communities in the Core Area. Agriculture is the most extensive land use within the area and is very diverse, reflecting the area's varied topography, climate and soils.

The landscape of Clackmannanshire has been divided into three landscape types. The Ochils fall within the type termed Hills. The River Valleys consist of three separate Character Areas, ranging in nature from the broad agricultural flatlands of the Carse of Forth to the narrow gorge-like Middle Devon. The third Landscape Type, Valley Fringes, includes the transitional landscapes of generally subdued relief, which link together the adjoining Forth and Devon valleys.

Green Belt Area
The principal areas of Green Belt in Clackmannanshire are between Alloa and Clackmannan, Tullibody and along the Hillfoots.

Open Space
Clackmannanshire has a quality heritage of open spaces of all types that reflect the typology of current national planning guidance i.e. including amenity verges and space, public parks and gardens, recreational playing fields, civic spaces, green corridors, woodlands, country park and natural green spaces. The Council is to prepare an Open space Strategy with an audit of existing facilities, their condition and characteristics.

3.3 Context of the Environmental Baseline Data

3.3.1 Figure 8 summarises the environmental data that has been gathered for the Clackmannanshire Council area. It provides a snapshot of the current condition of the environment of the area, in order to inform the assessments of the impacts of the Structure Plan Alteration.

3.3.2 The environmental baseline data has been presented thematically in order to assist the identification of key issues and potential opportunities for the area. The data collection process has provided an indication of some key trends, indicators, current targets, areas of uncertainty and current data gaps.

3.3.3 The quality and quantity of information available for each theme varies due to differences in the way data is collected and held by the Council and the availability of Council-level data from national bodies.

3.3.4 Within this report there have been certain constraints due to a lack of useful baseline information, where significant information gaps are present this has been highlighted to the relevant department and future monitoring will be implemented where possible with the intention to capture data.

3.4 Environmental Problems and Issues

3.4.1 Schedule 2, paragraph 4 of the Environmental Assessment of Plans and Programmes (Scotland) Regulations 2004 (superseded by the Environmental Assessment (Scotland) Act 2005) requires that the Environmental Report includes a description of existing environmental problems, in particular those relating to any areas of particular environmental importance. The purpose of this section is to explain how existing environmental problems will affect or be affected by the Alteration, and whether the Alteration is likely to aggravate, reduce or otherwise affect existing environmental problems.

3.4.2 Environmental problems were identified through analysis of assessments attached to this environmental report and an analysis of the baseline data. Relevant environmental problems are summarised in Figure 9 below:

Figure 9: Environmental Problems and Mitigation relevant to the Structure Plan 3rd Alteration

Objective		Existing Problem	Impact of Alteration	Proposed measures for the reduction/prevention and offset of significant adverse effects
1.	Biodiversity, Fauna, Flora	Yes, decline in biodiversity in region.	Largely neutral impact. Main issue is potential loss of biodiversity through use of greenfield and open space for development.	• At local plan formulation; avoid designated areas and assess sites in order to protect existing ecological value and for presence of protected species. • Build in enhancement opportunities into development planning and in determining planning applications. • Policy ENV5 supports environmental enhancement in association with development in a range of circumstances.

2.	Natura Habitats And Species	No	Largely neutral impact due to policy mitigation.	• This will be adequately covered through appropriate assessment of this structure plan Alteration and policy ENV 1.
3.	European Protected Species (EPS)	Yes - lack of information on EPS.	Potentially negative impact on SPA due to lack of data and measures to protect EPS.	• Policy requirement to assess sites for the presence of European Protected Species. This is adequately covered in policy ENV1. • Highlighted to relevant Dept. to start monitoring EPS in the area.
4.	Population & Human Health	Predicted population decline, ageing population, Scotland wide health issues.	Secondary impacts. Structure Plan can alter environment but not behaviour. Population growth will bring environmental impacts through resource use.	• Proactive approach to encourage population growth, Healthy Urban Planning. Population growth will be managed bearing in mind indirect environmental impacts to prevent and reduce any likely negative impacts. • Development assessed against Policy SD1.
5.	Soil	Potentially considerable amount of contaminated land. Total urban vacant and derelict land is not significant.	Mainly negative to neutral impacts as any loss of soil through development is seen as a loss to the total resource.	• Decontamination of land, support and encourage re-use of brownfield/ contaminated land rather than less disturbed soils i.e. green field. The potential impacts for soil will be taken into consideration for all developments. • Policy H2 encourages re-use of brownfield sites.
6.	Water Quality	Water quality in the region is of an excellent to good standard. Areas of the Forth Estuary are classed as poor. Scotland wide issues-erosion, warming of climate affecting organic content.	Varying impacts depending on policy or proposal. Development generally affects water runoff rates and deteriorates water quality.	• Drainage is adequately covered in policy ENV9. • Policy ENV9 - Water Resources Management aims to ensure that all development avoids unacceptable harmful effect on the water environment, particularly for the Forth Estuary and its tributaries. • Assess sites at local plan stage in order to protect existing water resources. • Build in enhancement opportunities into development (for example buffer zones along burns) and in determining planning applications. • Implementation of Sustainable Drainage Systems (SuDS), Drainage impact assessment. • Follow Water Framework Directive Principles. • Support for Water Environment and Water Services Act and River Basin Management Planning.
7.	Air	No, air quality in the region is of a high quality in terms of national air quality objectives.	A largely neutral impact as air quality is almost 75% below Scottish thresholds. Increase in car use and traffic congestion causes negative impacts on air quality.	• Monitoring programmes to be followed in line with national air quality objectives 2010 highlighted in Updating and Screening Assessment (U&SA) reports which are undertaken by the Council.

8.	Climatic Factors	Yes- flood risk in many areas.	Varying negative impacts as almost all activities supported by the Alteration will have an effect on climate change.	• SPP7 - Planning and Flooding and PAN69 - Planning and Building Standards Advice on Flooding updating national planning policy and best practice guidance with respect to flood risk and sustainable drainage. • Covered by policy ENV9. • Avoidance of main flood plains, inclusion of SuDS. • Supporting and encouraging sustainable development practises, for instance: energy efficient housing, use of renewable energy. • Development assessed against policy SD1.
9.	Material Assets	Household waste generation increases every year, however recycling levels are higher than Scottish average figures. Scotland wide issues-poor building maintenance.	Plan seeks re-use of buildings. Plan has potential to impact on material assets in area. Increased development will mean increased levels of waste generation; however introduction of pro-active waste policy will help to curb this.	• Potential to re-use buildings ENV3 (re-use of buildings) and SD1 and ENV2 high design quality. • SPP16 tightens rules on cumulative impacts. • The Structure Plan sets out a strategy for the sustainable exploitation of the coal resource, directing opencast coal mining away from sensitive locations to ensure that any environmental or community impacts can be successfully mitigated (ENV11). • Encouragement of resource efficiency and waste minimisation where possible by moving higher up the waste hierarchy. Providing appropriate waste infrastructure for new developments. • Sustainable construction guidelines being developed and brownfield development (policy H2) to reduce land use.
10.	Cultural Heritage	Scotland wide issues-neglect of buildings.	Plan seeks re-use of buildings and protects historic buildings and archaeology.	• The Alteration should not support developments that will impact negatively on cultural or historical heritage, especially with respect to listed buildings and designated areas. • New uses for historic buildings which protect their character and conversion of other traditional redundant buildings are supported in ENV6 and H6.

11.	Landscape	Landscape character disruption due to windfarms, major developments and infrastructure.	Potential of cumulative impacts on landscape character from the combined effects of individual site developments could be adverse.	• Policy ENV3 constrains sporadic development thereby maintaining landscape character and quality. Policy approach to minimise visual impacts. • SPP21 recommends that development plans should preview positive management arrangements for land included within Green Belts. • ENV4 protects Green Belt.

3.5 Measures envisaged for the Prevention, Reduction and Offsetting of Significant Adverse Effects

3.5.1 Schedule 2, paragraph 7 of the Environmental Assessment of Plans and Programmes (Scotland) Regulations 2004 (superseded by the Environmental Assessment (Scotland) Act 2005) requires an explanation of "the measures envisaged to prevent, reduce and as fully as possible offset any significant adverse effects on the environment of implementing the plan or programme." Each assessment outlines potential mitigation to offset any potential adverse impacts.

3.6 Likely Evolution of the Environment in the Absence of the Clackmannanshire and Stirling Structure Plan 3rd Alteration

3.6.1 Whilst the purpose of SEA is to assess the impact that the provisions of the Alteration will have on the environment, the SEA process also requires, for comparison purposes, an assessment to be made as to how the environment is likely to evolve without the Alteration and the effects it will have on the environment. Structure plans are required to be up to date in order to inform and direct the emerging Local Plans and to take account of current guidance and advice in order to be able to respond to the challenges facing the Clackmannanshire area. If the Structure Plan is not kept up-to-date then it is generally given less weight in the decision making process.

3.6.2 The Alteration will provide a long term Strategic framework for housing development in the Clackmannanshire area up to 2025. This Alteration has been called on to take account of current population and housing projections. Without the Alteration there may not be enough housing provision in the Clackmannanshire area to reverse the projected population decline and as a result the area would have an ageing population that would struggle to maintain economic growth in the future.

3.6.3 If there were no Alteration there would be outdated policy guidance for housing development in the Clackmannanshire Local Plan area. The decision making process on new proposals submitted as planning applications if approved, could result in piecemeal unplanned development. Growth would be haphazard and ad hoc through an uncontrolled market led approach rather than a Plan led approach. Without up to date guidance in the Structure Plan efficient planning of infrastructure such as water and drainage would be difficult, it is possible that development would be positioned in less sustainable areas, with greater risks to the environment and without sufficient provisions such as infrastructure, sewage, water, public transport, health facilities etc.

3.6.4 Without the Alteration it is considered the likely future trends and changes to the Clackmannanshire environment will be predominantly negative, possibly resulting in irreversible and severe environmental damage. The Alteration facilitates development which conserves and protects the surrounding environment.

It is accepted that a degree of environmental protection would be achieved by securing compliance with current legislation and national guidance, including the requirement for the proposal of specific environmental impact assessments; appropriate assessments etc, however the failure to provide guidance at a local level could result in flawed decisions and result in environmental damage. The effect on the environment of unchecked development could be serious e.g. in terms of traffic congestion, uncontrolled rural development etc.

3.6.5 The environmental problems identified in the environmental report would not be addressed adequately and would become more problematic without the implementation of the proper Alteration policies. Predicting future development patterns and mitigating their cumulative negative effects would be more problematic in the absence of the Alteration. The likely evolution of the environment in the absence of the Alteration can be seen below in Figure 10.

Figure 10: Evolution of the Environment in the Absence of the Structure Plan 3rd Alteration

Environmental Objective/Issue	Evolution of the Environment without the Plan
Biodiversity, Flora & Fauna	Biodiversity may be adversely impacted upon as development would encroach on sensitive habitats and species causing fragmentation and disruption leading to a decrease in biodiversity. Environmental enhancement may diminish in the absence of the Structure Plan.
Population & Health	Current negative trends would persist resulting in a decline in population and an ageing population. Healthy modes of travel would not be encouraged leading to increased levels of vehicular transport resulting in heightened stress (linked with health through diminishing exercise and environmental air quality) associated with traffic congestion.
Air Quality	Unregulated development would lead to a significant increase in traffic and the likelihood that sustainable transport infrastructure may not be adequately delivered: this could lead to urban sites of poor air quality.
Water Quality	Although water quality is relatively good and government and international law would mitigate many impacts, development without the Structure Plan could lead to a significant fall in water quality in more sensitive catchments such as the Forth Estuary.
Soil Quality	Not many impacts are anticipated on soils, although increased development on green field land would be likely without adequate planning, resulting in a loss of the soil resource.
Climatic Factors	Unregulated development could lead to increased CO2 emissions due to increased traffic and the absence of encouragement for sustainable modes of transport around new developments. Development on areas prone to flooding would increase flood risk. Damage from more extreme weather conditions as a result of climate change could lead to an impact on biodiversity, buildings and habitats. Although some habitats and species could relocate, climate change would threaten biodiversity overall.
Material Assets	The Structure Plan encourages a more sustainable approach to waste management, helping decrease waste generation and increasing waste diverted from landfill. Mineral extraction in sensitive areas could adversely impact on sensitive biodiversity sites.
Cultural Heritage	Developments affecting historical and cultural sites would not be effectively assessed, leading to a potential rise in deterioration of the cultural and historical wealth of the area.
Landscape	Sporadic and isolated rural development could alter the landscape settlement pattern and traditional landscape characteristics of the area. Open Spaces may be encroached upon if urban development is not adequately planned.

4. Methodology

4.1 Relationship with other PPS and Environmental Protection Objectives:

4.1.1 Schedule 2, paragraph 1 of the Environmental Assessment of Plans and Programmes (Scotland) Regulations 2004 (superseded by the Environmental Assessment (Scotland) Act 2005) requires that the Environmental Report includes an outline of the PPS relationships with other relevant PPS, and how environmental protection objectives have been taken into account in the PPS preparation. This section covers these issues and describes the policy context within which the PPS operates, and the constraints and targets that this context imposes on the PPS.

4.1.2 The 3rd Alteration is influenced by and will influence the development of a number of other plans, programmes and policies (PPPs). A review of other relevant PPPs is an integral component of the

SEA. It aims to identify key issues that could influence development of the Alteration, establish links between the PPPs and the emerging Alteration, identify key national and regional priorities that need to be taken into consideration in the SEA process and when revising the Alteration, and highlight any objectives and indicators that could be used to inform the SEA process.

4.1.3 A list of the relevant International, European, National, Local and Regional Plans, Policies and Programmes is included in Appendix 1. The information collated during the review of these documents was used to inform the objective derivation process to ensure that all potentially important issues have been included. Appendix 3 scopes the Structure Plan Issues against the environmental factors.

4.2 Defining Environmental Objectives

4.2.1 The SEA Directive does not specifically require the use of objectives or indicators in SEA, but they are a recognised way in which environmental effects can be described, analysed and compared. Identification of objectives allows the assessment to focus on the inter-relationships between the Plan and the relevant environmental factors. A clear distinction is made between the environmental objectives derived for the purposes of the SEA and the environmental objectives of the Structure Plan as established through the approved Plan (although a degree of overlap is anticipated). The Plan's objectives are not part of this current Alteration so will not be assessed through this SEA process.

4.2.2 Appendix 3, as summarised in Figure 5 of the summary section, presents a list of environmental objectives against which this assessment was carried out. These were derived through a sieving process but also to reflect the particular issues this Alteration seeks to address. Initially they were drafted by the officers involved in the scoping process of this SEA, they were then altered and refined through dialogue and a consultation workshop which included a wide number of participants ranging from the consultation authorities to an interdepartmental range of Council officers.

4.2.3 The table in Appendix 3 includes reference to baseline data to be used in the assessment as well as the criteria against which the proposals were assessed. Review of relevant legislation, plans, policies and programmes allows identification of a broad range of environmental indicators which were then refined to reflect particular local circumstances and the particular scope of this Alteration. The objectives have been devised to ensure full legal compliance by addressing the topics presented in Schedule 2 of the SEA Regulations (superseded by the Environmental Assessment (Scotland) Act 2005). The following steps indicate how the objectives identified in Appendix 3 were derived:

- Broad scoping of the key relationships between the environmental factors and strategic land use planning, from international, national legislation and policy (Appendix 1).
- Sieving these broad objectives by asking "is there any direct or indirect relationship/relevance between this objective and the issues which the Alteration will address?" At this stage this is only a crude overall relevance test and not a test of significance.
- Further refinement to reflect any particular locally significant environmental issues that are not adequately covered by these objectives.

4.2.4 The SEA objectives as identified and detailed in Appendix 3 seek to address the major environmental issues and problems facing the area, highlighting their relationship to land use planning. Environmental issues have been identified by scoping the relevant Alteration topics against environmental objectives and by scoping the structure plan policies and proposals against changes in national/external legislation as well as local policy change and changes in circumstance - see Appendices 2 and 3. All environmental objectives reflect the particular issues this Alteration seeks to address. Each of the objectives and subsequent assessment criteria has been tailored to point out potential environmental impacts through the testing process - (see Methodology).

4.3 Assessment Methods

4.3.1 The strategy, policy and proposals of the Plan, along with reasonable alternatives, have been assessed against the range of environmental issues set out Schedule 2 of the Environmental Assessment of Plans and Programmes (Scotland) Regulations 2004 (superseded by the Environmental Assessment (Scotland) Act 2005). Comments from the Consultation Authorities (SNH, SEPA and The Scottish Ministers (Historic Scotland)) have been taken into account regarding the methods, scope and level of detail in this Environmental Report.

4.3.2 A matrix-based approach to the assessment of the Plan against the stated objectives was used. This was approached as follows - (see also Appendix 4).

- **Relevance** - Is the objective relevant to the particular proposed policy or change in approach? Does it have a significant environmental effect? **Yes/No**

- **Impact** - A judgement will be made on whether the policy/proposal will have a potential impact by looking at the relevant assessment criterion in Appendix 3 against the relevant SEA Objective.

  - If Yes Is the impact positive or negative? (See Appendices 7).
  Is the impact permanent or temporary?
  Is the impact be short, medium or long term?

- **Justification** - A brief summary highlighting the main reasons for the predicted impact of each policy on each relevant objective.

- **Mitigation** - Where any potentially negative or uncertain effects are identified an indication of the potential for mitigation or reducing uncertainty will be stated.

- **Summary** - At the end of each assessment there will be a summary of the overall impacts of the policy/proposal as well as the potential mitigation measures that could be put in place to mitigate against any adverse environmental objectives.

- **Recommendation/Alternatives** - Depending on the results in the above assessment this section should recommend alterative options that could be looked upon to achieve an alternative outcome.

- **Comparison Assessment of Alternatives** - Where there is more than one option to be assessed a table will outline the overall impacts results in comparison to one another (see Appendix 5).

4.3.3 Assessment will be carried out on the broad strategic options as well as particular policies and any recommendations will feed back to the relevant stages of the Plan process - namely to inform the Plan and in assessing any proposed changes resulting from consultation on the Plan and the Environmental Report.

4.3.4 There are potential cumulative and synergistic implications of the strategy for locating future development which will also be taken into account where feasible when choosing options through the SEA using available environmental information and professional judgement (see Appendix 7).

4.4 Difficulties Encountered

4.4.1 Although the Structure Plan Alteration identifies broad areas for development, it is not location specific; this makes it difficult to predict whether and how the plan Alteration will affect specific receptors, such as designated sites or protected species. For this reason predicted environmental impacts are often uncertain; it is anticipated that the impacts will be assessed in more detail and with more accuracy at Local Plan level.

4.4.2 The lack of certainty regarding the impacts of individual changes compounds the difficulty in assessing cumulative and synergistic impacts; once again these will be addressed in more detail at Local Plan level.

4.4.3 The monitoring programme is intended to identify any unpredicted impacts that occur once the plan is implemented, providing a safeguard that will allow any such impacts to be identified and dealt with.

4.4.4 The collection of baseline data has revealed inconsistencies in the availability of environmental data; where data has been lacking (for example data on European Protected Species) the precautionary principle has been followed and negative impacts have been assumed.

5. Detailed Assessment

5.1 Stages 1 - 4 of the Assessment Process.

5.1.1 **Stage 1 Assessments of Strategy and Options** - Figure 11 details the options that were appraised. A full account of the assessment of these is included in Appendix 6. This assessment also includes a comparison sheet which provides a useful summary of how the various options compare. This shows that overall the baseline option minimises environmental impacts, and that of all the strategic locations the Alloa/Tullibody Corridor offer locational advantages in addressing potential environmental impacts.

5.1.2 **Stage 2 Identify Preferred Options** - Figure 11 below highlights in bold the options that were selected. The selection of these options reflects a range of planning considerations including the Council objective of securing population and economic growth, a range of socio economic considerations and the overall strategy of the Plan as approved in 2002 of "Working Towards Sustainable Development". A full explanation of the reasons why these strategic choices were made is contained in the Structure Plan Background Report as updated January 2008. Figure 7 of the summary section of this report summarises the impact of each of the options and whether the recommendation of the Environmental Report was accepted.

5.1.3 **Stage 3 Policy Development** - Having identified the preferred strategy and broad policy approach the detailed policies were developed. These policies and the justification for them can be read in detail in the Finalised Structure Plan and in the accompanying background report.

5.1.4 **Stage 4 Test Policies and Proposals** - Full details of this assessment are included in Appendix 6. These assessments indicate the potential environmental effects of the Plan. They have assisted in policy development by highlighting the need for changes to the policy and particularly for more comprehensive cross referencing to the relevant environment and transport policies of the Plan. Figure 7 of the summary section of this report summarises the impact of each of the options and whether the recommendation of the Environmental Report was accepted.

Figure 11: Assessment of Alternative Strategies

Options	Alternatives (chosen option highlighted)	Justification for choice
Overall Growth Strategy		
	1. Baseline	This option would provide land in excess of the most recent projections to promote population and economic growth in Clackmannanshire. However environmental impacts are more significant than other options due to increased growth. There is increased mitigation potential is concentrated growth. Implications heavily dependent on locational strategy option.
	2. Baseline plus Moderate Growth	
	3. Baseline plus Aspirational Growth	
Strategic Options		
	Hillfoots Corridor	The focus on the core area is retained. All areas have some scale of allocation to provide some degree of choice in the housing market and assist in delivery of affordable housing. Future long term expansion areas are identified recognising the benefits of concentration. Clackmannanshire has one option in this respect (Clackmannanshire East).
	Clackmannanshire East	
	Alloa-Tullibody Corridor	

5.2 Assessment of Alternatives

5.2.1 Schedule 2, paragraph 6 of the Environmental Assessment of Plans and Programmes (Scotland) Regulations 2004 (superseded by the Environmental Assessment (Scotland) Act 2005) also requires that plans assess whether their effects will be short, medium or long term, whether secondary impacts, cumulative or synergistic effects, and possible permanent or temporary effects.

5.2.2 Scottish Planning Policy 1 (SPP 1) sets out the overall context for the planning system in Scotland. In terms of Structure Plans, it sets out their role to provide a long term vision, looking forward at least 10

years, as part of an overview of an area's development requirements, considering the functions and inter relationship of places, expressing the settlement strategy for the area and identifying priorities for urban and rural regeneration.

5.2.3 It is clear from SPP 1 that the assessment of cumulative, synergistic and secondary effects is part of the Structure Planning process. At the heart of the locational strategy of the Structure Plan is an assessment of the interrelationship between issues like housing, economic development, shopping, rural development and transport provision and how together they impact on the environment of the area. The Plan, in effect, controls the potential effects of cumulative impact by setting out the total scale of change that should be provided for within the Plan period, thus enabling locational choices to have regard to the aggregate effect of change. The Plan also addresses the opportunity costs (i.e. indirect impacts) through its policy analysis. This is critical to the mitigation of the impact of change. Thus, for example, where there is a need for growth through urban expansion, it is accepted that there will be negative environmental consequences which are mitigated by the selection process and criteria that are used to identified the preferred locations for development.

5.2.4 This Alteration sets out a vision to 2025, at the end of which it will have made significant progress in implementing its policy aims. These policy aims are devised to provide beneficial and suitably located land use change for the long term future of the Clackmannanshire Council area. Therefore, none of the policies are aimed at only short or medium term impacts.

5.2.5 It is accepted that as the policies are implemented on the ground, there may be more short term impacts. Individual applications may require the erection of temporary structures or storage areas and there may be environmental disturbance from the construction process, such as increased traffic or earth movement. However the detail and impacts of these works are indeterminable at the strategic scale and are more appropriately assessed as part of an Environmental Impact Assessment on individual applications at the development stage.

5.2.6 As a result, all proposals in the Structure Plan are regarded as having a potentially long term effect and are assessed accordingly. The same argument applies to those issues as to that of short, medium or long term impacts.

5.2.7 Temporary or Permanent Impacts - It is not the aim of the Structure Plan to identify policy interventions that have only a temporary effect. The aim is to set a policy framework that will have positive long term and permanent impacts of the area.

5.2.8 It may transpire that some of the impacts may have a shorter duration than others. But whether this will happen is unknown at this stage.

5.2.9 Although this may occur it is not the policy intention of the Structure Plan to plan specifically for these occurrences. Therefore, all policy proposals in the Structure Plan should be regarded as being permanent in their intentions.

6. Monitoring

6.1 The Environmental Assessment of Plans and Programmes (Scotland) Regulations 2004 (superseded by the Environmental Assessment (Scotland) Act 2005) requires the Alteration to monitor significant environmental effects of the implementation of the Plan to enable them to identify unforeseen adverse effects and to take appropriate remedial action.

6.2 The requirements for monitoring under the SEA regulations will be integrated with the monitoring framework developed for the Alteration.

6.3 A set of indicators have been identified in the SEA Objectives table in Appendix 3, many of which relate to environmental issues. In terms of monitoring for the Environmental Report these indicators relate specifically to the SEA objectives and enable us to measure and report on the actual environmental effects of the Plan and whether these are more or less significant than predicted.

6.4 There is, however, a need to develop an approach and overall framework for monitoring, the monitoring requirements for SEA will be built into this framework. Monitoring reports will be produced

as part of the framework and this will also address the reporting requirements for the Environmental Report and SEA.

6.5 The monitoring framework will be developed as part of the process to finalise the Alteration. The post adoption SEA statement will provide further details of the monitoring framework in relation to the Environmental Report.

6.6 Appendix 8 sets out the framework for monitoring the Alteration.

6.7 To assist with monitoring information for the future life of the Structure Plan and to collect gaps in the baseline data, a series of indicators have been developed from the baseline information that has been collected. It is considered that indicators are a useful monitoring tool, assisting in assessing the impact of the Alteration on the environment. Baseline information includes current data as well as proposed data up to 2025 where possible. Indicators should also identify where specific targets are being met or missed, which will help identify environmental change within the area in the next Plan review.

7. Next Steps

7.1 Following approval of the Finalised Plan, this report and other supporting documents, they will be submitted to Ministers and there will be further opportunity for objections to be lodged with Ministers. Representation received at this stage will inform Ministers prior to their decision to approve or require further amendments to the Plan. It is possible that further amendments to the Environmental Report may also be required prior to the Plan being approved by Ministers.

7.2 Copies of all the documents will be available for inspection at Kilncraigs and Local Libraries as well as on the Council web site.