Highland Council

A96 Corridor Masterplan
Strategic Environmental Assessment (SEA)
Environmental Report

January 2007

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Contents Amendment Record

This report has been issued and amended as follows:

Issue	Revision	Description	Date	Signed
1		Final Draft for Client Comments	31.1.07	SS/JF

List of Acronyms

AGLV	–	Area of Great Landscape Value
CA	–	Consulting Authority (SEPA, SNH & Historic Scotland)
CAR	–	Controlled Activities Regulations (Water Environment)
CBD	–	Convention on Biological Diversity
CO2	–	Carbon Dioxide
DCLG	–	Department for Communities and Local Government (formerly ODPM)
EC	–	European Community
EIA	–	Environmental Impact Assessment
ER	–	Environmental Report
EU	–	European Union
FCS	–	Forestry Commission Scotland
GHG	–	Greenhouse Gases
HS	–	Historic Scotland
LBAP	–	Local Biodiversity Action Plan
NOx	–	Oxides of Nitrogen (NOx gases)
NPPG	–	National Planning Policy Guidance
NSA	–	National Scenic Area
NTS	–	National Trust for Scotland
ODPM	–	Office of the Deputy Prime Minister (now DCLG)
PM10	–	Particulate Matter (up to 10 microns in diameter)
RA	–	Responsible Authority (The Highland Council)
RSL	–	Registered Social Landlord
SAC	–	Special Area of Conservation
SAM	–	Scheduled Ancient Monument
SE	–	Scottish Executive
SEA	–	Strategic Environmental Assessment
SEPA	–	Scottish Environment Protection Agency
SNH	–	Scottish Natural Heritage
SPA	–	Special Protection Area
SPP	–	Scottish Planning Policy
SSSI	–	Site of Special Scientific Interest
SUDS	–	Sustainable Urban Drainage Systems
WFD	–	Water Framework Directive

Limitations

Halcrow Group Ltd. has been instructed to provide the Highland Council with an Environmental Report for a Strategic Environmental Assessment carried out on 'A96 Corridor Masterplan'.

The assessment is based on information that was available at the time of publication. The report is presented as a consultation document. Any subsequent additional information arising during the consultation may allow refinement of the conclusions.

It should be noted that:

- The findings of this report represent the professional opinion of experienced environmental scientists, sustainability consultants and other specialists. Halcrow does not provide legal advice and the advice of lawyers may also be required.

- All work carried out in preparing this report has utilised and is based upon Halcrow's professional knowledge and understanding of current relevant European Union and UK/ Scottish standards and codes, technology and legislation.

- Changes in this legislation and guidance may occur at any time in the future and cause conclusions to become inappropriate or incorrect. Halcrow does not accept responsibility for advising the facts or implications of any such changes.

- This report has been prepared using information contained in documents prepared by others. No responsibility can be accepted by Halcrow for the accuracy of such information. Every endeavour has been made to identify data sources, where appropriate.

Non-Technical Summary

1. Introduction

In accordance with the Scottish National Planning Framework, the Highland Structure Plan and the Inverness and Nairnshire Local Plans, the Highland Council commissioned Halcrow Group Ltd to produce a Masterplan for the long-term development of the A96 Corridor from Inverness to Nairn; identified as the key economic development zone in the Highlands region. The development of the Masterplan has undergone extensive consultations and is accompanied by a Strategic Environmental Assessment (SEA), for which this document provides the Non-Technical Summary (NTS).

The A96 Corridor Masterplan will provide a framework for the development of the A96 Corridor between Inverness and Nairn. The Masterplan will not provide the precise details of developments to come forward; this will be for individual planning proposals to provide. The Masterplan is to be adopted as Supplementary Planning Guidance (SPG), and subsequently integrated within the Local Development Plan, at which stage, it will become a material consideration in the determination of any planning application for the area.

The SEA of the Masterplan provides information as to the likely environmental effects of development coming forward as envisaged by the Masterplan. However, the exact detail of any potential effects will depend on the detail of the proposals. On this basis, there is likely to be a requirement for separate environmental assessments for individual planning applications, potentially including full EIA as required under the environmental Assessment (Scotland) Regulations 1999.

The SEA of the Masterplan identifies those environmental issues which are most likely to be affected by redevelopment proposals and should assist in determining an appropriate scope for any EIA, or other environmental issue-specific assessments, which may be required as part of future planning applications coming forward under the Masterplan.

2. Objectives of the Masterplan

The A96 Corridor Masterplan is designed to accommodate future expected population growth of up to 30,000 people by the year 2041 and, at their Planning, Development, Europe and Tourism (PDET) Committee in August 2005, the Highland Council established clear policy outcomes for the Corridor comprising:

- Population growth of 20-30,000 people over the next 30-50 years,
- Preferred locations for settlements, to be developed post-2011,

    a) Polar growth – East Inverness and Nairn expansion (approx. 16,000 population)

    b) Village consolidation – 1-2,000 population

    c) New settlements – Whiteness and Tornagrain (approx. 14,000 population)

- A new community/ resort at Whiteness (Ardersier Fabrication Yard) for around 3,000 people,
- Growth of existing smaller settlements in the Corridor as allocated in the relevant development plan accommodating up to 3,000 people,
- Review the scope for long term development at Nairn South and Inverness East incorporating transport improvements that include dualling the A96 and a strategy to enhance landscape/ heritage features supplemented by recreational facilities, including a network of cycle and walkways,
- Growth should respect the high quality environmental aspects of the A96 Corridor, which include significant natural, built and historic assets, with presumptions against development that will negatively impact upon the integrity of the many designated and protected sites within the area.

The primary objective of the A96 Corridor Masterplan is therefore to accommodate expected population growth of around 30,000 people over a period of 30 – 50 years, in a sustainable manner, whilst maintaining distinctive natural, built and historic features and the green character of the area. The Masterplan provides a high level strategic framework that directs development to meet the desired outcomes listed above.

Halcrow Group was commissioned to take forward the development of the Masterplan and the approach undertaken employed a rigorous and advanced process. As such, the A96 Corridor Masterplan has sought to avoid negative environmental impacts wherever possible and to minimise effects associated with population growth.

3. Strategic Environmental Assessment (SEA)

Strategic Environmental Assessment (SEA) is required by European Directive (2001/42/EC), which was transposed into current Scottish legislation under the Environmental Assessment (Scotland) Act 2005 (the SEA Act), which came into force in February 2006. Through the Act, SEA processes are intended to improve the contribution that the strategy being appraised makes to the achievement of sustainable development, in conjunction with other relevant policies and strategies, whilst at the same time minimising adverse and maximising positive environmental effects.

Implementation of the A96 Corridor Masterplan, to accommodate expected population growth, is likely to have significant environmental effects and the need for SEA to accompany the Draft Masterplan, was identified directly by the Highland Council. Halcrow are responsible for the management of the SEA, which is used to ensure that environmental impacts are fully appraised and taken into account during the planning and decision making process. The application of SEA processes to the Draft Masterplan highlights those features that stand up to detailed scrutiny and leads to the improvement of those that do not. In this way, implementation of the Masterplan is improved and the SEA proves useful in developing guidance, realistic indicators and monitoring methods, as well as demonstrating positive action for future reviews.

The SEA Act requires the production of an Environmental Report (ER) documenting the process, as a means to aid transparency in decision making by public bodies. The ER should contain the following:

- Information on the strategic context for the plan/ policy in question and a summary of the environmental objectives of the plan,
- A description of the baseline environment for the area concerned,
- Information on the potential environmental impacts expected as a result of the plan and the benefits that the plan can provide,

- A record of the environmental appraisal processes used to assess impacts and benefits,
- An outline of mitigation or enhancement measures identified,
- Proposals for indicators and monitoring, and
- A Non-Technical Summary.

In conjunction with the Draft Masterplan, the Environmental Report must be circulated for consultation comment; after which comments and opinions expressed through consultation should be taken into account in the preparation of the final Masterplan. The 'responsible authority', in this case the Highland Council, are then required to produce a post adoption statement outlining how the Environmental Report and consultation comments were taken into account in the finalisation of the Masterplan.

4. A96 Corridor Masterplan SEA Processes

The scope of the A96 Corridor Masterplan SEA is limited to direct consideration of Urban Frameworks developed for Inverness and Nairn, and the Green Framework for the Corridor as a whole. The SEA does not consider proposals for future development around Inverness Airport, Whiteness and Tornagrain, as these private developments are subject to further and separate detailed assessment and planning consent, outwith the scope of the A96 Corridor masterplanners' remit. Similarly, proposals for village growth are not given specific consideration. Cumulative effects of these developments are acknowledged.

In the A96 Corridor Masterplan SEA, the potential effects assessed relate principally to the overall development proposals within the A96 Corridor. The key aims of the SEA process were:

- To assess related strategies, develop a coherent background for assessment identifying synergies, potential conflicts, and environmental obligations.
- To analyse the Masterplan Vision and Design Principles to identify potential conflicts and environmental implications.

- To document the outcomes of Masterplan option appraisals conducted through extensive consultation processes.
- To analyse the provisions of proposed Urban and Green Frameworks and review headline features of the preferred options against SEA objectives.
- To develop recommendations for mitigating negative and enhancing positive impacts associated with the Masterplan.
- Propose relevant SEA indicators that can be used to monitor environmental performance against baseline conditions.
- Production of an Environmental Report documenting assessment methodologies and recommendations for the implementation phase of the Masterplan.

A series of assessments were undertaken that considered scoping responses from the statutory consultees (SEPA, SNH and Historic Scotland) and assessed the environmental objectives of related plans and programmes, which could impact upon the development of the A96 Corridor Masterplan. Following these initial assessments, an objective baseline was compiled to identify existing environmental conditions, pressures and problems within the Corridor study area. These considerations then informed the refinement of SEA objectives used in appraisal processes.

SEA objectives form the basis for the appraisal of the Urban and Green Frameworks within the Masterplan. SEA objectives were designed to focus on matters that the Masterplan could influence (either directly or indirectly). They provide the starting point for ensuring that SEA issues are at the heart of, and are fully integrated into, the A96 Corridor Masterplan.

5. Public Consultation/ Option Development

During the Masterplanning and SEA process, framework options for Inverness East and Nairn were produced through a stakeholder consultation process, Collaboration for Success (CfS). This process allowed governmental agencies, community groups and private stakeholders the opportunity to participate in the development of five options (alternatives) for each Urban Framework, which reflected the range of issues, concerns and opportunities represented by the varied groups.

The framework options/ alternatives were sanitised and digitised by technical staff to allow ease of comparison across a range of indicators. Updated options were then subject to a second round of CfS workshop events, where each alternative framework was assessed in the context of:

- **Accessibility** – Examining the range of transport options available including new road and rail infrastructure, public transportation links and improved pedestrian and cycle connectivity.

- **Economy** – Promoting a strong local economy based on local job creation, education & lifelong learning opportunities and set within realistic market ambitions.

- **Community** – Assessing the options with regards to social justice, crime prevention planning, health and safety and the opportunity to create distinct and attractive places.

- **Environment** – Looking at the opportunities to create quality urban design and the sustainable integration of land use, as well as how the development options would influence waste disposal and energy use, pollution reduction and mitigate for landscape and ecological impacts.

In addition to the above, the Highland Council organised and ran various public consultations on the Masterplan development options, as well as conducting review meetings of the Highland Council Planning, Development, Europe and Tourism (PDET) Committee to assess the progression and suitability of the preferred options.

This process resulted in a detailed 'Preferred Option' for each of the East Inverness and Nairn development frameworks. An outline of a suggested Green Framework was assessed throughout the public consultations, highlighting features and concerns that were taken into consideration in the refinement of the finalised Green Framework option.

6. Summary of Environmental Context

Assuming a worst case scenario, identified significant environmental impacts likely to be associated with population increase in the area would include:

- Unmanaged population growth of up to 30,000 people exacerbates various environmental problems associated with urban air pollution, wastewater treatment and water demand, unrestricted land use change, unsuitable development and associated impacts upon climatic factors, landscape quality, local biodiversity and health infrastructures.

- Piecemeal development leads to increased habitat fragmentation and deterioration of green wedges and wildlife corridors, without planned provision to maintain and enhance wildlife routes, leading to increased species loss from the area and potential damage to protected sites and species in the area.

- Population growth leads to undue pressures on water supply and wastewater facilities in the absence of strategic planning, exacerbating existing biodiversity and water quality concerns with associated negative impacts on Bathing Waters, Shellfish and riverine and marine biodiversity.

- Similarly problematic for waste infrastructure and recycling facilities, leading to continued reliance on landfill and incineration with associated impacts upon climate emissions.

- Potential development within floodplains leads to continued reliance on expensive and environmentally damaging flood defences.

- Deterioration of the extensive, rich historic environment, with unmanaged development and unsuitable re-use of buildings potentially leading to increased rates of damage, destruction and loss.

- Increased levels of traffic on key routes could produce overspill onto peripheral routes at peak times.

- Increased congestion at identified bottlenecks on the A96 trunk route will significantly increase levels of local urban air pollution in Nairn and Inverness.

- Marginalisation of Nairn town centre as people travel to Inverness and other regional centres for work, shopping and entertainment.

- Encroachment of unmanaged and unsuitable development impacts upon local landscapes, townscapes and seascapes.

- Local populations move on as amenity levels drop, services become oversubscribed and the current good quality of life deteriorates.

Therefore, the negative environmental impacts associated with large population increase represent the major significant effects facing the A96 Corridor, and the Masterplan is a key mitigation tool in addressing associated problems, to minimise and control negative effects. Following a review of scoping responses by the statutory consultees, coupled with an assessment of the environmental objectives of relevant policies and guidance and the completion of a baseline study, the A96 Corridor Masterplan environmental objectives can be defined as:

- Producing strategic frameworks for the future development (post 2011) of Inverness, Nairn and the A96 Corridor between the urban areas, to sustainably accommodate population increases of up to 30,000 people.

- To manage and mitigate negative impacts that such population increases can present, with respect to water, climate, air quality, human health and biodiversity.

- Introducing a strategic approach to development for the period to 2041 that safeguards the environmental qualities of the area, including protected sites and important natural, built and historic features.

- Maintaining the overall landscape quality of the area, safeguarding critical views, and providing connections between places accessible by non-motorised means and local wildlife.

- The A96 Corridor Masterplan must manage urban development, such that it is compatible with the natural heritage setting, retaining green spaces, wildlife corridors and access links to the surrounding countryside.

- Equally important is provision within developments for implementing the Highland Waste Strategy, establishing Core Path Networks, including footpaths around settlements and increased facilities for wider countryside access.

- Maintaining the historic environment (with enhancement, where possible), by presuming against development that would negatively affect historic sites.

7. Mitigation

It must be acknowledged that the key benefit of the A96 Corridor Masterplan, as a whole, is the long-term, strategic mitigation of potentially significant effects associated with population growth. The Masterplan and the SEA have taken account of the negative implications of growth and employed a hierarchical approach to mitigation:

Avoid – Minimise – Remedy – Compensate – Direct – Enhance

Where impacts were identified, and unavoidable, means to mitigate, remedy or compensate by, for example, designing in wildlife and landscape corridors, or compensating for increased urbanisation by developing a Green Framework, which safeguards considerable areas of countryside and woodland from development. The Masterplan also addresses identified impacts by directing development to the most appropriate locations (in conjunction with consultations, as discussed), providing capacity assessments and recommendations for phased development of utilities infrastructure and roads.

8. SEA Assessments

The use of matrices provides a systematic and transparent method of demonstrating which features and details have been considered and the use of colour coding allows readers to easily identify and compare effects across assessments, to ensure consistency of approach. Colour coding is used in all matrices to help clearly identify which features are positive and which have potentially negative effects. Assessments were carried out using matrices in three stages:

1. The first considers the compatibility of selected SEA Objectives with the stated A96 Corridor Masterplan Vision and 'Smart Growth' Development Principles. These matrices provide a high level assessment of the Masterplan Objectives against SEA Objectives and are provided in Appendix C.

2. The second considers the Urban and Green Frameworks by analysing potential effects on each of the required SEA topics and assessing how the Masterplan addresses or accounts for effects, in accordance with the selected SEA objectives.

Full assessment matrices are provided in Appendix D. These matrices consider potential significant effects (positive and negative), temporal effects (long/ short term/ permanent/ temporary/ ongoing), as well secondary/ indirect and cumulative effects, as required by SEA regulations.

3. A final set of matrices considers the headline features of the Preferred Options for both East Inverness and Nairn. These matrices are provided in Appendix E.

9. Overview of Assessment Results

Testing the compatibility of the selected SEA objectives with the stated Vision and Development Principles for the Masterplan suggests that the Masterplan Vision accords with all the SEA objectives. However, there is potential for conflict when considering biodiversity, habitats, soil and water effects associated with population increase, land take and built development.

Potential conflicts are also evident when considering the wider impacts of population increase, job creation and road development on air quality and climate emissions. The assessment highlights that population growth in the area is a given, and that these potential conflicts cannot be directly resolved through the provisions of the Masterplan. However, the Masterplan is a key tool in managing and mitigating the negative effects.

Overall, the SEA objectives and the Masterplan Vision and Development Principles reflect and support each other in achieving the aim of sustainably managing the effects of growth.

Summary of Urban Frameworks Assessment

Potential Significant Effects	Mitigation Measures	Residual Effect
Biodiversity, Flora & Fauna Loss of greenfield sites to development and associated impacts on local biodiversity, habitat connectivity and protected sites	The Masterplan works to accommodate growth and to effectively manage associated negative impacts upon local biodiversity concerns by providing ample green spaces, buffer zones (green wedges), safeguarding protected areas, woodland and countryside All detailed development proposals with the potential to affect European protected sites are required to be subject to Appropriate Assessments under the provisions of the EU Habitats Directive, which requires consideration of effects on the management and integrity of the site in question	Some permanent loss of local greenfield space compensated by urban development of greenspace and the quid-pro-quo protection and enhancement of extensive areas throughout the A96 Corridor
Human Health & Population Rapidly increasing local populations and in-migration can lead to displacement and social exclusion for resident populations without sufficient provision for affordable housing and accessible health and social care	The Masterplan affords opportunities for local healthcare provision, education (life-long learning incorporated in provision for primary schools, high schools and further education facilities), social and community services (in response to demand), improved public transport infrastructure, community access and employment options as well as the protection of cultural heritage and the historic environment	The Masterplan outlines proposals that direct development to the most suitable locations (after considerable consultation processes) that are expected to lead to the realisation of viable neighbourhoods and sustainable patterns of phased development Viable neighbourhoods includes the provision of affordable housing to meet the Highland Council's target of 25% provision in areas of housing stress
Soils Soil resources include archaeological soils containing remains and a record of past human activity, development could lead to the loss of some of these areas/ features Some land take is necessary to accommodate expected population growth leading to concerns over the potential effects of land use change	Following consultations with Historic Scotland, the Masterplan highlights identified historic features and affords protection from development, in association with Highland Council policies that presume against development that negatively affects historic features Rural land take has been minimised throughout the Masterplanning process with key development areas now concentrated around the urban fringes of Nairn and Inverness	Minor negative impact of development overall, however the Masterplan works to minimise negative effects by assigning multiple urban areas for greenspace, as well as identifying much of the A96 Corridor hinterland as of value and worth protecting

Potential Significant Effects	Mitigation Measures	Residual Effect
Water Risk of pollution affecting watercourses that leads to negative impacts upon high quality protected marine, coastal and inland standing waters Risk of increased populations overloading current wastewater treatment works leading to increased incidences of sewage contamination/ overflow Increased populations will lead to increased water demand that could outweigh current capacity levels	The Masterplan directs the framework for development proposals and provides fully assessed capacity studies for local water supply and treatment, an assessment of SUDS methodologies, as well as directing future development away from flood plain areas, as part of the fundamental planning approach The Masterplan provides a strategic approach with effective phasing of development with water supply infrastructure and waste water treatment that replaces existing small sites to improve the local water environment	Minor negative impact of development, as increased construction and population can be expected to impact upon water quality at some point, however the Masterplan limits these effects through consideration of floodplains and increased planting, which can help reduce pollution impacts Overall long term effect is expected to be neutral with some potential for short term impacts if development is not properly phased with water supply and treatment infrastructure The Masterplan recommends effective co-ordination and delivery mechanisms based on joint ventures across the A96 Corridor
Air Increasing populations will lead to increased transport emissions – either by increasing private car use or through increased demand for public transport Significant negative effect on overall urban air quality to be expected from increased population	The Masterplan addresses these issues by providing for improved public transport infrastructure (bus lanes and rail upgrades, park and ride facilities, accessible high density housing making routes more viable for transport operators and more attractive for residents) The Masterplan provides for the fundamental design principle of creating walking and cycle friendly places as well as improving public transport infrastructure Proposals for A96 dualling will help improve traffic flow, dispersing emissions and allowing the provision of dedicated bus lanes to improve public transport infrastructure Suitable provisions for a bypass at Nairn will significantly improve local air quality in the town	The Masterplan will have a positive effect on managing transport emissions The Masterplan cannot reduce expected increases but does provide means to mitigate and promote alternative forms of transport in a strategic manner Ongoing negative effect due to expected increases in transport levels The Masterplan provides means to mitigate these pressures but must be combined with other proposals and technologies to determine a suitable long-term sustainable solution
Climatic Factors Overall negative impacts on climate due to pressures of accommodating up to 30,000 more people in any area All development will present issues with respect to energy use and transportation effects	The Masterplan is not responsible for these impacts but addresses the issues of how to accommodate such growth in a sustainable manner The Masterplan mitigates and manages climatic impacts through the strategic direction of growth to make accommodation of 30,000 people less damaging Extensive planting regimes will go some way to mitigating GHG local production	The Masterplan addresses the issues of sustainably managing population growth, however the overall impact of development will be negative as GHG production will increase in line with population levels The Masterplan does leave scope for future renewable energy considerations, but does not include any specific recommendations The Masterplan directs the framework for future development but cannot control methods used by developers Negative impacts are therefore expected

Potential Significant Effects	Mitigation Measures	Residual Effect
Material Assets Potential for new development to detract from existing character of Nairn's seaside holiday setting Potential that new development and in-migration increases property prices and leads to exclusion of local residents Development pressure could reduce greenspace and urban amenity Increasing rates of local consumption and waste production increases pressure on local facilities	Key development principle is to respect the Highland vernacular design and create effective places that respect local character and distinctiveness The Masterplan secures green spaces within the Urban Frameworks Smart Growth principles are proven to deliver more effective places that add to urban amenity for residents The Masterplan outlines appropriate mixed use and housing density development that respects local distinctiveness, providing for local historic features and settings The Highland Council have indicated that housing developments will have sufficient space for waste segregation at source, allowing more effective management and recycling	Overall positive impact as the Masterplan provides a strategic framework for the development of the A96 Corridor over the coming 40 years with key objectives to deliver places that work well for residents, within the local urban setting and wider countryside environment The Masterplan does not address waste issues directly but does provide a strategic framework for development proposals to provide more detailed assessment at local levels Proposals for waste management facilities are not included within the remit of the A96 Corridor Masterplan
Historic Environment Potential for urban development to lead to damage to, or in extreme cases, loss of local historic features Potential for unsuitable development to affect the wider historic or landscape setting of features and affect the townscapes of Conservation Areas Potential loss or damage to historic/ natural history features associated with road developments	Consultations with Historic Scotland have helped direct the Masterplanning process The Masterplan identifies the many historic features within the area as priority assets and presumes against development that will negatively impact protected features The Highland Council has similar policies within the Inverness and Nairnshire Local Plans Road routings are indicative only and are not to scale, historic features will be taken into account in more detailed appraisals and EIA at lower levels of plan development, with the presumption that specific routes that impact historic sites will be re-routed to avoid damage	Overall neutral impact is expected for the Urban Frameworks as the Masterplan recognises historic sites and lists them as constrained development areas Planting proposals could affect some features, requiring further consultation with Historic Scotland on suitable planting regimes/ exclusion zones The historic environment is recognised as adding value to new developments as it encourages/ aids the establishment of an area
Landscape Developments have the potential to negatively affect the local landscape through unrestricted and unsympathetic construction that does not respect landscape features or important views	The Masterplan is developed to address the issue of suitable locations for development that is going to happen along the Corridor The Masterplanning process includes the use of Landscape Character Assessments and Landscape Capacity Appraisals to determine areas capable of absorbing new/ increased urban development The Masterplan maintains open aspects, introduces green wedges and environmental buffer zones at critical places to ensure there are no encroachments/ coalescence of urban expansions	Overall positive effects are expected for the Urban Frameworks Urban Frameworks recognise local features, important views and the landscape qualities of the approaches to Nairn and Inverness The Masterplan aims to deliver urban expansion to accommodate population increases whilst maintaining the local 'countryside' feel to the area

Summary of Green Framework Assessment

Potential Significant Effects	Mitigation Measures	Residual Effect
Biodiversity, Flora & Fauna Development proposals could affect the integrity of the many high quality European and nationally designated protected sites found across the Corridor Developments could lead to increased habitat fragmentation Unregulated development could lead to loss of important wildlife networks leading to increased pressure on biodiversity levels	Appropriate Assessments will be required for any detailed development proposal that could impact upon European protected (Natura 2000) sites Coastal paths will require consultation with SNH to determine the most effective routes that minimise disturbance to sensitive protected areas Newly identified wildlife corridors are a direct result of the Masterplan process Other developments within the Corridor can be considered 'green' developments including golf courses	Significant overall positive effect through protection of extensive countryside and woodland areas, development of additional wildlife corridors and the identification and safeguarding of protected European and national sites of importance Extensive planting and urban greenspace proposals will help create habitat connections through urban areas
Human Health & Population Potential for numerous development proposals to negatively affect the overall environmental quality of the A96 Corridor Positive effects are to be expected through the development of the Green Framework proposals with the inclusion of extensive walking paths and trails along and across the Corridor	The Masterplan provides Urban Frameworks guiding sustainable development for the accommodation of expected population increases of up to 30,000 people Green Framework proposals increase the environmental aspects for the sustainable development of the Corridor area as a whole	The Masterplan has an overall significant positive effect in developing the A96 Corridor with respect to sustainable patterns of location and type of development by minimising and mitigating negative effects associated with large population increases The Masterplan provides the framework for improved path networks, access to local environmental assets and important viewpoints across the Corridor The Masterplan also presumes against development in unsuitable or protected areas
Soils Positive overall effects identified by minimal land take for urban development and the protection of countryside and woodland areas Positive effects to be realised by securing green wedges and buffer zones between urban areas	Loss of greenfield land is minimised by the Masterplan and the Green Framework provides quid-pro-quo protection of other greenfield areas	The Masterplan provides an effective framework for managing growth and minimising rural land take The Masterplan works to safeguard countryside, woodland, environmental and historic assets
Water Positive effects associated with green corridors along identified floodplains mitigating flooding effects Positive effects associated with protection of countryside and woodland areas Proposals for extensive tree planting can have positive effects on protecting surface waters and reducing pollution levels	The Masterplan provides capacity assessments for water supply infrastructure, recommends SUDS inclusion in new developments and avoids inappropriate development within identified floodplains The Masterplan identifies the need for additional waste water treatment facilities and provides a strategic approach to replace existing small sites and improve the local water environment	Population growth could have a detrimental effect on water quality, however the Masterplan manages growth to mitigate and minimise negative effects Positive effects will be evident after phased provision of improved utilities infrastructure Overall, the Masterplan presents positive effects on protecting water quality

Potential Significant Effects	Mitigation Measures	Residual Effect
Air The Green Framework promotes improved access to environmental and historic features at various points across the A96 Corridor leading to improved access by public transport The Green Framework will help address local urban air quality by developing integrated green wedges and buffer zones between urban centres	The Masterplan provides an integrated approach to access by public transport between urban centres and the numerous environmental and historic features within the A96 Corridor The Masterplan provides an integrated approach to addressing urban air quality by re-routing the A96 Corridor around Nairn and improvements to the Raigmore Interchange Green Framework provisions include planting and landscaping for screening which will also help reduce impacts	The Masterplan presents significant benefits for local populations and tourists by providing for improved public transport infrastructure The Masterplan should produce minor positive benefits for local urban air quality, however these could be negated by overall increases in traffic levels associated with population increases
Climatic Factors The protection of countryside and woodland assets and tree planting proposals will help offset and mitigate local increases in GHG production by providing enhanced carbon sinks The Green Framework provides walking and cycle routes to help reduce the need for motorised transport between urban centres and along the Corridor as a whole	The Masterplan addresses increased emissions by improving carbon sinks and protecting large areas of countryside and woodland from land use change Detailed development proposals will be required to demonstrate consideration of energy conservation in line with the Highland Council's Development Plan Guidance, 'Designing for Sustainability in the Highlands'	Population increases will increase overall GHG emissions, leading to a negative assessment of effects, however the Masterplan directs growth and provides Green Framework proposals to mitigate climate effects Overall positive effect for the Masterplan as it sets the framework for sustainable growth along the A96 Corridor, promoting energy conservation and reducing the need to travel by designing urban environments with mixed use and mixed density housing close to urban centres, as well as improved greenspaces and extensive walking and cycle routes across the Corridor
Material Assets Enhanced green wedges, buffer zones and protection of local environmental areas, countryside and woodland will improve amenity levels for local populations Potential for increased rural and coastal littering as trails and paths become more frequented	Improving the quality of the built environment includes providing adequate greenspace for local amenity and recreation as well as protecting valuable local environmental assets as provided throughout the Masterplan Enhancement possible with provisions for waste management along Green Framework paths and trails, including segregated bins, effective collection and appropriate signage	Significant positive effects anticipated through the realisation of Masterplan proposals The protection of critical views also adds to local distinctiveness Potential for litter and waste along sensitive coastal areas and countryside paths can be minimised through effective facilities and collection
Historic Environment Significant positive effects associated with Green Framework proposals for protection and enhancement of critical environmental and built assets	The Masterplan outlines plans for improved access to, interpretation of, and links between critical sites	Built and natural historic features are treated as assets to be secured for the long term enjoyment of local population and visitors

Potential Significant Effects	Mitigation Measures	Residual Effect
Landscape Loss of key landscape features and views can lead to public concern and in extreme cases, outrage at new development Positive effects associated with the recognition and protection of numerous critical views Positive effects associated with protection of large areas of countryside and woodland	The Masterplan is designed to accommodate significant population increase in a sustainable manner without detracting from the local character, important views and local natural and built heritage features The Masterplan recognises and maintains key views/ outlooks and safeguards large areas of countryside and woodland from development	The Masterplan is expected to have an overall significant positive effect in accommodating population and urban growth sympathetically within local landscapes and outlooks

An appraisal of the headline features of the **Inverness Preferred Option** against the SEA Objectives highlights the following environmental considerations:

- Positive effects are associated with respect to provisions for improving human health and amenity levels for local populations, with the inclusion of connected path and cycle networks, community sports facilities and quality urban greenspaces.
- Positive effects are also to be realised with respect to education and life-long learning by the improved provision of primary and high schools, as well as tertiary education facilities.
- Public transport provisions including park and ride and improved interchange facilities will result in benefits with respect to air and climate factors, however, these benefits could be tempered by the general growth in transport to be expected.
- A transport interchange next to campus, business, housing and sporting areas will be convenient for local populations but may not be of much benefit to local health when considered in conjunction with the dual carriageway route.
- An iconic entrance building could cause concern and should be sympathetic to the surrounding environment and setting.

- Significant positives are likely by linking urban walking and cycling routes to those outlined in the Green Framework.

- Features which carry potential negative aspects are those associated with roads in general, and routes adjacent to high density housing and schools. However, some of the negative effects associated with transport pollution and road safety may be mitigated by the close proximity of greenspaces, parkland and appropriate calming measures.

- A dualled route in Inverness will help reduce congestion levels; however as the route passes directly by the regional sports complex, campus greenspaces and high density housing, anticipated health benefits from improving traffic flow may not actually be realised.

- Advantages lie in the choice of location for retail outlets, being next to existing retail space, which supports objectives to respect urban form, minimise energy use (e.g. in waste handling from multiple distinct sites) and protecting greenspace in other areas.

- Extensive greenspace and walkable access between housing and the campus and sports facilities will present long term benefits for local residents.

An appraisal of the headline features of the **Nairn Preferred Option** against the SEA Objectives highlights the following environmental considerations:

- Introducing a bypass will have significant benefits in reducing local urban air pollution in the centre of Nairn, improving road safety for local residents and enabling the desired regeneration of the town centre.

- Concerns over exact routing and potential impacts upon local historic features (particularly around Howford Bridge) should be resolved through further consultation. The Masterplan provides an indicative framework for strategic development and the exact route should accommodate historic environment concerns in conjunction with Highland Council policies to protect historic features.

- The junction at the A939 provides benefits through access to proposed recreational areas and environmental assets/ visitor centre, and could increase access by public transport.

- Good access to main roads will make developments appealing to public transport providers; quality landscaping will increase the appeal to new residents and the proximity to business, retail, education and district centre facilities will help bring a good mix of residents promoting vibrant neighbourhoods.

- Close proximity to open spaces and recreational areas will add to the appeal of the area, especially as the urban development avoids identified floodplains (developed as parkland and recreational areas).

- Avoiding hard development on floodplain minimises the likelihood of extensive material damage, helps maintain water quality and aquatic diversity, as well as local townscapes.

- Proposals to link this area with geo-trails will increase opportunities for access, interpretation and appreciation of local natural history and environmental features.

- Any potential for negative effects on sensitive European protected sites along the coast associated with disturbance, littering and short-term impacts from construction – will require close consultation with SNH to determine most appropriate routes, signage and waste management provisions.

10. Cumulative Impacts

Cumulative effects are difficult to predict as development considerations are subject to further consultation and assessment, however it is expected that the effects of other development options within the A96 Corridor will be similar to those identified for the Urban Frameworks. Concerns are raised when considering the redevelopment of the Ardersier former fabrication works at Whiteness, with respect to contaminated soils and associated impacts that any disturbance may have on sensitive and protected coastal zones in the immediate vicinity. These potentially significant impacts will require careful consideration, Appropriate Assessments and the utilisation of suitable remediation or containment strategies.

It is acknowledged that the development of a marina and holiday accommodation is in keeping with the traditional nature of Nairn as a resort location, and will bring benefits in terms of revenue and employment. However, the integrity of the European protected/ designated sites and bathing waters should be protected as a priority. Similarly, coastal golf course developments

will have positive effects on local amenity, employment and recreation; however careful consideration of impacts upon designated sites will require Appropriate Assessments and the utilisation of effective management and containment strategies, to prevent any disturbance or pollution impacts. These considerations are also relevant for the upgrading or introduction of coastal trails and any path networks along/ across other designated sites (for example the proposed geo-trail will require careful routing) to prevent any degradation in quality. Short term, reversible impacts may be considered acceptable, but will require appropriate consents from SNH and other relevant bodies, including Historic Scotland, SEPA and the National Trust for Scotland.

Airport expansion and hotel developments have the potential to impact greatly upon water demand and wastewater treatment capacities, as well as having long term negative impacts upon air quality and climate releases. There should be stringent guidelines in place to ensure water reduction and energy efficiency technologies are utilised, to offset the damaging impacts of increased transportation emissions, especially those associated with increasing levels aircraft emissions.

In all cases, development should be in response to demand, effectively phased and co-ordinated throughout the Corridor to minimise the cumulative impacts of multiple development projects. The use of other environmental assessment techniques will be required, including future SEA at lower levels of planning and development, EIA on specific projects as required by the Environmental Assessment (Scotland) Regulations (1999) and Appropriate Assessment (AA) as required by the EU Habitats Directive, for any projects or plans that may have significant impacts upon the integrity or management of protected European sites.

Following a balanced appraisal of Urban and Green Frameworks, and the fact that the Masterplan is designed to deal with expected growth, rather than to attract new residents, the overall long-term impact of the Masterplan is determined to be positive. However, there is a continuing need for review and for development to be adequately phased in line with demand, to ensure that infrastructure services have sufficient capacity to limit the likelihood of negative impacts.

11. Indicators and Monitoring

A key result of the SEA process is in presenting which environmental effects (positive and negative) are most attributable to the plan/ policy/ strategy (PPS) in question and identifying means to monitor the impact of the PPS on those environmental conditions, or receptors. Indicators have been chosen to enable the monitoring and review of the Masterplan, post adoption, and to assess whether progress is being made towards greater sustainability in the A96 Corridor. The indicators selected are intended to measure the success, or otherwise, of the A96 Corridor Masterplan in meeting its environmental objectives and associated effects on the environment.

The ER lists a series of proposed indicators and potential data sources, however it must be stressed that the onus for monitoring and review lies with the Highland Council. It is up to the Highland Council planning groups to identify which indicators are most suitable, how often monitoring and reviews should take place and from there, which measures should be implemented on identification of either problems that should be addressed, or potential benefits that could be enhanced.

The Highland Council will conduct monitoring, in their capacity as the Responsible Authority for this SEA. It is proposed that a Monitoring Register be maintained by the Highland Council, detailing the relevant information to meet the requirements outlined within the proposed monitoring framework. The Monitoring Register will be available to the public and a short annual Monitoring Report will be produced by the Council, summarising the findings of the monitoring conducted during the previous year. The Monitoring reports will be forwarded to the SEA Gateway and published on the Council website.

12. Next Steps

The Interim A96 Corridor Masterplan is to be considered by Highland Council at the Planning, Development, Europe and Tourism Committee (PDET) on the 31 January 2007 with a recommendation to consult on the Masterplan and accompanying ER (this document).

Consultation is due to run for a period of 4 weeks between 6 February 2007 and 5 March 2007. The ER (including the Interim A96 Corridor Masterplan) will be submitted through the SEA Gateway to enable the Consulting Authorities (CAs) to consider and comment upon the ER. Any comments from the CAs will be

captured by the SEA Gateway and forwarded to the Responsible Authority (i.e. Highland Council) and copied to Halcrow. This document can be viewed at the Council's offices at Glenurquhart Road, Inverness as well as on the Council's website at

http://www.highland.gov.uk/businessinformation/economicdevelopment/regeneration/a96-corridor-masterplan.htm

The Non-Technical Summary of this ER can also be viewed separately. The Council will organise consultation with the public on the Interim Masterplan and ER during this period. If you would like to attend the public consultation events please forward your contact details to Mike Greaves at Highland Council, available at Mike.Greaves@highland.gov.uk

After and during the consultation period there will be a review of the comments received and these will be considered in the process of finalising the Masterplan, before it is put to the Council's PDET Committee on the 14 March 2007 for approval and adoption as Supplementary Planning Guidance (SPG). The finalised Masterplan, when adopted, will be accompanied by an SEA Statement which will detail the results of the consultation on this ER and show how comments have been addressed in finalising the Masterplan.

On adoption of the A96 Corridor Masterplan, the SEA process will move into the monitoring phases. This will involve undertaking the monitoring as described in Section 8 of this ER.

Highland Council will progress the preparation of Local Development Plans (LDPs) early in 2008. The LDP applicable to the Inverness & Nairn area will be prepared in the context of the A96 Corridor Masterplan SPG. The intention is that the LDP, following LDP inquiry in 2010 will be adopted in 2011, incorporating the A96 Corridor Masterplan. Following the adoption of the LDP Action Plans, Development Briefs and Masterplans will be prepared for specific development areas within the A96 Corridor.

In summary, the indicative programme is outlined below:

31 January 2007	Interim A96 Corridor Masterplan considered at PDET Committee and recommended for formal consultation
6 February to 5 March 2007	Consultation period on Interim A96 Corridor Masterplan (including SEA)
14 March 2007	Final A96 Corridor Masterplan (including SEA) considered at PDET Committee and recommended for adoption as SPG
Early 2008	Progress LDP
2010	LDP Inquiry
2011	Adoption of LDP
2012 onwards	Progress Action Plans, Development Briefs and Masterplans

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1 Introduction

1.1 Background to SEA

1.1.1 This document details the Strategic Environmental Assessment (SEA) process undertaken in relation to the production of the Highland Council's Framework Masterplan guiding development in the A96 Corridor between Inverness and Nairn.

1.1.2 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 provides plan-making authorities with a process to incorporate environmental considerations into decision-making at an early stage and in an integrated manner. The objective of SEA is 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'*
>
> (Article 1 of the SEA Directive).

1.1.3 The SEA Directive establishes the need for development management plans to incorporate an SEA in Article 3, section 2:

> *'…an environmental assessment shall be carried out for all plans and programmes, which are prepared for agriculture, forestry, fisheries, energy, industry, transport, waste management, water management, telecommunications, tourism,* ***town and country planning*** *or land use and which set the framework for future development consent of projects…'*
>
> (Article 3 of the SEA Directive)

1.1.4 In Scotland, the Strategic Environmental Assessment Regulations 2004, known formally as the 'Environmental Assessment of Plans and Programmes (Scotland) Regulations 2004', were repealed by the introduction of the 'Environmental Assessment (Scotland) Act 2005', which now provides the legislative mechanism for transposing the Directive into Scottish legislation.

1.1.5 Scottish Executive Ministers envisage Scotland as a world leader in SEA provision and as such, Section 1 of the 2005 Act sets out the primary requirement, which is to secure the completion of an environmental assessment during the preparation of a qualifying plan or programme. Section 4 identifies which plans and programmes are covered by the provisions of the Act, and section 4(4) provides that "plans or programmes" includes "strategies". The explanatory notes to the Act state,

> *"Through the Act the aim is to improve protection of the environment, to improve public decision making and in particular to implement the commitment in 'A Partnership for a Better Scotland' to legislate to introduce Strategic Environmental Assessment across the range of **all** new strategies, plans and programmes developed by the public sector in Scotland".*

1.1.6 SEA as required by the Environmental Assessment (Scotland) Act 2005 has five key stages:

Screening	Determining whether the Plan/ Programme/ Strategy (PPS) 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 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 PPS, which considers environmental effects and mitigation or enhancement methods, and consulting on that report
Adoption	Providing information on: the adopted PPS; how consultation comments have been taken into account; and methods for monitoring the significant environmental effects of the implementation of the PPS
Monitoring	Monitoring significant environmental effects in such a manner so as to also enable the Responsible Authority to identify any unforeseen adverse effects at an early stage and undertake appropriate remedial action.

1.1.7 Development of the A96 Corridor, to accommodate expected population growth, will have significant environmental effects, as such the screening stage was not documented and the need for an SEA to accompany the Draft Masterplan, which is proposed to be adopted as Supplementary Planning Guidance (SPG), was identified directly by The Highland Council.

1.1.8 Halcrow Group Ltd. was commissioned to take forward the development of the Masterplan, and Halcrow are also responsible for the production and assessments of the SEA process. In SEA the potential effects of strategic actions to be assessed in the SEA relate principally to the overall development proposals within the A96 Corridor – specifically Inverness East, Nairn and the Green Framework – including the types of land use envisaged, rather than considering the individual elements within the development areas in detail.

1.1.9 Halcrow produced a Scoping Report, which was forwarded to the Statutory Consultation Authorities, SEPA, SNH and Historic Scotland for comment in August 2006. Scoping responses were received mid-September 2006, and the SEA Act requires that an Environmental Report (ER) is produced in which the likely significant effects on the environment of implementing the plan are described. The purpose of this ER is to:

- Provide information on the A96 Corridor Masterplan;
- Identify, describe and evaluate the likely environmental effects of the plan and reasonable alternatives; and
- Provide an opportunity for the Consulting Authorities (CAs) and the public to offer views on the Plan and this ER

1.2 Compliance with the SEA Act and Relevant Guidance

1.2.1 This SEA was conducted in compliance with

- European SEA Directive (2001/42/EC),
- Scottish regulations as noted above,
- ODPM Guidance (now DCLG),
- Scottish Executive SEA Gateway Templates and Guidance (2006),
- Scottish Executive guidance on SEA for Development Planning (Circular 2/2004), and
- current best practice.

1.2.2 SEA processes are intended to improve the contribution that the strategy being appraised makes to the achievement of sustainable development, whilst at the same time minimising adverse and maximising positive environmental effects. The application of SEA processes to the Draft Masterplan will highlight those features that stand up to detailed scrutiny and those that do not. In this way, implementation of the Masterplan will be improved and the SEA will prove useful in developing guidance, realistic indicators and monitoring methods, as well as demonstrating positive action for future reviews.

1.3 Environmental Report Structure

1.3.1 The report will broadly follow the structure outlined in the Scottish Executive SEA Templates, with some minor variations. Therefore, the report will contain the following sections:

Non-Technical Summary

Section 1	Introduction
Section 2	SEA and Consultation Processes
Section 3	A96 Corridor Masterplan and its Context
Section 4	Environmental Baseline and Issues
Section 5	Analysis of SEA Objectives
Section 6	Assessment of Environmental Effects and Mitigation Measures
Section 7	Alternatives Considered
Section 8	SEA Indicators, Implementation and Monitoring
Section 9	Next Steps

1.4 Key Facts about the A96 Corridor Masterplan

Table 1.1 Key Facts

Responsible Authority	The Highland Council – Planning and Development Services		
Title of Plan/Programme	The A96 Corridor Masterplan		
Administrative provision for the plan/ programme	The A96 Corridor Masterplan sets the strategic vision for the sustainable growth of the A96 Corridor area, encompassing some 30,000 new inhabitants across the period from 2011 – 2041. It sets out a development framework for growth at Inverness East and Nairn, assesses the major infrastructural arrangements required for the area and provides a Green Framework to maintain and enhance local high quality natural, environmental and built heritage assets. This also recognises development proposals at Whiteness and Tornagrain (including the Inverness Airport Business Park and the airport), as well as small scale housing allocations across the Corridor.		
Plan subject/ objectives	The A96 Corridor Masterplan aims to provide sustainably developed areas set within a Green Framework at Inverness East and Nairn, based around a collaborative and integrated consultative process following Highland Smart Growth principles.		
Period Covered	2011 - 2041		
Frequency of updates	3 – 5 years (notwithstanding political change at UK/Scotland/Council level)		
Plan Area	The Masterplan covers land use planning policy in the A96 corridor between Inverness and Nairn		
Contacts	Mike Greaves Head of Planning and Development The Highland Council Glenurquhart Road Inverness IV3 5NX Tel: 01349 868527	Scott Davidson A96 Corridor Masterplan Project Manager Halcrow City Park 368 Alexandra Parade Glasgow G31 3AU Tel: 0141 552 2000	Stefano Smith SEA Manager Halcrow 16 Abercromby Place Edinburgh EH3 6LB Tel 0131 272 3300

1.4.1 The locations and proposed layouts of the A96 Corridor Masterplan are shown as follows:

- Green Framework - Figure 6.1 Section 6, page 119
- East Inverness Framework - Figure 7.1 Section 7, page 124
- Nairn Framework - Figure 7.2 Section 7, page 126

1.4.2 This ER, and other information relating to the Masterplan process, is available for review at the Highland Council's offices at Glenurquhart Road, Inverness and on the Council's website http://www.highland.gov.uk/businessinformation/economicdevelopment/regeneration/a96-corridor-masterplan.htm

2 SEA and Consultation Processes

2.1 Aims of the SEA Process

2.1.1 The key aims of the SEA process are:

- To assess related strategies, develop a coherent background for the assessment identifying synergies, potential conflicts, and environmental obligations.
- To analyse the Masterplan Vision and Development Principles to identify any conflicts and environmental implications.
- To document the outcomes of Masterplan option appraisals through extensive consultation processes.
- To analyse the provisions of proposed Urban and Green Frameworks and review headline features of the preferred options against SEA objectives.
- To develop recommendations for mitigating negative and enhancing positive impacts, not covered by existing measures within the Masterplan.
- Propose relevant SEA indicators that can be used to monitor environmental performance against baseline conditions.
- Production of an Environmental Report documenting assessment methodologies and recommendations for the implementation phase of the Masterplan.

2.2 SEA Methodology

2.2.1 A series of assessments were undertaken that considered the scoping responses from the Consultation Authorities (CAs) and assessed the environmental objectives of related plans and programmes, which could impact upon the development of the A96 Corridor Masterplan. Following these initial assessments, an objective baseline was compiled to identify existing environmental conditions, pressures and problems within the Corridor study area. These considerations then informed the refinement of SEA objectives used to conduct the appraisal.

2.2.2 The key stages of the process are listed below, with an outline of SEA activities to date provided in Table 2.1.

Stage 1 Review of the Scoping Report and the responses of the consultation authorities, to help establish the framework for later assessments.

Stage 2 Literature review to assess associated strategies, policies and reports to determine environmental obligations and the policy context for the A96 Corridor Masterplan.

Stage 3 Review of the Vision and Development Principles outlined within the Masterplan to assess environmental and sustainability implications.

Stage 4 Participatory workshops with relevant Halcrow staff involved in the development of the Masterplan to review identified environmental effects, and assess implications for the Masterplan.

Stage 5 Extensive consultation processes conducted during the Masterplan option appraisal process to determine preferred development options for Inverness and Nairn.

Stage 6 Synthesis of analysis to summarise significant environmental effects (positive and negative), recommend mitigation or enhancement methods and identify relevant indicators for future environmental monitoring.

Stage 7 Production of an Environmental Report to document the assessment process and recommendations.

2.2.3 It should be noted that the SEA is not a sustainability appraisal. SEA strictly assesses environmental impacts, and does not take into account social and economic impacts. Whilst social and economic factors are an integral part of the decision-making process, SEA will aid transparency in terms of highlighting the environmental impacts of population increases and the benefits of the Masterplan.

2.3 Scope of the SEA and Scoping Report Responses

2.3.1 The scope of the A96 Corridor Masterplan was outlined in a SEA Scoping Report sent to the Consultation Authorities (CAs) in August 2006. The report identified a range of relevant strategies, polices and plans which could be influenced by, or which could influence, the Masterplan development. The CAs responded in mid-September 2006, each highlighting documents and plans specific to their areas of expertise that should also be included in the SEA. A comprehensive list of all relevant polices, plans and legislation, and their relationship to the Masterplan is provided in Appendix A, with a summary of key documents and their relevance considered in Section 3 of this report.

2.3.2 The scope of the SEA will be limited to direct consideration of the Urban Frameworks developed for Inverness and Nairn, and the Green Framework for the Corridor. The SEA will not consider proposals for future development around Inverness Airport, Whiteness and Tornagrain as these private developments are subject to further and separate detailed assessment and planning consent, outwith the scope of the A96 Corridor Masterplan. Similarly, proposals for village growth within the Corridor will not be given specific consideration within the SEA. Cumulative effects of these developments will be acknowledged.

2.3.3 The Scoping Report contained an initial assessment of key environmental issues within the A96 Corridor area, which was welcomed by the CAs. However, their main criticism was that no detailed environmental baseline was provided to reinforce conclusions on the environmental issues. A more detailed assessment of the baseline environment is therefore included in this Environmental Report (ER).

2.3.4 ***SEPA's*** main concerns revolved around the Masterplan's consideration of water resources, wastewater treatment and surface drainage, as the wastewater infrastructure in the area has had some overflow problems in the recent past. SEPA are concerned that existing infrastructure may be reaching capacity, and that this may have considerable negative impacts in the future, with respect to water quality and bathing water classifications (and associated impacts on local sensitive coastal sites and biodiversity). Also of concern was the adequate provision of Sustainable Urban Drainage Systems (SUDS) and measures to prevent development in identified floodplains.

2.3.5 In general, SEPA are keen to see that the Masterplan provides solutions to potential problems that are in line with meeting the objectives of the European Water Framework Directive (WFD), which outlines objectives for water chemical and biological quality, limiting abstractions, avoiding realignment of watercourses and safeguarding resources.

2.3.6 ***SNH's*** main concerns revolved around the Masterplan's consideration of local European and UK nationally designated sites (eg. SAC, SPA, SSSI, Ramsar sites) and measures included for adequate protection. Also of concern was the Masterplan's consideration of wildlife and habitat networks for important species in the area, including badgers, red squirrels, otters and bird species.

2.3.7 SNH consider the development of appropriate path networks a priority for local human populations to improve access and recreation opportunities. However, they do stress the importance of considering effects of path creation and coastal features upon the important protected areas along the coast. SNH also indicate that the Masterplan should accommodate and maintain important landscapes and viewpoints across the A96 study area.

2.3.8 ***Historic Scotland*** (HS) highlighted the numerous important historic environment features found within the A96 study area, and that many of these features have statutory protection as Scheduled Ancient Monuments and other designations. HS are concerned that development projects will have at least minor effects on the integrity of features and at worst result in permanent loss.

2.3.9 HS are also concerned about development impacts upon the wider landscape and historic settings of features within the Corridor. HS did state that they would be in favour of any proposals to enhance the local historic environment, including the provision of improved access and interpretation facilities, but that any measures that include planting regimes (for example road screening) should be subject to further consultation, as inappropriate planting near some features can be detrimental to their integrity over time.

2.3.10 The SEA considers these concerns and in consultation with the Masterplanning team has sought to accommodate them all, following the mitigation hierarchy which is primarily to avoid damaging impacts wherever possible, reduce negative impacts through appropriate planning and siting or to compensate for unavoidable impacts by improving features elsewhere.

2.3.11 The advantage of considering these effects at the Masterplan level is that sites can be safeguarded from development, infrastructure requirements can be effectively assessed and potential long term effects on local biodiversity and protected sites can be accommodated.

2.3.12 With respect to the SEA objectives outlined in the Scoping Report, the CAs were satisfied with the level of coverage. However, SEPA did raise concerns over the wording in some cases. Upon consideration of the CA responses, and the completion of the baseline study, some objectives were reviewed. The CAs were also content that the assessment methodology outlined in the Scoping Report was sufficient to address the various issues required by SEA.

2.4 Consultation Processes

2.4.1 In addition to the Scoping Report consultation, the Masterplanning process has been subject to various, extensive consultation processes that have added to the SEA assessment and review. Consultees have included:

- **Corridor Strategy Panel**, including
  - Inverness City Partnership
  - Moray Estates Development Company (MEDCo)
  - Highlands and Islands Airports Ltd, (HIAL)
  - Inverness Airport Business Park (IABP)
  - Inverness and East Highland Enterprise (IEHE)
  - Project sponsors
  - Moray Estate.
  - Cawdor Estate.
  - SEPA.
  - SNH.
  - Historic Scotland.
  - SE Trunk Roads.
  - HiTRANS.
  - Highland Council, TEC Services.
  - Highland Council, Planning and Development Services (non-client).
  - Whiteness Development Company.
  - GH Johnston representing interests at Nairn South.
  - Muir, Smith, Evans representing interests at East Inverness.
- **Infrastructure Consultants**:
  - In respect of water
    - Biwater
    - Mott MacDonald
  - In respect of transport planning
    - Faber Maunsell
  - In respect of electricity
    - SSE Power Distribution

- **Framework Planning Groups**
  - East Inverness, Nairn South and Green Framework Groups

- **Collaboration for Success (CfS)**
  - Stakeholder consultation process involving Multi-Agency Groups, Local Government, Private Developers, Green Inverness, Community Groups, Land Owners

2.4.2 In addition to the above, the Highland Council have organised and run various public consultations on the Masterplan development options. The Highland Council Planning, Development, Europe and Tourism (PDET), Inverness Area and Nairnshire Area, Committees have met to assess the progression and suitability of the preferred options. A Consultation Report, for example, was prepared to document the responses on the *'A96 Corridor Masterplan: Stage 2 Interim Report – Phase 1 Options for Development and Green Frameworks'* and summarises the main outcomes arising from the public consultation. The issues raised through consultation have been considered within the development of the Masterplan. Unresolved concerns about the environmental effects of the Masterplan proposals are considered in this ER.

2.4.3 This Environmental Report will be circulated for consultation comment to interested parties, as identified by the Highland Council, and the statutory consultees. The CAs and interested members of the public are being given an effective opportunity to express their opinion of both the Interim Masterplan and this ER, before the Masterplan is finalised and considered for adoption.

Table 2.1 SEA Activities to date

SEA Action/Activity	Notes
Screening to determine whether the PPS is likely to have significant environmental effects	Not documented but SEA commissioned by the Highland Council as significant effects expected.
Scoping the consultation periods and the level of detail to be included in the Environmental Report	Scoping Report prepared by Halcrow, submitted to statutory consultees August 2006. Scoping responses from statutory consultees received mid-September 2006.
Outline and objectives of the PPS	Detailed later in this report and in the Draft Masterplan.
Relationship with other PPS and environmental objectives	Ongoing throughout study as research and consultation identified related priorities. Full listing of the PPP review is provided in Appendix A.
Environmental baseline established	Difficulties in producing targeted baseline for A96 Corridor, most information available at Highland level, not specific to study area.
Environmental problems identified	Problems associated with population growth of up to 30,000 assessed through consultation and expert judgement. Liaison with Consulting Authorities on existing issues and opportunities through Masterplanning processes helped inform SEA.
Assessment of future of area without the Masterplan	Summary assessment of unmanaged population growth and associated environmental impacts provided. The key effect of the Masterplan is to sustainably direct development to mitigate these potentially significant effects.
Alternatives considered	The Masterplanning process focused on various development options with Urban Frameworks for Inverness and Nairn considering 5 alternative options each. Extensive public consultation distilled these alternatives down into preferred options for the Urban Frameworks and a Green Development Framework for the A96 Corridor as a whole. A summary of the consultations and the outcomes of the alternatives assessment is provided in Appendix B.
Environmental assessment methods established	Difficulties in providing accurate assessment as the Masterplan directs development after 2011; expert judgement and analysis used as key assessment methodology.
Monitoring methods & indicators identified	SEA monitoring indicators identified using existing sources and data that could be monitored through the planning process.

3 A96 Corridor Masterplan and its Context

3.1 Outline and Objectives of the A96 Corridor Masterplan

3.1.1 Best practice guidelines recommend that SEA and Strategy development are integrated from the outset; in this instance, Stage 1 of the Masterplanning process provided capacity assessments across the Corridor to recommend options for focusing development, which was not in itself subject to SEA; however through a collaborative approach, eight options for the Corridor were developed. Each of these was tested through stakeholder engagement, technical considerations (relating to infrastructure, transport, land use and landscape) and community consultation.

3.1.2 These concluded that an option to focus development in a new settlement offered the most sustainable and attractive solution. The Highland Council considered the outcomes from the A96 Corridor Masterplan Stage 1 Study at their Planning, Development, Europe and Tourism (PDET) Committee in August 2005, which established clear policy outcomes for the Corridor comprising:

- Population growth of 20-30,000 people over the next 30-50 years
- Preferred locations for settlements to be developed post-2011
  - a) Polar growth – East Inverness and Nairn expansion: 16,000 population
  - b) Village consolidation – 1-2,000 population
  - c) New settlements – Whiteness and Tornagrain : 14,000 population
- A new community/resort at Whiteness (Ardersier Fabrication Yard) for around 3,000 people
- Growth of existing smaller settlements in the Corridor as allocated in the relevant development plan accommodating up to 3,000 people
- Review the scope for long term development at Nairn South and Inverness East incorporating transport improvements that include dualling of the A96 and a strategy to enhance landscape/ heritage features supplemented by recreational facilities, including a network of cycle and walkways

3.1.3 The primary objective of the A96 Corridor Masterplan is therefore to accommodate expected population growth of around 30,000 people over a period of 30 – 50 years within the A96 Corridor area, in a sustainable manner, whilst maintaining distinctive environmental, natural historic features and the green character of the area.

3.1.4 It is intended that the Masterplan Frameworks for the Corridor as a whole, Inverness East and Nairn, will be adopted as supplementary planning guidance by the Highland Council in March 2007. They will become material considerations in the determination of planning applications in the A96 Corridor area, until such time as a new Local Development Plan for the area is prepared and the Masterplan becomes integrated within it.

3.2 Planning Policy Context

3.2.1 The purpose of this section of the Report is to outline the relationship of the A96 Corridor Masterplan with other plans, programmes and strategies and assess their environmental objectives. Following a brief outline of relevant planning documents, an assessment of other key documents and their environmental objectives and implications is provided in Table 3.1.

3.2.2 A comprehensive list of the plans, programmes and strategies that have been taken into account and that have influenced the preparation of the Masterplan are provided in Appendix A of this report, together with a summary of the purpose of these documents.

International and European Legislation

3.2.3 All international environmental obligations such as the Rio Declaration and the Kyoto Protocol that have been incorporated into European and National legislation have been taken into account in the identification of environmental objectives and criteria contained within the Scottish Executive's Interim Planning Advice Note on the Environmental Assessment of Development Plans. The international obligations and European environmental objectives that are pertinent to the Strategic Environmental Assessment of the A96 Corridor Masterplan are listed in Appendix A of this report for information purposes.

National Planning Framework

3.2.4 The 'National Planning Framework for Scotland', published in 2004, sets out a spatial development perspective for Scotland to 2025. The Framework is not a prescriptive blueprint. The NPF is currently being reviewed and will be a material consideration in framing planning policy – it will be taken into account by the Scottish Executive and its agencies in policy and spending decisions.

3.2.5 The Framework recognises that Inverness is the main administrative, medical, retail and leisure centre for the Highlands with a high quality of life on offer. It also declares that the city's economic base remains relatively narrow and that,

> *"Inverness needs to develop its role as the Highland capital, broaden its economic base, improve its connections to the other cities and the rest of the world, and attract a wider range of high quality jobs. Inverness and the Inner Moray Firth is an economic development zone with considerable potential. To the east of the city, the A96 Corridor and the Airport offer opportunities for future expansion."*

National Planning Advice and Guidance

3.2.6 As well as informing the strategic approach adopted in the production of the Masterplan and overall policy context, national planning advice and guidance has been invaluable to the identification of both the Masterplan's environmental and socio-economic objectives. A list of environmental objectives from the various national and other strategic sources informing the production of the Masterplan are listed in Appendix A of this report, along with the international obligations and European documents mentioned above.

Highland Structure Plan

3.2.7 The current Structure Plan for Highland is the Highland Structure Plan which was approved by Scottish Ministers on 24 January 2000. It sets out the Council's over-arching development policy framework. The Structure Plan supports proposals for the establishment of comprehensively planned new settlements in meeting future housing demand in the Inner Moray Firth area.

3.2.8 Policy H1 highlights the need to identify a supply of land for more than 10,000 new dwellings in the Inverness and Nairn areas in the period through to 2017. It recognises that land stocks around Inverness will require further amplification in order to meet medium-longer term demand beyond 2011. It was remitted to the review of the Inverness Local Plan to progress the preferred solution for this purpose. Specifically,

> *"…the A96 Corridor provides an option of linking new housing development to business opportunities associated with the airport and rail link to Inverness and Nairn."*

The Inverness and Nairnshire Local Plans

3.2.9 The Inverness Local Plan and Nairnshire Local Plan form part of the relevant Development Plan for the study area. The Inverness Local Plan identifies the A96 Corridor for its development potential and a phased approach to development through the plan, and future plans, is envisaged. The potential for the Inverness city-region is developed and a future scenario describing a vibrant region with attractive places, environmentally sensitive context, quality employment and excellent public transport extending eastward is envisaged.

3.2.10 The Inverness Local Plan establishes the requirement for a Masterplan for the Corridor, to ensure coordination of development with infrastructure provision, environmental protection, design guidance and developer obligations. The Inverness Local Plan specifically states,

> *"Developing the principle established in the Highland Structure Plan, the A96 corridor presents a strategic development opportunity vital to the economic prosperity of Inverness and the Highlands. The Council will apply a strict presumption against any piecemeal development in this area. Other proposed changes in the use or management of land will be assessed to ensure that they do not prejudice post 2011 opportunities and that they comply with the overall landscape structure for the corridor."*

"The most fertile land, major blocks of forestry and important stands of native woodlands together with a wider range of habitats will provide a setting for longer-term development. Important recreation areas could be opened up in the future including strategic walks by the coast and a higher level inland route towards Nairn and Cawdor. Protecting the international nature conservation value of the Firths will be a prerequisite."

"A Master Plan will be prepared… as a basis for implementing the main structural features of the development area including access, water and sewerage networks, other utilities/ communications infrastructure and a comprehensive landscape/ land management framework incorporating arrangements for surface water drainage. Any phased installation of water and drainage services will be consistent with an overall framework for utilities, and the technical requirements of SEPA and Scottish Water. Cognisance will be given to the Inverness and Inner Moray Firth Landscape Character Assessments to integrate the site within the wider setting of farm and woodland, which will incorporate safeguards for the ancient and semi-natural woodland between the development area and the B9093. A badger survey will be required and measures taken to minimise disturbance to the species and its habitat. The Master Plan will include a detailed design prospectus to co-ordinate architectural standards and achieve a high quality development/ environmental management package. This will be based upon clearly defined planning obligations, financial contributions and developer provisions..."

3.2.11 The Nairnshire Local Plan specifically states,

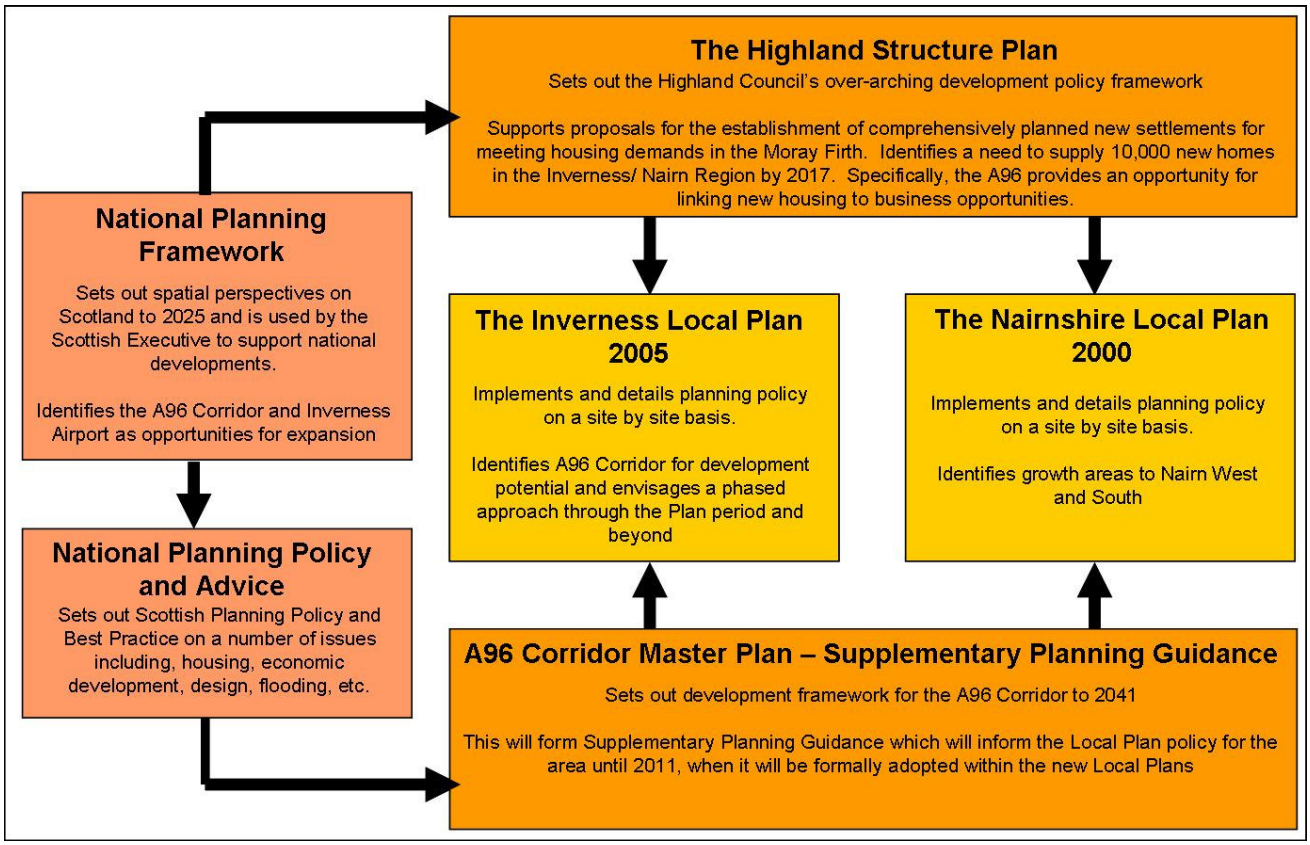
"The area could benefit considerably from national transportation initiatives. Whilst further improvements to the A96(T) are dependent on Government review of resources, a Nairn by-pass with potential for traffic improvements across the town, remains a priority"

"The natural, built and cultural heritage of Nairnshire is exceptional, combining rich habitats, fine landscapes, resources for recreation and historical associations. It is essential this resource is underpinned by an integrated network of land uses embracing:

(i) international conservation designations established through European Directives and the area's principle river systems,
(ii) nationally important sites including SSSI's, Scheduled Ancient Monuments and Category A Listed Buildings,
(iii) local statutory features incorporating designated Conservation Areas, other Listed Buildings, Areas of Great Landscape Value, archaeological sites, Historic and Designed Landscapes and Rights of Way,
(iv) local non-statutory features such as local wildlife reserves, other archaeological sites, ancient and semi-natural woodland."

3.2.12 Figure 3.1 below provides a schematic overview of the relevant planning policy hierarchy associated with the A96 Corridor Masterplan, which is expected to be adopted as Supplementary Planning Guidance (SPG) by the Highland Council in March 2007.

Figure 3.1 Overview of Planning Policy Hierarchy and Masterplan Context



Inverness City Vision

3.2.13 The Inverness City Vision (2003) envisages the Corridor accommodating up to 30,000 more people over the next 30-40 years. Such growth requires substantial transport investment to upgrade the trunk A96 road and Aberdeen rail links. Comparable works would also be required to build and strengthen key utility networks including water, drainage and electricity.

Highland Council Community Plan

3.2.14 One of the principal objectives of the Masterplan is to help achieve, in land use terms, the aspirations and aims of the Highland Community Plan Wellbeing Alliance (2004-07). The Community Plan was formally endorsed by its constituent partners in 2004 and sets out in a structured way to plan, provide for and promote services in the community to improve all aspects of life in Highland.

3.2.15 Various themes identified in the Community Plan are of relevance to the Masterplan, especially those with land use implications relating to improving opportunity and the environment.

Other Highland Council Plans and Programmes

3.2.16 In addition to the Council's Community Plan, there are other plans and programmes dealing with other Council functions, for example, the Local Housing Strategy, the Waste Plan, the Local Transport Strategy and the Contaminated Land Strategy. Where appropriate, the provisions of these local strategies and the national targets they contain are reflected in the provisions of the Masterplan. At a more local level, a range of other plans, programmes and strategies, such as town centre strategies, environmental improvement action plans and design guidance have been used to inform the Masterplan.

3.3 Wider Environmental Context and Objectives

3.3.1 Appendix A provides a comprehensive list assessing the major domestic and international policies and documents that could affect the development of the Masterplan. The list is not presented as all-inclusive, and some documents may not be assessed; however, policies that impact upon, or influence the direction of, the Masterplan are reviewed to provide the context for later assessments and to identify associated pressures and synergies.

3.3.2 Table 3.1 below presents a summary review of key plans, programmes and policies including EU Directives and related Scottish legislation, with an assessment of how the issues have been taken into account in the Masterplanning process.

Table 3.1 Summary of Related Plans and Issues Affecting the A96 Corridor Masterplan

SEA Topic/ Issue	Environmental Protection Objectives	How objectives have been taken into account
Biodiversity, Flora & Fauna Key Documents: The Convention on Biological Diversity (1992) EU Wild Birds Directive (79/409/EEC) EU Habitats Directive (92/43/EC) The Ramsar Convention (1971) The Wildlife and Countryside Act 1981 UK Biodiversity Action Plan (1994) SNH: Natural Heritage Futures (2002)	The overarching EU policy is to maintain or restore in a favourable condition designated natural habitat types and habitats of designated species listed in Annexes I and II respectively of the Habitats Directive and species listed under the Birds Directive. National policy seeks to achieve EU policy objectives while extending protection to other nationally important habitats and species identified in the Wildlife and Countryside Act and the UK Biodiversity Action Plan. Local policy supports these objectives through the Inverness and Nairn Biodiversity Action Plan, which identifies key habitats and species for the Area and provides species and habitat action plans to ensure their protection. This plan is currently being reviewed as part of the Highland Biodiversity Action Plan. The Moray Firth contains numerous protected species and habitats of local and international importance, and the area is used regularly by migrating waterfowl. The Masterplan must ensure that the ecological value of this important area is not undermined. Numerous key designated areas along the A96 Corridor present constraints for planning and development options, including high quality sites of international and national importance. Special Protection Areas, Special Areas of Conservation, Sites of Special Scientific Interest, Ramsar Sites and Ancient Woodlands are all found locally.	The Masterplan is mindful of the list of protected sites and takes appropriate steps to avoid the deterioration of these habitats and avoid disturbance of scheduled, scarce or rare species. The A96 Corridor Masterplan does not designate major projects for construction either in or around SACs, SPAs and the numerous SSSIs in the A96 Corridor. The Masterplan recognises their statutory importance and strives to ensure they are adequately protected. The A96 Corridor Masterplan recommends that schemes pursuant to the Plan do not result in damage to special areas of conservation (SAC) and ensure the A96 Corridor SAC / SSSI network is maintained or restored, as appropriate. The Masterplan recommends adequate consideration of development impacts affecting biodiversity with support for more detailed/ appropriate assessments at the local level where necessary. The Masterplan promotes the protection of designated sites and the restoration of sites that are damaged/ degraded through the development process.
Forestry Commission (2004): The UK Forestry Standard / Woodlands In and Around Towns (WIAT) Strategy Forestry Commission & SNH (2003): Habitat Networks for Wildlife and People	These strategies emphasise the benefits to the health and well-being of the urban environment through the creation and better management of woodland and open or greenspaces. The strategies also emphasise benefits for local wildlife, air quality and climate mitigation.	The A96 Corridor Masterplan recognises the role of forestry and woodland as a key contributor to quality of the local environment and encourages the regeneration of native woodland. The A96 Corridor Masterplan Green Framework complements these strategies through increasing woodland cover by planting to connect existing stands of trees, developing green/ wildlife corridors and creating more urban greenspace. These actions should help to improve the local landscape, biodiversity levels and recreational amenity in the area.

SEA Topic/ Issue	Environmental Protection Objectives	How objectives have been taken into account
Population Key Documents: National Planning Framework for Scotland (NPF) (2004) Planning Policies, Guidelines and PANs The Highland Council Structure Plan (2001) Inverness Local Plan 2006-2011 Nairnshire Local Plan 2000-2008 Inverness City Vision HITRANS Regional Transport Strategy (2002) The Highland Council Local Transport Strategy (2000)	The NPF, the Highland Structure Plan and the relevant local Plans all identify Inverness and the Inner Moray Firth area as an economic development zone with considerable potential, establishing the A96 Corridor as a strategic development opportunity vital to the economic prosperity of Inverness and the Highlands and stating that the Highland Council will apply a strict presumption against any piecemeal development in the area. Proposed changes in the use or management of land will be assessed to ensure that they do not prejudice post 2011 opportunities and that they comply with the overall landscape structure for the corridor. Inverness City Vision establishes key characteristics for the places that the A96 Corridor Masterplan will create – attractive places to live, visit, learn and earn, providing a range of living environments to meet the needs of a diverse range of people. The vision emphasises quality of life, sustainability, accessibility, vernacular design, place making and community investment. The key environmental policy objective for population is to maintain a strong residential base and to provide infrastructure and development guidance for expected population increases of up to 30,000 people over the next 30 years. Other objectives are to maintain a mixed use character that respects access to public services and promotes local employment. Considerations should include key healthcare services, educational facilities, social services and integrated public transport provision. The Highland Council target for affordable housing is currently 25% provision, which should normally be expected of all future developments comprising ten or more new or converted homes located within local housing stress areas. This percentage should be applied to the notional number of units capable of being developed at standard density levels. The A96 Corridor Masterplan should reinforce the importance of sustainable development, promoting community regeneration, involvement and economic growth. The Masterplan should address issues surrounding sustainable transport and recognise the importance of public transport to economic growth and social inclusion.	The A96 Corridor Masterplan has been developed around the principles of sustainable development and takes account of the guiding principles within Inverness and Nairnshire Local Plans and sets the long-term framework for development identified in the Structure Plan. Within the scope of the Masterplan there are guidelines for new settlements and housing developments, each of which are considered in the context of planning guidance and 'Smart Growth' principles. The A96 Corridor Masterplan promotes the development of sustainable communities, the use of local materials and prioritises land use planning in conjunction with minimising the need to travel. The Masterplan recommends options that best provide for sustainable communities, maintaining greenspace and access to facilities, whilst minimising the need to travel and the use of efficient public transport services, providing access to facilities and promoting healthier lifestyles. Common objectives of the A96 Corridor Masterplan and the transport strategies are to improve accessibility and integration, promote economic development and investment, improve the public transport infrastructure and promote the successful management of the local environment. The A96 Corridor Masterplan is fundamental in delivering the Regional and Local Transport Strategies with key considerations including dualling of the A96 Trunk Road, bypasses for Nairn and the Raigmore Interchange in Inverness. The A96 Corridor Masterplan promotes energy efficiency in new developments and leaves scope for future energy development within the area. The A96 Corridor Masterplan also takes account of the guiding principles within the City Vision to produce a working framework for development in the area.

SEA Topic/ Issue	Environmental Protection Objectives	How objectives have been taken into account
Human Health Key Documents: Scottish Executive – Scottish Outdoor Access Code Rural Development Programme for Scotland 2007-2013 Let's Make Scotland More Active (2003)	The key elements of national policy include: Consideration of noise impacts in planning to ensure sensitive developments are separated from noise sources. Provision of local networks of high quality, well managed and maintained open spaces, sports and recreational facilities help create urban environments that are attractive, clean and safe. Improving health and wellbeing through open spaces for recreation and access to local woodlands, cycling and walking trails/ paths. Ensuring that open space, sports and recreational facilities (particularly in urban areas) are easily accessible by walking and cycling and that heavily used or intensive sports and recreational facilities are planned for locations well served by public transport.	The A96 Corridor Masterplan may have an effect on local noise levels during construction and implementation phases; however these are determined to be localised and temporary, with no significant permanent effects. The Green Framework details a noise exclusion zone around the airport and presumes against community development within this zone. The A96 Corridor Masterplan Green Framework contributes to the development of path networks and also seeks to ensure good management of path networks. The A96 Corridor Masterplan promotes the development of facilities (e.g. cycle and footpaths, community sports facilities) that encourage local populations to become more active. The A96 Corridor Masterplan improves linkages between and facilities for, local communities, whilst acknowledging the need to maintain the local landscape and the natural heritage of the region. The Masterplan contains provision for additional healthcare services including, medical centres and dentists. The Masterplan contains provision for schools, further education, recreational facilities and social services.
Soil Key Documents: EU Soil Thematic Strategy (Consultation) The Highland Council Structure Plan (2001) Inverness Local Plan 2006-2011 Nairnshire Local Plan 2000-2008	The emerging EU Soil Strategy aims to reduce soil pollution, erosion, compaction and sealing of soil, it also aims to protect the role of soil in storing CO2, avoiding water pollution and preserving biodiversity. Protection of renewable resources is a further aim. Key policy objectives relevant to the draft Masterplan relate to the need to promote brownfield site regeneration, and development that delivers remediation of contaminated land. This is an objective of the Highland Structure Plan and the Inverness and Nairn Local Plans. Other objectives include protecting high quality agricultural land and peaty soils and wetlands, which are important for biodiversity and as carbon sinks. Planting suitable trees along river courses (riparian zones) is promoted as a means of reducing soil erosion, runoff events and helping limit pollutants from	There is no over-arching soil protection policy that impacts directly upon the A96 Corridor Masterplan, however soil sealing will be an issue associated with new development. Associated impacts upon rainfall and surface runoff are addressed through the inclusion of recommendations for the use of Sustainable Urban Drainage Systems (SUDS). Development is concentrated around Inverness and Nairn, which minimises new land take. Proposed private developments at Whiteness, Tornagrain and Ardersier will require individual assessments to determine contaminated land issues, drainage and mitigation measures. The Masterplan does not promote any potentially

SEA Topic/ Issue	Environmental Protection Objectives	How objectives have been taken into account
	soils and surface spillages/ contamination entering the local water environment. Soil sealing is the separation of soil from water, air and plants by man-made structures such as roads, buildings and artificial drainage. Soil sealing reduces the storage and filtration capacity of soils and can increase flooding risk by causing rapid storm rainfall runoff across sealed surfaces.	contaminating land uses, and all development recommended is considered suitable for use in relation to existing issues with associated identification and remediation where necessary.
Water Key Documents: EU Water Framework Directive (2000/60/EC) Flood Prevention and Land Drainage (Scotland) Act 1997 Scotland's Bathing Waters: A Strategy for Improvement (2002) Water Environment and Water Services (Scotland) Act 2003 The Water Environment (Controlled Activities) (Scotland) Regulations 2005	Recent EU policy in the form of the Water Framework Directive seeks to expand the scope of water protection to all waters, including surface waters, groundwater, estuarine and coastal. National policy (WEWS Act and CAR Regulations) aims to reduce polluting activities, maintain abstractions within natural recharge limits and prevent unwarranted engineering works affecting watercourses. Other policies aim to protect Bathing Waters and beaches and protect coastal waters exhibiting important populations of shellfish, rare plants and marine mammals. The Bathing Waters Strategy highlights the importance of tackling both point source and diffuse pollution, which has implications throughout the implementation and construction phases of the A96 Corridor Masterplan. The WEWS Act recommends developing a holistic approach to pollution control and protection of the water environment. Local policy is directed towards maintaining the high quality water environment of the region and promoting means to protect the local aquatic resources for biodiversity, tourism, recreation, agriculture and aquaculture. Expansion of local water supply, abstraction and wastewater handling to cope with expected population increases will require close consultation with SEPA and Scottish Water and activities that fall within the remit of the CAR regulations will require close consultation with SEPA and the receipt of appropriate licences. The CAR Regulations supersede a number of previous disparate controls, including the discharge provisions of the Control of Pollution Act 1974 and the following activities are now controlled: • abstractions from surface and groundwater; • impoundments of rivers, lochs, wetlands and transitional waters; • groundwater recharge; • engineering in rivers, lochs and wetlands;	The A96 Corridor Masterplan takes account of flood plains and areas at risk of flooding as identified on SEPA's flood risk maps. Development proposals avoid flood plains in the first instance, however where this cannot be avoided, adequate mitigation measures are stressed. Incorporation of regional housing requirements in the A96 Corridor Masterplan considers current land use and future climate in order to minimise the effects of flooding/ drought events and facilitate long term maintenance of drinking water quality. The A96 Corridor Masterplan recommends the introduction of drainage systems that support the aims of the WFD and the WEWS in the form of Sustainable Urban Drainage Systems (SUDS). The A96 Corridor Masterplan minimises the risk of pollution and damage to surface and ground waters through recommending the careful location of infrastructure, roads and new development with the need to identify appropriate mitigation measures where necessary. The Masterplan recommends maintaining water pollution from development at an absolute minimum and minimising or mitigating problems associated with water supply and wastewater handling. Capacity assessments and recommendation for improved infrastructure are considered as a fundamental principle of the Masterplanning process.

SEA Topic/ Issue	Environmental Protection Objectives	How objectives have been taken into account
	• engineering activities in the vicinity of rivers, lochs and wetland which are likely to have a significant adverse impact upon the water environment; • activities liable to cause pollution; • direct or indirect discharge of List I substances to groundwater; and • any other activities which directly or indirectly is liable to cause a significant adverse impact upon the water environment • artificial recharge or augmentation of groundwater.	
Air Key Documents: EU Air Quality Directive (96/62/EC) Department for the Environment, Food and Rural Affairs (DEFRA) Air Quality Strategy for England, Scotland, Wales and Northern Ireland Working Together for Clean Air (2000 – amended 2003)	EU, national and local policy is to protect human health, vegetation and ecosystems through set target levels for eight key pollutants. National guidance indicates that where pollution issues are likely to arise developers are advised to have informal pre-application discussions with the local planning authorities, where increasing pollution from road traffic, the demand on natural resources, and discharges to the natural environment associated with any proposed development must be considered in the planning process. If there is good reason to believe that harmful effects may occur as a result of development to human, animal or plant health or to the environment then the 'precautionary principle' should be invoked. Air quality in the study area is good, however areas have been identified that could present local air quality issues when traffic projections are linked to expected population increases.	The A96 Corridor Masterplan considers air quality and recommends measures for bypassing Nairn centre and the Raigmore Interchange in Inverness that will help improve local urban air quality. The Masterplan also promotes cycling and walking routes which encourage the development and uptake of more sustainable transport options. Construction processes can affect local air quality with respect to particulates; however this is seen as a short term, localised issue and should not contribute to significant, permanent degradation. The Masterplan highlights the need for more detailed assessment at the local level where appropriate; however there are no potential sources of significant air pollution identified within the Masterplan proposals.
Climatic Factors Key Documents: Kyoto Protocol EU Climate Change Programme Scottish Climate Change Programme (2006) Flood Prevention and	EU and national policy is to cut Carbon Dioxide emissions by 20% by 2010 and 60% by 2005. National policy seeks to cut emissions from transport, increase energy production from renewable sources and improve energy efficiency through changes in behaviour and driving sustainable design requirements for future developments. National policy also recommends increasing tree cover and protecting peaty soils as a means of maintaining and improving carbon sinks. Local concerns include improving energy efficiency by design, impacts of increasing car transport, increased risk of coastal and fluvial flood events, water supply during dryer summer months (in conjunction with demand through increasing population size).	The A96 Corridor Masterplan takes account of Scottish targets for reducing CO2 emissions and promotes measures for public transport which could positively contribute to targets, in the face of expected local population growth. The A96 Corridor Masterplan promotes choice and the need for change through modal shift and the use of building technologies that positively contribute to a reduction in CO2 and transport related emissions, including park and ride proposals and improved pedestrian and cycle links. The Masterplan incorporates the potential for future renewable energy development including microgeneration,

SEA Topic/ Issue	Environmental Protection Objectives	How objectives have been taken into account
Land Drainage (Scotland) Act 1997		community heating and CHP systems. The Masterplan recommends consideration of options that aim to reduce the risk of flooding and locates development away from areas prone to flooding. The Masterplan works to mitigate the overall significant impacts upon climatic factors by strategically and sustainably managing the population increases projected.
Material Assets Key Documents: National Planning Framework for Scotland (NPF) (2004) Planning Policies, Guidelines and PANs Highland Council's 'Developing for Sustainability in the Highlands', Development Plan Policy Guidance EU Waste Framework Directive (75/442/EEC) SEPA: National Waste Strategy & National Waste Plan (2003)	National policy is to secure the realisation of sites for economic development in sustainable locations, by identifying key locations that are highly accessible by public transport. Re-use of previously developed sites and buildings, in sustainable locations, where these meet the requirements of particular sectors is encouraged. National policy also indicates that new development should be of high quality design, construction and management to safeguard and enhance the environment, and protect the natural and built heritage. This is supported through local policy and guidance on sustainable development and sustainable buildings, particularly through the Highland Council's 'Developing for Sustainability in the Highlands', Development Plan Policy Guidance. The National Planning Framework, Highland Structure Plan and the Inverness and Nairn Local Plans all identify the A96 Corridor as the key area for development and economic growth within the Highland region. Local concerns include the accommodation of new development within existing services infrastructure, including water supply and wastewater provision, power supplies and waste management services. Means of approaching waste issues associated with building/ construction industries should be considered, locating waste and recycling facilities close to settlements should help minimise the need to travel and increase rates of recycling.	The A96 Corridor Masterplan adopts 'Smart Growth' principles that aim to respect local vernacular design, direct development to re-use brownfield sites and improve local public transport options. The Masterplan sets the context for development plans post 2011 and recommends high quality sustainable building methods in line with the Highland Council Development Plan Policy Guidance. The Masterplan has considered local services infrastructure and recommends further investigation at a local level when necessary, however utility providers have suggested that properly phased and integrated development should prevent any major problems. The A96 Corridor Masterplan takes account of waste issues when considering potential local population increases of up to 30,000 new inhabitants over 30 years. The Masterplan acknowledges the need to reduce the overall amount of waste that is produced within the area, as well as the need to sustainably dispose of waste that is produced; however projected population increases will increase total levels of waste.
Historic Environment Key Documents: Historic Scotland – Policy for the	National policy is to maintain and enhance the quality of the historic environment and preserve the country's heritage. Significant historic gardens and designed landscapes are identified by Scottish Natural Heritage and Historic Scotland for their natural heritage and cultural importance. Inclusion in the Inventory confers a measure of statutory planning control in relation to the sites concerned and their setting through the Town and Country	The A96 Corridor Masterplan recognises the important role of the historic environment as an asset, and acknowledges the need to work together with others to promote a balance between social, economic and environmental needs. The Masterplan has been developed in consultation Historic Scotland and SNH. The Masterplan promotes the protection of cultural heritage

SEA Topic/ Issue	Environmental Protection Objectives	How objectives have been taken into account
Sustainable Management of the Historic Environment (2002) SNH: Natural Heritage Futures (2002) Scottish Executive (1999) National Planning Policy Guideline No. 18 – Planning and the Historic Environment The Ancient Monument and Archaeological Areas Act 1979	Planning (General Development Procedure) (Scotland) Order 1992 (GDPO) and SDD Circular No 6/1992. Locally, the A96 Corridor is rich in cultural and historic features, from battlefields and designed landscapes to forts, and from crop marks to listed buildings, Conservation Areas and Ancient Woodlands. These features, combined with the abundant natural heritage of the region, are key to the economic sustainability of tourism in the area, and for the cultural heritage of local residents. Many features have protected status as Scheduled Monuments, however development in any area can present risks associated with damage to the features themselves, inappropriate development that affects the local landscape or historic setting around a feature, unsuitable planting that can affect the integrity of a site, and the routing of prominent roads or infrastructure can lead to permanent loss.	and of the historic environment. The Masterplan highlights protected sites and constraints, in order to ensure the future protection of the historic environment, as far as is practically possible.
Landscape Key Documents: Council of Europe (2006) European Landscape Convention GETS No. 176 SNH: Natural Heritage Futures (Moray Firth) (2002)	At the European level, the European Landscape Convention aims to encourage public authorities to adopt policies and measures at local, regional, national and international level for protecting, managing and planning landscapes so as to maintain and improve landscape quality and bring the public, institutions and local and regional authorities to recognise the value and importance of landscape and to take part in related public decisions. At the national level, National Scenic Areas (NSAs) are designated by Scottish Ministers as the best of Scotland's landscapes, deserving special protection in the nation's interest and development control measures for the 40 National Scenic Areas in Scotland were introduced by the Scottish Development Department through SDD Circular No 20/1980. National Planning policy for NSAs is set out in NPPG14 on Natural Heritage. The requirement to designate Areas of Great Landscape Value (AGLVs) is set out in SDD Circular 2/1962 and AGLVs are defined by local authorities in development plans with a view to safeguarding areas of regional or local landscape importance from inappropriate developments. SNH and Historic Scotland recommend the use of Landscape Character and Historic Land Use Assessments to guide development decisions and recommendations away from potentially damaging effects on areas of distinct	The Masterplan considers options to best maintain and enhance local landscape character and cultural heritage, through use of local landscape character assessments and landscape capacity appraisals. The Masterplan Green Framework works to maintain important outlooks and critical views, use strategic landscaping to 'screen' certain areas and introduces new landscape corridors that will also benefit local wildlife.

SEA Topic/ Issue	Environmental Protection Objectives	How objectives have been taken into account
	landscape character. The SNH Natural Heritage Futures (Moray Firth) document sets out in relation to a wide range of landscapes and environments, objectives which the A96 Corridor Masterplan should take into account.	

3.3.3 In summary, the environmental objectives of the A96 Corridor Masterplan can be described as:

- Producing frameworks for the future development (post 2011) of Inverness, Nairn and the A96 Corridor between the urban areas, to sustainably accommodate population increases of up to 30,000 people.
- To manage and mitigate negative impacts that such population increases can present, with respect to water, climate, air quality, human health and biodiversity.
- Introducing a strategic approach to development for the period to 2041 that safeguards the environmental qualities of the area, including important natural, built and historic features.
- Maintaining the overall landscape quality of the area, safeguarding critical views, and providing connections between places accessible by non-motorised means and local wildlife.

3.3.4 It could be suggested that population increase is the major significant negative environmental impact facing the A96 Corridor, and that the Masterplan is the key mitigation tool in addressing associated problems, to minimise and control negative effects.

4 Environmental Baseline & Issues

4.1 Context

4.1.1 This section of the Environmental Report considers environmental baseline data for the A96 Corridor study area. Relevant aspects of the current state of the environment are outlined, based on a broad synopsis of information gathered to date.

4.1.2 How existing environmental issues and problems will affect the Masterplan is a key part of the Environmental Report, since it helps explain why the Masterplan is being developed as it is, why certain alternatives are selected, and what issues will be treated as being particularly significant in the effect prediction stage. A brief synopsis of the main environmental issues and problems facing the Inverness and Nairn Corridor is also provided in this section for information purposes.

4.1.3 Care has been taken to ensure that baseline information is pertinent to the assessment process and directly relevant to the assessment of the masterplan in environmental terms. It was not intended to collect information that was of no direct relevance to the SEA process.

4.2 A96 Corridor Environmental Baseline

4.2.1 Part 2 of Schedule 3 (in relation to Section 14) of the Environmental Assessment (Scotland) Act 2005 establishes that environmental reports should record,

"*The relevant aspects of the current state of the environment and the likely evolution thereof without the implementation of the plan or programme.*"

4.2.2 The issues or topics listed in Schedule 3 of the Regulations include:

- Biodiversity (flora and fauna)
- Soil
- Water
- Air
- Climatic Factors
- Human Health
- Population
- Material Assets
- Historic Environment (Cultural Heritage)
- Landscape
- Interrelationships between these factors

4.2.3 At this stage of the SEA process, each of these topics must be considered fully and in detail. Therefore, we have attempted to source relevant data for the A96 Corridor study area. Data sources and reports are referenced, where available.

4.2.4 In addition to the statutory topics listed, we have included consideration of transport and energy factors as part of the consideration of material assets. As a starting point, technical reports and conclusions from the Stage 1 capacity assessment work were reviewed. Stage 1 involved infrastructure capacity work undertaken by Faber Maunsell in 2004/5. Key conclusions included:

- There is a need for additional water treatment plant and possibly new source water.
- Without expansion the waste treatment plant to the east of Inverness cannot accommodate further development.
- A new grid substation is required.
- The current A96 trunk road cannot accommodate projected growth.
- The railway has limited capacity and opportunities for railway investment should be focused at the airport.
- There is significant bus patronage opportunity.
- That cycling can be promoted.
- Transport solutions should include A96 dualling, bypasses to Nairn and Raigmore and transitway proposals.

4.3 Overview of the A96 Corridor Study Area[1]

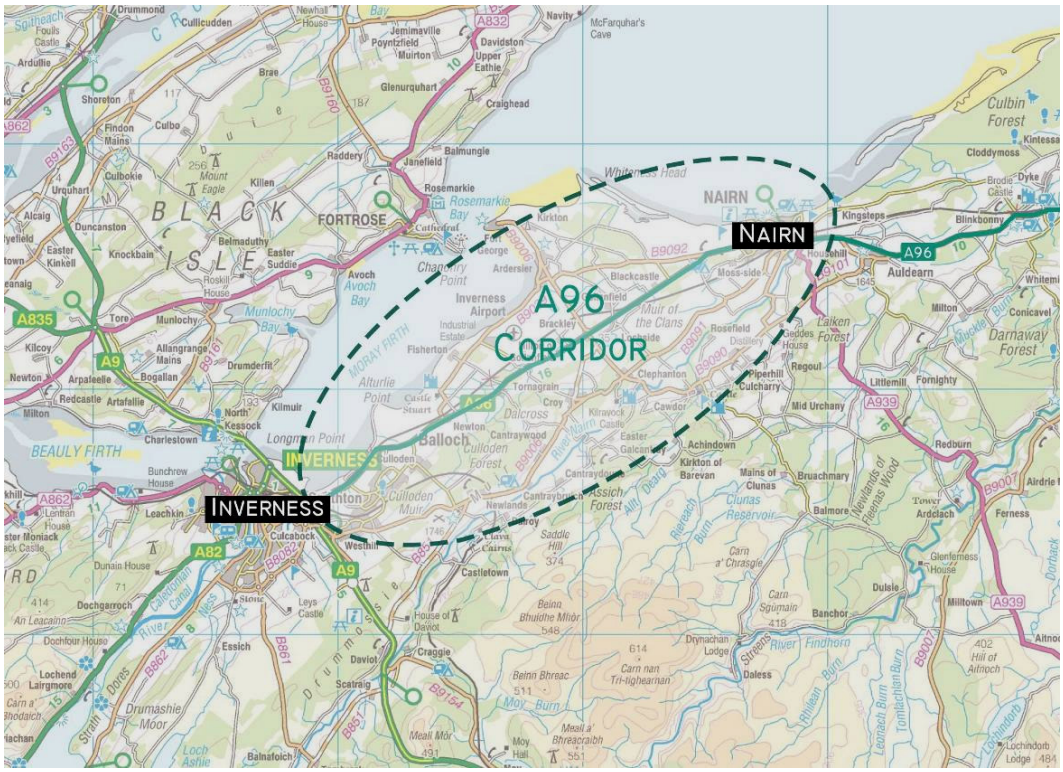
4.3.1 Bounded by the Northern Highlands, Black Isle, Monadhilath and Moray Moorlands, the A96 Corridor lowland landscape is dominated by intensive agriculture, forestry and its proximity to the sea. The land is drained by large rivers and burns, and hosts remnants of native woodland. Human activities in the area have fragmented many natural habitats and the area has lost much of its peatland, native grassland and woodland. These have been replaced by forests in some places, which retain considerable natural heritage value.

4.3.2 A large proportion of the total population of the Northwest Highlands lives in the area and built development is a key influence on natural heritage. Inverness and Nairn are major settlements providing services for extensive catchments of rural communities. Agriculture, forestry, tourism and recreation provide a significant proportion of local income and employment.

4.3.3 Farmland historically supported a diverse range of wildlife characteristic of less intensive agricultural methods. Much evidence remains of sculpted landforms left by melting ice of the last ice age and the diverse geology of the area includes some excellent fossil sites. Wider historic interests include famous battlegrounds, cairns, designed landscapes, gardens, castles, forts and buildings, as well as archaeological resources and features.

[1] Descriptions adapted from SNH Futures #21, Moray Firth, available at http://www.snh.org.uk/pubs/results.asp?o=title&q=Natural%20Heritage%20Futures%20-%20Moray%20Firth

Figure 4-1 A96 Corridor Study Area



4.3.4 A number of trends have influenced the heritage of the study area including:

- Expansion and intensification of agriculture, resulting in loss and fragmentation of native woodlands, coastal and other habitats; loss of wildlife traditionally benefiting from less intensive agriculture; reduced riparian habitat and water quality, affecting wildlife and fisheries; erosion of the vernacular farmland landscape; and reduction in extent and quality of public access.
- Recent native woodland restoration and forest restructuring benefiting natural heritage; changing forestry practices on deadwood, retention and management of roads and rides; and greater opportunities for access and recreation.
- Tourism in recent decades, creating localised increases in economic activity; new built development for tourism; and increased awareness and enjoyment of both the natural, built and historic environment of the area.
- Built development and transport infrastructure, resulting in increasing urbanisation of towns and villages, with associated impacts on rural landscape; increasing levels of pollution and waste and the need for waste management.

4.3.5 Key concerns, with respect to the natural heritage of the study area and the A96 Corridor Masterplan involve managing urban development, such that it is compatible with the natural heritage setting and retains green spaces, wildlife corridors and access links to the surrounding countryside. Equally important is provision within developments for implementing the Highland Waste Strategy, establishing Core Path Networks, including footpaths around settlements and increased facilities for wider countryside access. Maintaining the historic environment, by presuming against development that would negatively affect historic sites, should also be a key priority.

4.4 Land Use in the A96 Corridor Area

Urban Land [2]

4.4.1 The population of Inverness and Nairn is around 75-80,000, and the great majority of these people live in Inverness, Nairn and the surrounding small villages and hamlets. The people of Inverness & Nairn have an appreciation and perception of wildlife close to home[2]. Building on this appreciation should be more about making access to nearby habitats easier, rather than planning how (beyond gardens) to bring wildlife into town. Towns and villages in the study area have visible, audible, enjoyable wildlife, natural and historic environments just beyond the doorstep. The following list highlights the key features of the urban and built environment, habitats and species found within the study area:

- Healthy populations of house sparrow and swift, common 'urban' birds that are declining elsewhere in the UK.
- Good population of badgers in and around Inverness and along the A96 corridor.
- Close proximity between human dwellings and wildlife (otters, seals, dippers, goldeneye, red- breasted merganser and goosander are seen regularly).
- Strong linkages between town and country, and a growing desire for more countryside access within the urban population.
- Linear oases for plants and animals along rivers & burns, roadside verges, hedges and field boundaries.

[2] Descriptions adapted from the Inverness and Nairn Biodiversity Action Plan, available at http://www.highlandbiodiversity.com/htm/counties/inverness_nairn/index.htm

4.4.2 Inverness itself has a number of excellent habitats for wildlife in the river and canal corridors, coastal fringe including the Longman Landfill Site, woods, golf courses, parks, cemeteries and areas of open land, as well as the many smaller wildlife habitats created by people in their gardens. Nairn also has a river running through the heart of the town with associated floodplains in the area. Farmland or woodland stretches to part or most of the edge of the built-up area in each case, some villages are located on the coast and the airport is found between the two main settlements. Good path networks already exist around some of the area's settlements.

Farmland [3]

4.4.3 The following list highlights the key features of agricultural biodiversity, habitats and species within the area:

- Major feeding area for internationally important flocks of greylag geese, pink-footed geese and whooper swans.
- Habitat for a range of arable plants such as cornflower, now scarce in other parts of Britain.
- Only known breeding population of corn bunting in the Highlands is found around a small area of organic farms at Gollanfield.
- Mixed farms support nationally declining starlings (helped by cattle-grazed pasture), finches and buntings.
- Drystone dykes and other long-established boundaries provide habitat for plants such as ferns and corridors for movement of small mammals.
- Patches of gorse and scrub woodland, give cover for Scottish wildcats and small birds.
- Uncultivated field margins, support grey partridges and give feeding opportunities for invertebrates such as butterflies.
- The lowlands that flank the inner parts of the Moray Firth support some of the best arable land in Scotland.

[3] Descriptions adapted from the Inverness and Nairn Biodiversity Action Plan, available at http://www.highlandbiodiversity.com/htm/counties/inverness_nairn/index.htm

4.4.4 Arable farms, with fields used either as pasture or for barley, wheat or oilseed rape (with smaller amounts of potatoes, turnips and other brassica crops) are a feature of much of the coastal lowlands and eastern rim of the area, stretching up the main river valleys of the Nairn and the Ness. Some of the larger farms along the A96 corridor have converted to organic production of vegetables, grain and other crops such as oilseed rape. Farm units and fields have become larger, while wet areas have been reduced through drainage. This has reduced the variety and extent of both habitats and feeding opportunities for farmland wildlife. At the same time, herbicides and pesticides have depleted arable weeds and further reduced food availability for a range of invertebrates and birds. Despite these changes, the farmland of Inverness & Nairn retains a significant wildlife interest, with potential for increase and expansion in the future.

4.4.5 The only breeding population of corn bunting in the Highlands is found around the organic farms at Gollanfield. Corn bunting were once common in the area and reasons for their decline are likely to include a loss of habitat diversity within farmland, leading to a restriction of winter food sources, notably winter stubble. Old buildings & dykes are also an important biodiversity resource. Bats, barn owls, swallows and house martins use old buildings to roost and nest in, and great crested newts use old dykes, walls and stone heaps to shelter in.

4.4.6 Whilst hedgerows are not a particularly prominent or frequent part of the local farming scene, they are present in some areas, e.g. along road verges throughout Nairnshire. Road verges cut late in the growing season can, in effect, be small linear meadows containing remnants of wildflower habitats. Dykes, hedgerows, roadside verges, drainage ditches, burns, lines of trees and riparian woodland can all be important habitats within landscapes that link up existing areas of biodiversity value, making them more valuable to wildlife. These habitats can be referred to as wildlife corridors.

4.4.7 Linkages between different patches of habitat, such as pockets of woodland, can be made easier for many kinds of wildlife by the provision of such corridors. There are opportunities for small changes in Inverness & Nairn that would produce large benefits for wildlife at field margins and road edges and to provide alternative roosting and nesting sites for species which will be displaced by the development of old and ruined buildings in and around Inverness.

4.4.8 Key habitats for biodiversity, of local (L) and national (N) importance, that should be provided for/ protected in the A96 Corridor Masterplan include:

- Cereal field margins (N) Farmland
- Drystone dykes (L) Farmland
- Long established field boundaries (L) Farmland
- Gorse and scrub woodland (L) Coastal sites, roadsides & field margins

Woodland [4]

4.4.9 In Inverness & Nairn, much of the lowland scenery is dominated by woodland where broadleaved trees and some conifers extend along the valleys of the main river systems and burns. The following list highlights the key features of woodland biodiversity, habitats and species within the study area:

- One of the largest remaining native pinewoods in Scotland.
- Resident populations of capercaillie, black grouse and Scottish crossbill.
- Widespread populations of red squirrel and pine martin.
- Areas of ancient and semi-natural broadleaved woodland, including a relatively large area of ancient oakwood.
- Diverse communities of woodland plants including large numbers of epiphytic lichens.
- Extensive area of mature juniper scrub on lowland glacial deposits.

4.4.10 The nature and structure of area's woodlands reflect national forest policies and land use issues spanning more than a century. These include the clearance of native woodland for grazing throughout the 19th century, the increased popularity of deer stalking and grouse shooting in Victorian times, the development of plantations on private estates, the call to establish a strategic timber reserve following World War One, tax incentives for afforestation during the mid to late 20th century and the introduction of grants to encourage the establishment of new native woodlands in the 1990s.

4.4.11 Woodland types are therefore fragmented and many of the surviving havens of native woodland biodiversity in the area are isolated; oak wood remnants, coastal scrub and woodland, riverine and floodplain alder woods are often separated from each other by farmland. This makes it difficult for wildlife to pass between the woods, and so reduces the number of species that each area can support.

4.4.12 Cawdor Wood is one of the best broadleaved woodlands in north east Scotland, and is outstanding for its relatively large area of ancient oak wood, its diverse ground flora and rich lichen and bryophyte communities. Over 225 species of vascular plant and 121 species of lichen have been recorded from the site, including a number of rarities. There are few similar ancient woods remaining in the UK with a relatively dry continental climate that are not now in zones of significant air pollution.

[4] Descriptions adapted from the Inverness and Nairn Biodiversity Action Plan, available at http://www.highlandbiodiversity.com/htm/counties/inverness_nairn/index.htm

4.4.13 Policy woodlands, such as Cawdor Wood, may contain old and veteran trees, and some of the larger trees provide excellent nesting habitat for birds of prey. Old trees, as well as standing and fallen deadwood within both semi-natural and planted woods, are a very important biodiversity resource, providing different habitats for a range of lichen, fungi, bryophyte, invertebrate and bird species.

4.4.14 A stand of mature juniper scrub covers the south west ridges of the Kildrummie Kames, a fluvioglacial feature lying north of the River Nairn between Ardersier and Cawdor. Some plants reach five metres in height, and they grow with whin, broom and some Scots pine. There is also an important area of coastal scrub woodland on the sand bar, dunes and dune heaths at Culbin.

4.4.15 Many of the woods and forests in and around the Inverness and Nairn area are heavily used for recreation, and those close to housing provide a valuable resource for enjoyment of woodland wildlife and for education. A large proportion of the area's woodland is managed under a long established regime for timber production and contributes significantly to the economy of the area by providing employment in woodland management, harvesting and haulage. As well as providing the raw material for a range of wood processing companies, both locally and outwith the Highland area.

4.4.16 The area's woods support a rich bird community including redstart, spotted flycatcher and siskin, with occasional blackcap and chiff-chaff. Woodcock, capercaillie, Scottish crossbill, black grouse and great spotted woodpecker are also present as well as widespread populations of red squirrel and pine martin. Key habitats for biodiversity, of local (L) and national (N) importance, that should be provided for/ protected in the A96 Corridor Masterplan include:

- Juniper Scrub (L) Kildrummie Kames
- Riparian Woodland (L) Along the lower reaches of the Ness and Nairn

4.4.17 The area has scope for creation of habitat networks by linking existing woodlands that have surviving elements of native biodiversity. Work towards this has already begun in some state and privately-owned forests through the area, for example through removal of exotic conifers and encouragement of native trees along major watercourses. However, the desire to create woodland networks has to be tempered with the need to also maintain open-habitat networks, such that their biodiversity value is also protected, where appropriate.

4.4.18 There are therefore opportunities to integrate provisions of the A96 Corridor Masterplan and Green Framework with the Inverness and Nairn Biodiversity Action Plan which highlights the following objectives for the area:

- To protect, enhance and expand semi-natural woodland areas.
- To support the use of locally sourced timber materials for developments.
- To encourage opportunities for the greater enjoyment of woodlands, and greater local involvement in woodland management through community woodland groups.

- Develop trails, interpretation panels and links with outdoor organisations both in the commercial and the public sector, and ensure biodiversity issues are taken into consideration in the planning of new routes.

4.4.19 Similarly, priority work areas and objectives for SNH within the study area include:

- Promote a sustainable and integrated approach to land and water management.
- Improve the quality of life for people in urban areas through better access to green open spaces.
- Support positive management of designated sites and meeting European responsibilities.
- Developing long distance and orbital footpaths around settlements.
- To prevent loss of habitats and promote their use in sustainable ways.
- To sustain uplands, moorlands, woodlands, freshwaters and their biodiversity.
- To provide opportunities for recreation and enjoyment on footpath networks.
- To ensure that a sensitive approach to development achieves a sustainable future for the natural heritage and landscape.

4.4.20 The A96 Corridor Masterplan incorporates principles and guidelines for development that directs the use of land to:

- Conserve built/ cultural, natural and historic resources.
- Ensure development uses each site to its best advantage.
- Promote location of development type to demands for accessibility.
- Contribute to the range of housing in the area (including social and affordable housing).
- Take advantage of the location's natural topography.
- Promote development that responds positively to the location's characteristics and landscape.
- Assesses existing land use impacts.
- Provides for access to the countryside, develops cycle and footpaths.
- Requires the inclusion of greenspace
- Respects the various protected site designations and avoids damage or disturbance.

4.5 Biodiversity, Flora & Fauna

Defining Biodiversity

4.5.1 Biodiversity is short for 'biological diversity' and means the variety of life or richness of nature. The Highlands and Islands region as a whole is particularly valued for its biodiversity and habitats and there is a wide range of sites designated for nature conservation under European, national and local legislation. One third of the Highland Council region is covered by some form of national or local nature conservation designation. A recent report identified that Highland Region holds large proportions of several habitats including 35 out of 45 of the UK BAPs priority habitats, which is reflected in the high number of threatened and rare species associated with these habitats.[5]

4.5.2 Of the UK's 382 UK BAP priority species, 166 (44%) are present in Highland. There are no other LBAP areas in the UK with comparable proportions of UK BAP priority species. Therefore, Highland can legitimately lay claim to hold 4 out of 10 of the UK's most threatened, localised and declining species - making it the most important region in the UK for rare species.[5]

4.5.3 SNH have produced local biodiversity profiles for UK BAP species in each of three SNH defined Highland areas. The profiles are broken up according to SNH areas, of East, West and North Highland, where East Highland is defined as Inverness and Nairn, Badenoch and Strathspey and Easter Ross. Although this defined region extends past the A96 Corridor Study area, there are no direct biodiversity data sets for the study area alone; therefore Table 4.1 below outlines the priority species for East Highland, as defined by SNH.[5]

4.5.4 Other species of note occurring within the A96 Corridor include badgers, otters and various species of bat. Inverness and its hinterland is an important area for badgers. Badgers are protected by primary legislation (the Protection of Badgers Act 1992), the Wildlife and Countryside Act (1981); and a subsequent Amendment to the Wildlife and Countryside Act (1985). As such, it is an offence to wilfully take, kill, injure or ill-treat a badger. Under the Protection of Badgers Act (1992), their setts are also protected against obstruction, destruction, or damage in any part, the animals within a sett cannot be disturbed, and planning authorities are required to take the requirements of this species into account when assessing planning applications. As such, the Highland Council are in the process of developing a Badger Strategy for the area.

[5] Information from the Highland Biodiversity Action Plan Review for The Highland Council, prepared by EnviroCentre, Sept 2006, available at http://www.highlandbiodiversity.com/htm/lbap-review/draft-habitats-species-database.pdf

Table 4.1 SNH defined BAP priorities for East Highland (including Inverness and Nairn)

Species	Present in East Highland	Species	Present in East Highland
High priority		**Medium priority**	
Great crested newt	Yes	Corncrake	No
Corn bunting	Yes	Chequered skipper	No
Great yellow bumblebee	No	Marsh fritillary	No
Pearl-bordered fritillary	Yes	Spiriverpa lunulata (fly)	Yes
Hypocreopsis rhododendri	No	Earth-tongue	No
Tooth fungi	Yes	Pseudocyphellaria norvegica (lichen)	No
Pink meadow cap	Yes	Wilson's pouchwort	No
Red squirrel	Yes	Water vole	No
Common scoter	No	Freshwater pearl mussel	Yes
Juniper	Yes	Cornflower	Yes
Oblong woodsia	Yes	Scottish crossbill	Yes
		Grey partridge	Yes
		Capercaillie	Yes
		Alectoria ochroleuca (lichen)	Yes
		Cladonia botrytes (lichen)	Yes
		Vertigo geyeri (Whorl snail)	Yes
		White-stalk puffball	No
		Pillwort	No

Badgers

4.5.5 In 2003 SNH, The Highland Council and five of the key housing development interests in Inverness commissioned a comprehensive survey of badger sett distribution, status and badger activity in the city. The survey provided a comprehensive snap-shot of badger presence to help inform strategic badger conservation and development plans for Inverness. There were 67 badger road kills documented between 1999 and 2003, and the survey identified 191 badger setts including 33 extant main setts, normally associated with distinct badger groups. The survey report recommends that all main and annex setts are protected in situ or, where necessary, by the construction of artificial setts, and that wildlife corridors should be integrated into every proposed development such that a strategic corridor network should be identified within areas affected by development policies.[6]

4.5.6 A person is not guilty of killing or injuring a badger, or damaging a sett, obstructing access to a sett or disturbing a badger at a sett, if it can be shown that the act was 'the incidental result of a lawful operation and could not have been reasonably avoided'. This situation can be averted by undertaking badger surveys in advance of development or forestry operations. Should an offence be inadvertently committed, work must stop immediately and Scottish Natural Heritage (SNH) or The Scottish Executive Environment and Rural Affairs Department (SEERAD) contacted for advice.

4.5.7 If necessary, it is possible to move badgers from a sett, but it should be noted that for all setts within an occupied territory, SNH or SEERAD must sanction and issue a licence before badgers can be moved, or a sett destroyed. The success of this type of mitigation measure will depend on a number of factors, including sett type and size.

4.5.8 In general, work involving machinery and/ or excavation within 30m of a sett will require a licence. In the case of more extensive or potentially disruptive operations such as blasting, pile-driving etc. this distance may be increased. While each case will be considered individually, it is recommended that these activities are not carried out within 100m of the closest sett entrance. In all cases, early consultation with SNH/ SEERAD is essential.

[6] Reynolds, P. and Harris, M. (2005). Inverness Badger Survey 2003. Scottish Natural Heritage Commissioned Report No. 096 (ROAME No. F02LE01) available at http://www.snh.org.uk/pdfs/publications/commissioned_reports/F02LE01.pdf

Designated Sites

4.5.9 The main protected area designations in the region are as follows:

Sites of Special Scientific Interest (SSSI)

4.5.10 The SSSI series has developed since 1949 as the national suite of sites providing statutory protection for the best examples of the UK's flora, fauna, or geological or physiographical features. These sites are also used to underpin other national and international nature conservation designations. Most SSSIs are privately-owned or managed; others are owned or managed by public bodies or non-government organisations. The SSSI designation may extend into intertidal areas out to the jurisdictional limit of local authorities, generally Mean Low Water of Spring tides in Scotland.

4.5.11 There is no provision for marine SSSIs beyond low water mark, although boundaries sometimes extend more widely within estuaries and other enclosed waters. Originally notified under the National Parks and Access to the Countryside Act 1949, SSSIs have been renotified under the Wildlife and Countryside Act 1981. Improved provisions for the protection and management of SSSIs were introduced by the Nature Conservation (Scotland) Act 2004.

4.5.12 SNH have recorded 92 SSSIs within the Inverness East, Nairn and Lochaber region and within the A96 Corridor study area, SNH identified SSSIs include:

- Ardersier Glacial Deposits (Geological)
- Cawdor Wood (Biological)
- Dalroy and Clava Landforms (Geological)
- Kildrummie Kames (Mixed)
- Longman & Castle Stuart Bays (Biological)
- Whiteness Head (Mixed)

4.5.13 Any development likely to impact upon a SSSI site will require consultation with and consent from SNH. Details of the qualifying features, operations requiring consents and SNH management objectives for SSSIs are available from the SNH Sitelink website at http://gateway.snh.gov.uk/portal/page?_pageid=53,854538&_dad=portal&_schema=PORTAL .

NATURA 2000 Sites

4.5.14 Natura 2000 is the name of the European Union wide network of nature conservation sites established under the EC Habitats and Birds Directives. This network comprises Special Areas of Conservation (SACs) and Special Protection Areas (SPAs), which are also classified as SSSI, as above.

Special Protection Areas (SPA)

4.5.15 SPAs are classified by the UK Government under the EC Birds Directive. SPAs are areas of the most important habitat for rare (listed on Annex I to the Directive) and migratory birds within the European Union. SPAs in terrestrial areas and territorial marine waters out to 12 nautical miles are classified under the Wildlife and Countryside Act 1981. SNH have recorded 19 SPAs within the Inverness East, Nairn and Lochaber region however, within the A96 Corridor Study Area, Loch Flemington is the only SPA not covered by other designations in this report.

Special Area of Conservation (SAC)

4.5.16 SACs are designated under the EC Habitats Directive and are areas which have been identified as best representing the range and variety within the European Union of habitats and (non-bird) species listed on Annexes I and II to the Directive. SACs in terrestrial areas and territorial marine waters out to 12 nautical miles are designated under the Conservation (Natural Habitats, & c.) Regulations, 1994 (as amended). Sites which have been submitted to the European Commission by Government, but not yet formally adopted by the Commission, are referred to as candidate Special Areas of Conservation (cSACs). SNH have recorded 31 cSACs within the Inverness East, Nairn and Lochaber region and within the A96 Corridor Study Area, SNH identified SACs include Cawdor Wood, the Culbin Bar near Nairn, the Moray Coast and Inner Moray Firth regions as described below.

4.5.17 The Moray Firth SAC is designated for its population of bottlenose dolphins with an additional qualifying interest of sub-tidal sand banks. The qualifying interests of the Inner Moray Firth SPA are principally common tern and ospreys breeding in summer and bartailed godwits in winter. It is of international importance for waterfowl, as well as being a wetland of international importance.

Ramsar Sites

4.5.18 Ramsar sites are designated under the Convention on Wetlands of International Importance, agreed in Ramsar, Iran, in 1971. Originally intended to protect sites of importance especially as waterfowl habitat, the Convention has broadened its scope over the years to cover all aspects of wetland conservation and wise use, recognising wetlands as ecosystems that are extremely important for biodiversity conservation in general and for the well-being of human communities. The Convention adopts a broad definition of wetland, namely "areas of marsh, fen, peatland or water, whether natural or artificial, permanent or temporary, with water that is static or flowing, fresh, brackish or salt, including areas of marine water the depth of which at low tide does not exceed six metres". Wetlands "may incorporate riparian and coastal zones adjacent to the wetlands, and islands or bodies of marine water deeper than six metres at low tide lying within the wetlands". Within the A96 Corridor Study area, there are 2 key Ramsar sites, both of which also have SAC, SPA and SSSI designations:

- The Inner Moray Firth
- The Moray and Nairn Coast

4.5.19 Table 4.2 to Table 4.4 outline the key designation criteria for the Inner Moray Firth, The Moray and Nairn Coast and Loch Flemington. Figure 4-2 outlines the locations of identified protected sites within the A96 Corridor study area.

4.6 Note on consideration of Natura 2000 obligations

4.6.1 Directive 92/43/EEC on the Conservation of Natural Habitats and Wild Fauna and Flora – the 'Habitats Directive' – provides legal protection for habitats and species of European importance. Article 2 of the Directive requires the maintenance or restoration of habitats and species of European Community interest, at a favourable conservation status. Articles 3–9 provide the legislative means to protect habitats and species of Community interest through the establishment and conservation of an EU-wide network of sites known as Natura 2000.

4.6.2 Natura 2000 sites (also known as European sites) are Special Areas of Conservation (SACs) designated under the Habitats Directive and Special Protection Areas (SPAs) designated under the Conservation of Wild Birds Directive (79/409/EEC). The Natura 2000 network provides the ecological infrastructure for the protection of sites which are of exceptional importance in respect of rare, endangered or vulnerable natural habitats and species within the European Community.

4.6.3 Articles 6(3) and 6(4) of the Habitats Directive sets out the decision-making tests for plans or projects affecting Natura 2000 sites. Article 6(3) establishes the requirement for Appropriate Assessment (AA):

> "*Any plan or project not directly connected with or necessary to the management of the site but likely to have a significant effect thereon, either individually or in combination with other plans or projects, shall be subject to appropriate assessment of its implications for the site in view of the site's conservation objectives. In the light of the conclusions of the assessment of the implications for the site and subject to the provisions of paragraph 4, the competent national authorities shall agree to the plan or project only after having ascertained that it will not adversely affect the integrity of the site concerned and, if appropriate, after having obtained the opinion of the general public*."

4.6.4 Article 6(4) goes on to discuss alternative solutions, the test of "imperative reasons of overriding public interest" (IROPI) and compensatory measures:

> "*If, in spite of a negative assessment of the implications for the site and in the absence of alternative solutions, a plan or project must nevertheless be carried out for imperative reasons of overriding public interest, including those of social or economic nature, the Member State shall take all compensatory measures necessary to ensure that the overall coherence of Natura 2000 is protected. It shall inform the Commission of the compensatory measures adopted*."

4.6.5 The Environmental Report prepared for any assessment under the SEA Directive must discuss "Any existing environmental problems which are relevant to the Strategy including, in particular, those relating to any areas of a particular environmental importance, such as areas designated pursuant to Council Directive on the conservation of wild birds [the 'Birds Directive'] and the Habitats Directive".

4.6.6 Section 4.3.2 of EC guidance on Article 6 of the Habitats Directive[7] states that,

"…*a distinction needs to be made with 'plans' which are in the nature of policy statements, i.e. policy documents which show the general political will or intention of a ministry or lower authority. An example might be a general plan for sustainable development across a… …territory or a region. It does not seem appropriate to treat these as 'plans' for the purpose of Article 6(3), particularly if any initiatives deriving from such policy statements must pass through the intermediary of a land-use or sectoral plan*."

4.6.7 European sites are critically important biodiversity assets. As such, their protection (and enhancement) is a key component of sustainable development and should be included within the environmental objectives of the Masterplan development and implementation process. The process of consideration should be recorded in the SEA to determine whether or not an AA needs to be undertaken.

4.6.8 Scottish Executive guidance states that:

- There is no set format for an appropriate assessment, which should be of a scale, and level of detail sufficient to be able answer the test posed in Article 6.3 that it can be ascertained that the plan will not adversely affect the integrity of any site and sufficiently rigorous to justify the conclusions. While in some cases this may require a high level of detail, in others this may not be required. In all cases, however, a full record of the information used and appraisal within the assessment should be kept to justify the conclusions.

- AA is applicable to structure plans and local plans, and should be carried out from the earliest possible stage. It is for planning authorities to consider what level of assessment is "appropriate" for each plan and to consider what action needs to be undertaken and when, including the need for consultation. This should be proportionate to the scope and level of detail of the plan under consideration. The effects of a development plan on European site interests must be assessed at each relevant stage of plan preparation and the assessment refined and developed as the plan progresses through its preparation. The assessment

[7] EC Guidance on Managing Natura 2000 Sites, The Provisions of Article 6 of the Habitats Directive 02/43/EEC is available at http://ec.europa.eu/environment/nature/nature_conservation/eu_nature_legislation/specific_articles/art6/pdf/art6_en.pdf#search=%22ec%20managing%20natura%20sites%20alternative%22

should be re-visited with increasing specificity at subsequent stages of plan preparation.

- It is recognised that an assessment of a plan is likely by its nature to be less specific and detailed than the assessment of an individual project would be. Where a firm proposal with an identified scale or locational components forms part of a plan (eg provision for x houses in a specified area), this is capable of more detailed assessment. However, in many cases, the outcomes of policy proposals, (e.g. encouragement of affordable rural housing), may not be readily apparent until a later stage and may not be able to be assessed in detail until that stage. This variable, and usually broader, level of assessment for development plans as a whole is acknowledged by the EC in their Article 6 guidance.

- Planning authorities will have to consider what level of assessment is appropriate for the contents of respective plans to allow them to determine the likely impact of the plan's provisions. It should be proportionate, fit for purpose and pragmatic. What is expected is that planning authorities should nevertheless fulfil their commitments under the Habitats Directive in as rigorous an assessment as is practicable in the context of the individual plan, to answer the tests in the Directive.

- There will be circumstances where it is clear that, even subject to appropriate safeguards, an element of the plan will not be able to progress as it will adversely affect the integrity of a European site. In such circumstances the element should either be removed or an alternative adopted which avoids the problem identified.

- Where it is clear that elements of the plan are capable of being implemented without adversely affecting a European site, these can be approved for inclusion in the plan. This approval may be subject to caveats by way of safeguarding wording, particularly where the implementation will require a further level of assessment at a more detailed stage. It is important, in approving such elements of a plan, that it is made clear that this does not exempt further assessment as these are progressed.

4.6.9 With respect to the A96 Corridor Masterplan and its impact upon European protected sites, the Masterplan proposals are unlikely to have a significant effect on Natura 2000 sites, and that the optioneering process leading to the production of the preferred options for Nairn, Inverness East and the Green Framework have consistently recognised the numerous protected sites within the study area and throughout, these sites have been given priority in locating development proposals that avoid the likelihood of negatively impacting upon their integrity.

4.6.10 As the Masterplan sets the strategic framework for development post 2011, it can be considered as closer in nature to strategic development policy rather than a specific development plan. Moreover, the Masterplan will be further developed and brought forward through the preparation of a new development plan for the A96 Corridor area and subsequent production of Local Development Plans under the new planning legislative system. This provides the appropriate context as an intermediary stage, as outlined in Section 4.3.2 of EC guidance on Article 6 of the Habitats Directive above.

4.6.11 It is therefore considered proportionate and pragmatic, at this stage, to recommend consideration of Appropriate Assessment as a pre-requisite for any future detailed development proposals, produced in accordance with the Masterplan and likely to impact upon the integrity of a protected area, rather than conduct a series of assessments for the Masterplan itself. Development proposals should be subject to an Appropriate Assessment which must include consideration of encroachment, disturbance, degradation, pollution with associated effects on protected species, and should be submitted to the Planning Authorities in conjunction with the detailed proposals as they are produced.

4.7 Note on the Nature Conservation (Scotland) Act 2004

4.7.1 Section 12 of the Nature Conservation (Scotland) Act 2004 relates to the exercise of functions in relation to sites of special scientific interest (SSSI) specifically applying to “the exercise by a public body or office-holder of any function on, or so far as affecting, any land which is or forms part of a site of special scientific interest”.

4.7.2 Section 12 (2) states that the body or office-holder must-

- Consult SNH in relation to the exercise of the function,
- Have regard to any advice given by SNH, and
- In exercising the function, take reasonable steps, so far as is consistent with the proper exercise of the functions of the body or office-holder, to-
- Further the conservation and enhancement of the natural feature specified in the SSSI notification, and
- Maintain or enhance the representative nature of any series of sites of special scientific interest to which the SSSI notification contributes.

4.7.3 In developing the A96 Corridor Masterplan, The Highland Council and the consultancy team consulted with a wide of range of stakeholders including SNH, and the implementation of the Masterplan and related guidance will also be directed by consultations with SNH in the event that proposed works impact upon the integrity of SSSI sites.

Table 4.2 Inner Moray Firth Ramsar Classifications

Ramsar Site: Inner Moray Firth (2339.25 hectares)

Information taken from the JNCC Website at http://www.jncc.gov.uk/pdf/RIS/UK13025.pdf

Also listed as a Site of Special Scientific Interest (SSSI), Special Area of Conservation (SAC), Special Protection Area (SPA)

Inner Moray Firth Ramsar site lies to the north of Inverness in eastern Scotland, and comprises the Beauly Firth and part of the Inverness Firth which together form the south-eastern estuarine component of the Moray Basin system. The Inner Moray Firth supports the full range of estuarine habitats. Of particular importance are the extensive beds of eelgrass *Zostera spp*. The tidal flats are bordered locally by saltmarsh and there is a good example of a shingle spit at Whiteness Point. The Inner Moray Firth Ramsar site supports extensive intertidal flats and smaller areas of saltmarsh. These intertidal areas are especially important for the populations of wintering waterfowl which feed and roost here each year.

Ramsar Criterion 1

The site supports a variety of important wetland habitats including intertidal flats with eelgrass *Zostera* beds, saltmarsh, and a sand and shingle spit.

Ramsar criterion 5

Assemblages of international importance:

Species with peak counts in winter: 25740 waterfowl (5 year peak mean 1998/99-2002/2003)

Ramsar criterion 6

Species/populations occurring at levels of international importance.

- Greylag goose , *Anser anser anser* ; 2651 individuals, representing an average of 2.9% of the population (5 year peak mean, 1992/3-1996/7)
- Red-breasted merganser , *Mergus serrator* ; 135 individuals, representing an average of 1.3% of the GB population (5 year peak mean 1998/9- 2002/3)
- Bar-tailed godwit , *Limosa lapponica lapponica*: 755 individuals, representing an average of 1.2% of the GB population (5 year peak mean 1998/9- 2002/3)
- Common redshank , *Tringa totanus tetanus:* 2069 individuals, representing an average of 1.7% of the GB population (5 year peak mean 1998/9-2002/3)

Species currently occurring at levels of national importance:

Species with peak counts in spring/autumn:

- Eurasian wigeon , Anas Penelope: NW Europe 6073 individuals, representing an average of 1.4% of the GB population (5 year peak mean 1998/9- 2002/3)
- Eurasian oystercatcher , Haematopus ostralegus ostralegus: Europe & NW Africa –wintering 3457 individuals, representing an average of 1% of the GB population (5 year peak mean 1998/9-2002/3)

Species with peak counts in winter:

- Slavonian grebe , Podiceps auritus: Northwest Europe 10 individuals, representing an average of 1.3% of the GB population (5 year peak mean 1998/9- 2002/3)
- Eurasian teal , Anas crecca: NW Europe 2019 individuals, representing an average of 1% of the GB population (5 year peak mean 1998/9-2002/3)
- Greater scaup , Aythya marila marila: W Europe 405 individuals, representing an average of 5.3% of the GB population (5 year peak mean 1998/9-2002/3)
- Long-tailed duck , Clangula hyemalis: W Siberia/N Europe 169 individuals, representing an average of 1% of the GB population (5 year peak mean 1998/9-2002/3)
- Common goldeneye, Bucephala clangula clangula: NW & C Europe 665 individuals, representing an average of 2.6% of the GB population (5 year peak mean 1998/9-2002/3)

Nationally important plant species occurring on the site.

Higher Plants: *Zostera angustifolia*, *Z. noltei* and *Carex recta*. Lower Plants: *Cladonia uncialis uncialis*

Table 4.3 Moray and Nairn Coast Ramsar Classifications

Ramsar Site: Moray and Nairn Coast (2412.27 hectares)

Information taken from the JNCC website at http://www.jncc.gov.uk/pdf/RIS/UK13048.pdf

Also listed as a Site of Special Scientific Interest (SSSI), Special Area of Conservation (SAC), Special Protection Area (SPA)

Situated between Nairn, east of Inverness and Spey Bay, east of Elgin. It is an integral part of the Moray Firth on the coast of north-east Scotland. The Moray and Nairn Coast site is comprised of two areas: the intertidal flats, saltmarsh and sand dunes of Findhorn Bay and Culbin Bar, and the alluvial deposits and associated woodland of the lower River Spey and Spey Bay. It is of outstanding nature conservation and scientific importance for coastal and riverine habitats, and for migrating geese and over-wintering waders.

The Spey Bay/ Lower River Spey supports a large range of shingle-related habitats reflecting the succession from presently mobile, unstable conditions to those which have been stable for considerably longer. Areas of recently deposited shingle and sand support a diverse flora of plant species including those associated with coastal habitats and those associated with upland or montane habitats. More stable shingle supports a mosaic of scrub/heath/dry grassland. River channels and adjacent areas of shingle support valley alder woodland and willow scrub. Some of the older channels also support aquatic and fen communities.

Findhorn Bay/Culbin Bars contain a wide variety of coastal habitats including extensive intertidal flats and saltmarsh, sand and shingle bars, dunes, and dune-slacks. Successional processes associated with coastal processes, such as accretion and development of saltmarsh, are of particular interest.

Ramsar criterion 1

The site supports a variety of important wetland features, including particularly good examples of intertidal flats, saltmarsh and floodplain alder Alnus glutinosa woodland.

Ramsar criterion 2

At least six nationally scarce aquatic and coastal plants are present, sea centaury Centaurium littorale, Baltic rush Juncus balticus, oysterplant Mertensia maritima and the eelgrasses Zostera noltei, Z. angustifolia and Z. marina.

The British Red Data Book invertebrates, Ochthebius lenensis (a small water beetle) and Tetanocera freyi (a snail-killing fly) are also found.

Ramsar criterion 5

Assemblages of international importance:
Species with peak counts in winter: 22609 waterfowl (5 year peak mean 1998/99-2002/2003)

Ramsar criterion 6

Species/ populations occurring at levels of international importance.

- Pink-footed goose , Anser brachyrhynchus: 1855 individuals, representing an average of 0.7% of the population (5 year peak mean 1996-2000)
- Greylag goose , Anser anser anser: 3023 individuals, representing an average of 3.3% of the population (Source period not collated)
- Common redshank , Tringa totanus tetanus: 757 individuals, representing an average of 0.6% of the GB population (5 year peak mean 1998/9-2002/3)
- Long-tailed duck , Clangula hyemalis: 1366 individuals, representing an average of 1% of the population (5 year peak mean 1998/9-2002/3)

Species regularly supported during the breeding season:

- Osprey, Pandion haliaetus: Europe 14 individuals, representing an average of 11% of the GB population (Count as at early 1990s)

Species with peak counts in spring/autumn:

- Red-breasted merganser, Mergus serrator: NW & C Europe 104 individuals, representing an average of 1% of the GB population (5 year peak mean 1998/9-2002/3)

Species with peak counts in winter:

- Greater scaup , Aythya marila marila: W Europe 81 individuals, representing an average of 1% of the GB population (5 year peak mean 1998/9-2002/3)
- Black (common) scoter , Melanitta nigra nigra: 3246 individuals, representing an average of 6.4% of the GB population (5 year peak mean 1998/9- 2002/3)
- Velvet scoter , Melanitta fusca fusca: Baltic/W Europe 1146 individuals, representing an average of 38.2% of the GB population (5 year peak mean 1998/9-2002/3)

Nationally important species occurring on the site.

Invertebrates: *Ochthebius lenensis, Tetanocera freyi*.

The site is also internationally important because it contains the following Habitats Directive Annex I features:

- H1330 Atlantic salt meadows (Glauco-Puccinellietalia maritimae)
- H2110 Embryonic shifting dunes
- H1220 Perennial vegetation of stony banks
- H91E0 Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae)

Higher Plants: Centaurium littorale, Juncus balticus, Mertensia maritima, Zostera angustifolia, Zostera marina, Zostera noltei

Table 4.4 Loch Flemington SPA Classifications

Designated Special Protection Area (SPA): Loch Flemington (21 hectares)

Information taken from the JNCC Website at http://www.jncc.gov.uk/pdf/SPA/UK9001691.pdf

The slavonian grebe population on Loch Flemington has increased steadily since first colonising the loch in the mid-1980s. In general, the population has above average productivity; however, Loch Flemington has suffered from nutrient enrichment and algal blooms, one of which is thought to have caused the failure of breeding in 1993. Diffuse run-off from adjacent farm land is likely to be exacerbating the problem together with other factors such as droppings from roosting wildfowl.

SNH will encourage the establishment of buffer strips and a reduction in fertiliser application adjacent to the loch in order to mitigate this problem. Stock grazing has resulted in localised damage to sedge beds used for nesting and SNH will encourage fencing of these areas to prevent further damage.

The Loch Flemington Fishing Syndicate regularly fish the loch for brown trout and a grebe-friendly Code of Conduct distributed in spring 1999 aimed at anglers, will help to ensure that there is no conflict between this activity and the breeding success of the grebes.

ARTICLE 4.1 QUALIFICATION (79/409/EEC)

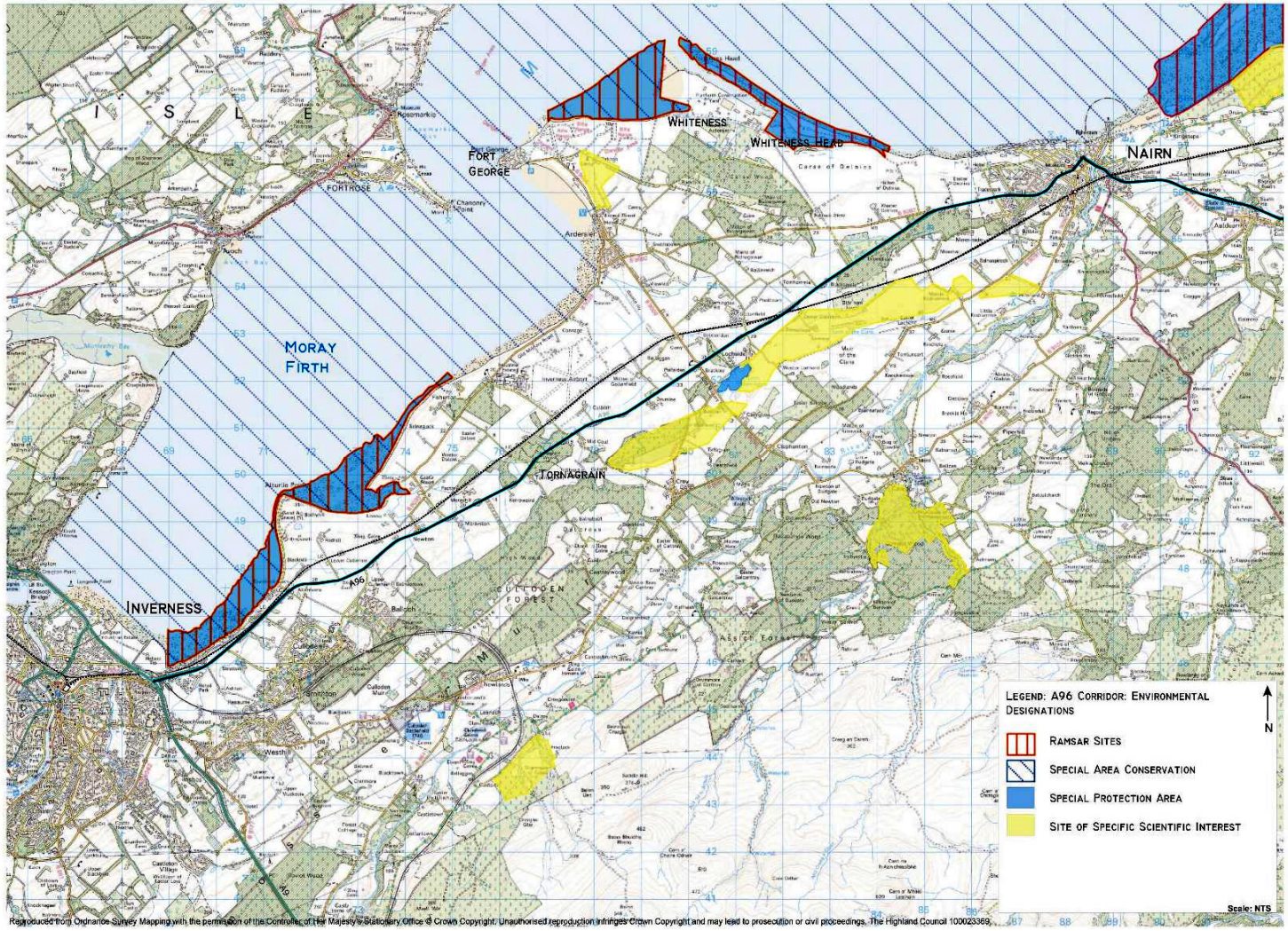
During the breeding season the area regularly supports:

Podiceps auritus	7.1% of the GB breeding population
(North-western Europe)	5 year mean, 1991-1995
Soil & Geology:	Acidic, Alluvium, Nutrient-rich, Sandstone, Sedimentary
Geomorphology & Landscape:	Lowland

Habitat Classes:

Inland water bodies (standing water, running water)	70.0%
Bogs, Marshes, Water fringed vegetation	8.0%
Heath, Scrub, Maquis and garrigue. Phygrana	18.0%
Improved grassland	2.0%
Broad leaved deciduous woodland	2.0%

Figure 4-2 Location of Environmental Designated Sites



4.8 Water

4.8.1 Pressures on the water environment associated with development processes can include: [8]

- Point source pollution – including discharges from treatment works; overflows from sewers during heavy rain; spillages and contamination from construction areas.
- Diffuse pollution – including contaminated run-off from road, yards and construction sites; leaks or overspills from the sewerage system; and run-off of soils and nutrients caused by disturbance due to construction.
- Abstractions and impoundments (flow regulation) – including water supply schemes which take water from one catchment and divert it to another; the building of dams and weirs; and the drilling of boreholes to extract groundwater.
- Changes to the physical structure of water bodies (morphological change) – including engineering works that straighten rivers; building work on flood plains or estuary mudflats.
- Invasive non-native species – the disruption to water habitats and species caused by the introduction of invasive non-native species of plants and animals, which can be inadvertently spread by construction.
- Water pollution can significantly affect the biodiversity of water courses as populations of sensitive species decline as pollutants accumulate in the food chain. Low flows can exacerbate poor water quality conditions as pollutants are concentrated in the water resource.
- Substantial costs associated with cleaning up discharges in UK rivers.

Freshwater [9]

4.8.2 The following list highlights the key freshwater features, habitats and species found within the A96 Corridor study area:

- Most important location in the UK for breeding Slavonian grebes.
- Surviving stock of internationally endangered Atlantic salmon.
- Population of internationally important freshwater pearl mussel.
- Rivers running through major settlements, bringing people and riverside wildlife together.

[8] Pressures adapted from SEPA State of Scotland's Environment Report, 2006, available at http://www.sepa.org.uk/publications/state_of/2006/main/b_water.html
[9] Descriptions adapted from the Inverness and Nairn Biodiversity Action Plan, available at http://www.highlandbiodiversity.com/htm/counties/inverness_nairn/index.htm

- Watercourses as corridors and feeding areas for otters, fish and amphibians.
- Habitats and feeding grounds for birds including osprey.
- Ponds as breeding sites for great crested newts and other amphibians.
- Loch Ness: the largest freshwater body in the UK and an internationally recognised tourist destination, which delivers water to the sea via the River Ness and the Caledonian Canal.

4.8.3 Inverness and Nairn holds most of the upper catchment of the River Findhorn, the smaller but equally scenic River Nairn, the 'river of the alders' rises in the Monadhliath hills and passes farmland and forestry before joining the sea at Nairn itself. Loch Flemington, near Croy is a good example of a shallow freshwater loch of eutrophic or high nutrient status. It is important locally as a feeding and roosting site for wigeon, mallard and other waterfowl in winter, and as a breeding site for many other waterfowl species in summer, including Slavonian grebe, as described under the biodiversity section above.

4.8.4 Due to the income generated locally from fishing, much work takes place to monitor, conserve and maximise the catch of Atlantic salmon. However, the numbers of returning salmon has declined dramatically in recent decades. Small burns also support both resident fish like minnows, and migratory fish that return to the burns to spawn, such as sea trout (the migratory form of brown trout) and eels.

4.8.5 Linked to the health of salmon is the freshwater pearl mussel. Once much more widespread but now reduced by pollution and over-fishing, this long-lived mollusc (a century or more is possible) is present in a number of rivers within Inverness & Nairn. It is a high priority species for conservation action, and recent studies indicate that it has a beneficial role to salmon in terms of filtering water and keeping spawning beds clean.[10]

4.8.6 Freshwater corridors are also important for conservation of the water vole, now one of the UK's most endangered mammals. Watercourses of all kinds, from rivers to drainage ditches, provide corridors along which the area's low density population of otters can move and feed. Otters are found living along the banks of rivers and lochs, and on the coast. Otter numbers declined from the 1950s due to pesticides getting into the food chain. They also suffered a loss of habitat when riverbanks were cleared and straightened. Otters require clean rivers and lochs with an abundant supply of food, and prefer secluded sites with dense plant cover for their dens. In Inverness and Nairn the population is recovering, and otters can sometimes be spotted among the rocks on the Inverness Islands and at river mouths.[10]

4.8.7 Some wetlands and small ponds in the area are home to colonies of great crested newts, but even tiny patches of marshy ground or standing water can support plants such as ragged robin and provide opportunities for common frogs, toads and palmate newts to spawn, or dragonflies and damselflies to breed. Although not one of the best areas in Scotland for the great crested newt, Inverness and Nairn represents the northernmost limit of this species' natural range.[10]

Marine and coastal habitats[10]

4.8.8 The Moray Firth has become well known throughout the UK for its resident population of bottlenose dolphins, one of only two known resident bottlenose dolphin populations in the UK. This important population are vulnerable to a wide range of threats including pollution and disturbance. In addition, several species of whale have been recorded in the Moray Firth. Of the filter feeding, baleen whales, minke whales are the most common, but other species have also been recorded in these waters including the fin, sei and humpback. Of the beaked whale family (Ziphiidae), only the Northern bottlenose whale has been sighted in these north-east waters. Sperm whales sporadically occur in this area of the North Sea, but those animals entering the shallow Scottish firths usually become stranded.

4.8.9 The Coastal zone around the A96 Corridor is part of the most important area for wintering wildfowl and waders in Britain, supporting winter duck and goose populations of international significance as the first and last 'stop-over' in autumn and spring for many long-distance migratory birds. Whiteness Head and the intertidal mudflats of Longman and Castle Stuart Bays support a range of wintering wildfowl and waders including cormorant, wigeon, goldeneye, red-breasted merganser and redshank.[10]

4.8.10 The coastal zone includes part of the largest sand dune system in Britain, with outstanding examples of sand and shingle spits enclosing an inter-tidal system of saltings, sand and mudflats. These habitats encourage an exceptional variety of coastal plant communities, with a large number of rare or local plants occurring at the limit of their northern or southern range. The area also supports large numbers of juvenile fish populations and is a route for returning adult Atlantic salmon to the rivers Ness and Beauly.[10] Whiteness Sands is designated as a Shellfish Harvesting Area.

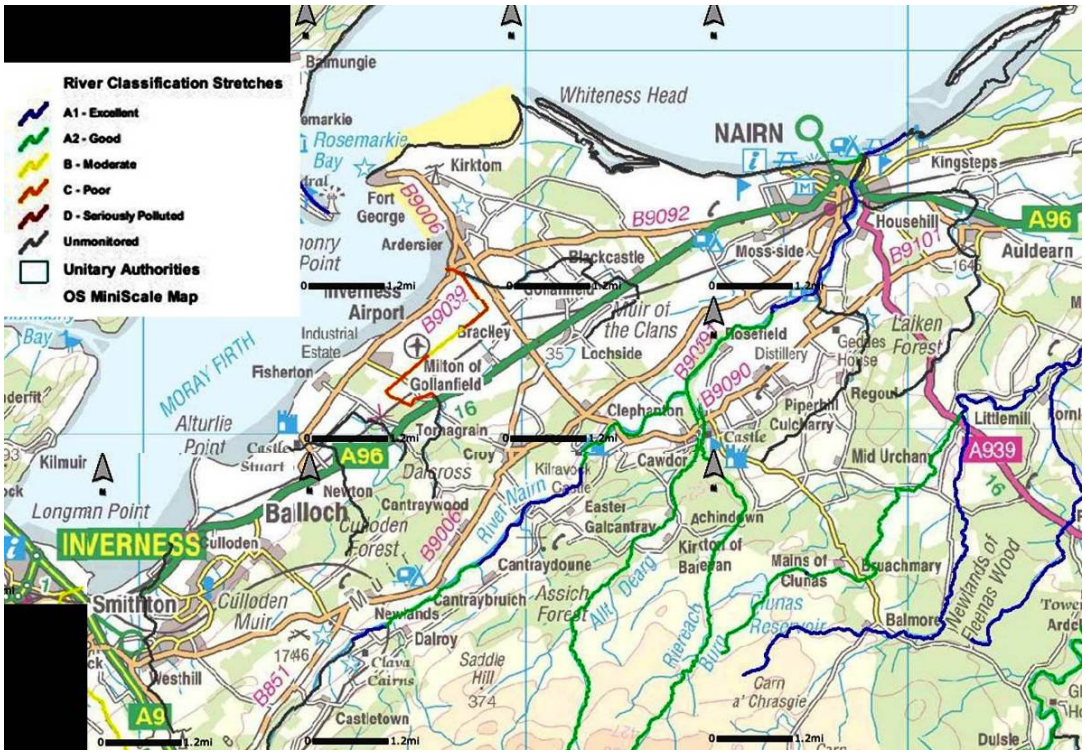
4.8.11 The quality of coastal waters is also generally high and coastal waters are classified as excellent, good, unsatisfactory and seriously polluted. With regard to bathing waters, SEPAs 2005 Bathing Waters Quality report states that in the Moray Firth, 1.0 km of the designated bathing water at Nairn East beach was downgraded from class A to class C, following a failure to meet the mandatory standards of the Bathing Waters Directive.

[10]Information taken from the Inverness and Nairn Biodiversity Action Plan, available at http://www.highlandbiodiversity.com/htm/counties/inverness_nairn/index.htm

4.8.12 Recent years have seen considerable improvements to Nairn waste water treatment works (WWTW), and to works located further inland that discharge to the River Nairn.[11] In 2006, Scotland's 63 designated bathing waters all passed the European water quality standards for the first time since monitoring began, nearly 20 years ago. Every one of the identified bathing waters in Scotland passed either the 'mandatory' or stricter 'guideline' standard. This work has been a vital strand in the Scottish Executive Bathing Water Strategy entitled, Better Bathing Waters – meeting the challenge of the revised Bathing Waters Directive on Scotland – and sits alongside investments in sewage collection and treatment.

4.8.13 The North of Scotland Water Quality report 1999 – 2002 states that many of the largest rivers in the area have maintained their 'good' quality classification, or better, during this period. Some stretches of river have improved, but most of these have fluctuated within their class for several years. Figure 4-3 outlines SEPAs general river classifications within the A96 Corridor study area.

Figure 4-3 SEPA River Classifications within A96 Corridor Area[12]



[11] Information taken from SEPA National Water Classification Report, 2005, available at http://www.sepa.org.uk/pdf/data/classification/water_qual_class_2005.pdf

Flooding Issues

4.8.14 Scotland has become wetter since 1961, with an average increase in winter rainfall of almost 60% in the north and west, and an increase of 20% in the average annual rainfall for the whole country. There are indications that:

- The overall quantity of water in Scottish rivers is increasing;
- Spells of very wet weather are occurring more frequently and with it the risk of flooding;
- Some rivers in the east may be experiencing lower flows, particularly during the summer.

4.8.15 Flooding is a natural phenomenon, with both positive and negative consequences. For example, flood waters deposit large quantities of silt, rich in organic matter and nutrients, on farmland. Floods also sustain many important wetland habitats and can benefit natural ecological processes; although they can and do have adverse impacts upon agriculture and property.

4.8.16 There is now a statutory requirement to consider flood defences in the context of a whole river catchment in order to evaluate all options before deciding on the best approach. This is known as sustainable flood management. SEPA have recently produced a flood map for the whole of Scotland which gives an indication of the areas in Scotland that are at risk of flooding from either rivers or the sea. This tool provides an important resource in helping local authorities and stakeholders to make planning decisions in support of SPP7. Planning policy now states that new development should be directed away from areas subject to flood risk, rather than placing it where expensive and environmentally damaging flood defences will be required. Figures 4.4 and 4.5 outline the identified areas of fluvial flooding concern within the Inverness and Nairn study areas.

4.8.17 Flooding along the coast depends on sea-level, storm surges and whether or not the storms coincide with high tides. Changes in sea-level and storm frequency and severity can thus have a significant impact on coastal flooding. It is now generally accepted that global sea levels have risen by 1-2 mm per year during the last century with Aberdeen reporting a rise of nearly 70mm during this period. More generally, changes in sea level around Scotland's coast varies depending on continued uplift of the land following the melting of the last ice sheet 10,000 years ago and changes in the amount of water stored in the world's oceans.

[12] Composite mapped river information taken from SEPA River Quality Classification interactive website at http://www.sepa.org.uk/rqc/map.asp

Figure 4.4 Identified Flood Zones (Inverness)

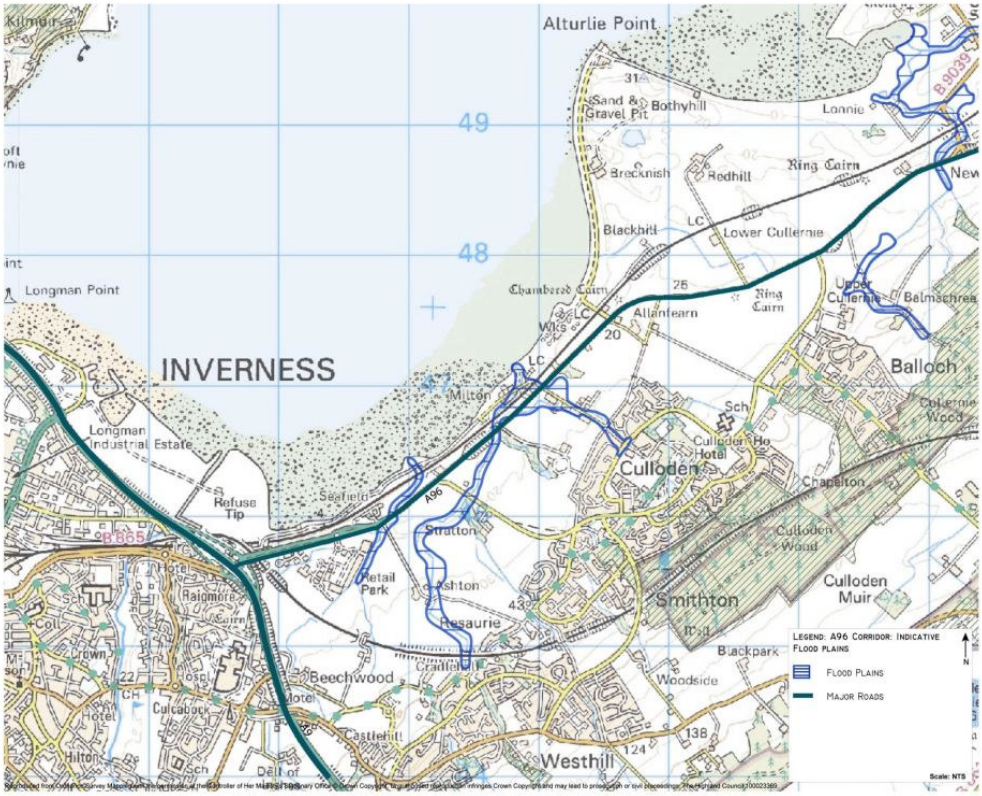
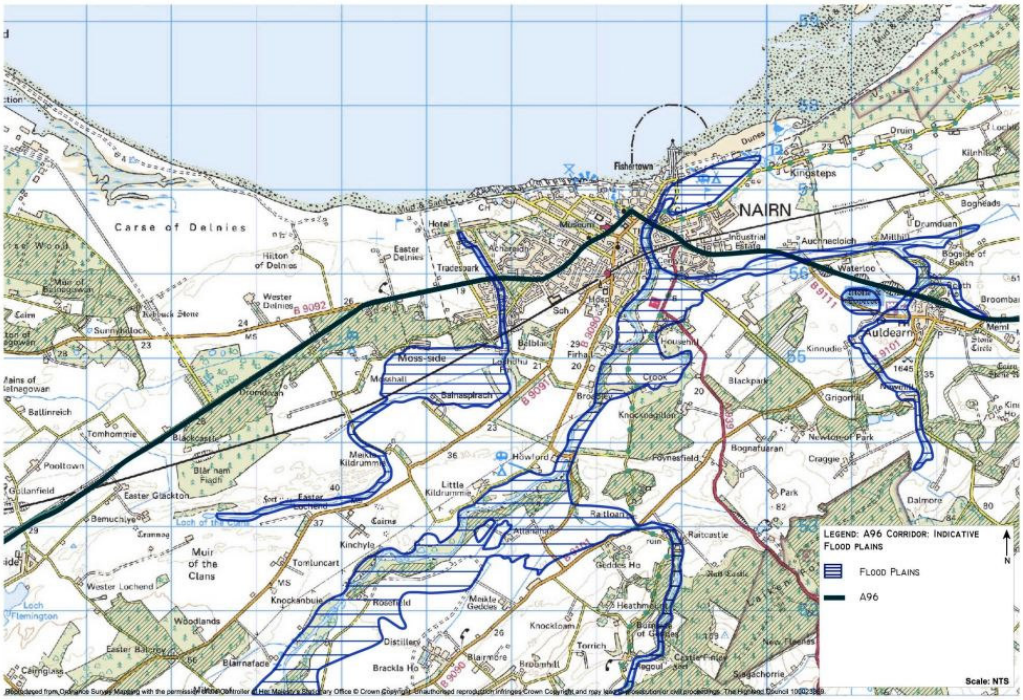


Figure 4.5 Identified Flood Zones (Nairn)



4.8.18 International authorities reckon that half the rise in global sea levels in the twentieth century was due to thermal expansion of the oceans. Sea level rise represents one part of the coastal flood threat, but more important is the role of storm surges especially when they coincide with high tides. At present it is unclear whether or not coastal storms are becoming more frequent, but the flood levels reached by current 50 year and 100 year storms can be estimated to determine the current flood risk.

4.8.19 In coastal areas, future changes in flood risk are estimated from rising sea levels and the size of storm surges. Sea level rises ranging from more than 300 mm to 80mm have been predicted around Scotland's coasts by 2050. Flooding of coastal land and property normally takes place when storm surges occur, although the largest surge effects can be expected to occur only infrequently. Nevertheless, the effects of combining sea level rise with estimated storm surge effects lead to most of the Scottish coastline up to 4 - 5 m becoming vulnerable to low-risk coastal flooding by the 2050s, unless adequately protected by defences. Again, uncertainty in the scientific community reflects the difficulty of making precise estimates of future coastal flood risk.

- Ness River level details available from http://www.sepa.org.uk/data/river_levels/link.asp?id=6007

- Nairn River level details available from http://www.sepa.org.uk/data/river_levels/link.asp?id=7004

Wastewater Flow Rates & Capacities

4.8.20 SEPA have indicated that connection to public sewers is a prerequisite for any significant new development, and that such development should target areas where there is existing or planned capacity within the system. In particular, SEPA is concerned over the need for development to be compatible with public drainage infrastructure within the River Nairn catchment, due to concerns over water quality in relation to the designated Bathing Beach at Nairn, as well as other sensitivities associated with local European designations associated with shellfish and dolphins in the area. SEPA state that no development should be considered where foul drainage cannot be connected to a public system capable of treating waste to a high standard.

4.8.21 In November 2006, Biwater produced a report for Scottish Water considering projections for increased loads on the wastewater treatments facilities in the A96 Corridor area. These projections were made in line with expected population increases associated with the development plans for the area. Information was obtained on the available headroom in the existing Scottish Water Wastewater assets. This was done by undertaking site surveys and interviewing Scottish Water Operators and Asset Planners. Each existing site was investigated to deduce what, if any, additional flows it can handle. Through consultations with The Highland Council and other stakeholders, information was collated on proposals to build residential dwellings, hospitals, schools, tourist centres as well as retail and industrial developments. Biwater were then able to calculate potential additional wastewater flows. The following section provides a brief overview of the wastewater flows calculated.

Inverness East Area Flow and Load Information [13]

Dry Weather Flow	854	m3/day
Average Flow	1,068	m3/day
Peak Flow	2,407	m3/day
Biological Oxygen Demand	267	kg/day
Suspended solids	320	kg/day
Ammonia	34.5	kg/day
Phosphorus	10.8	kg/day

4.8.22 The current works is operating within SEPA consents but it is widely acknowledged that there is little headroom in the existing works. In order to be capable of accepting the flows and loads indicated above the works will need to be upgraded. There are areas on the existing site for new processes but a detailed assessment of how this could be utilised has yet to be undertaken. The works is a PFI concession which is due to expire in 2021. Until that time, Catchment Ltd (the consortium running the works) are obliged to accept any additional flows from developments within their exclusive area. Therefore any assessment of the works upgrade required will need to be undertaken by them. New infrastructure must be put in place to collect and transfer flows to the works. The PFI concession owners are not obliged however, to accept wastewater flows from outwith the PFI exclusive area.

4.8.23 The works is constricted by special protection areas (SPA), an area of archaeological importance and a railway line, therefore expansion of the site boundary is extremely difficult. Any proposed works upgrade will need to utilise space saving technology. This works has a long sea outfall into the Moray Firth and the final effluent has UV disinfection. Further study is required to determine whether the existing outfall (and pumps) needs to be upgraded.

Nairn Area Flow and Load Information

Dry Weather Flow	963 m3/day	
Average Flow	1,203	m3/day
Peak Flow	2,713	m3/day
Biological Oxygen Demand	338	kg/day
Suspended solids	419	kg/day
Ammonia	45	kg/day
Phosphorus	14	kg/day

[13] Information taken from A96 Corridor Wastewater Development and Environmental Considerations Report by Biwater for Scottish Water, 2006

4.8.24 Although this works has rarely failed SEPA consents, it is suspected that the works is highly over-loaded during the peak tourist season. There is no head room at this works to accommodate additional flows and loads. In order for this site to accept the flows and loads indicated above, the works will need a major overhaul. Due to the land restrictions at this site a new process system will need to be chosen based on small foot print.

Central Area Flow and Load Information

Dry Weather Flow	3,575	m3/day
Average Flow	4,469	m3/day
Peak Flow	10,076	m3/day
Biological Oxygen Demand	898	kg/day
Suspended solids	1,101	kg/day
Ammonia	118	kg/day
Phosphorus	37	kg/day

4.8.25 There is an existing works located at Ardersier which treats approximately 8.5 l/s. Wastewater flows from Tornagrain and the airport business park are currently pumped to this site. Final effluent from the site is pumped via a 250mm outfall pipeline into the Moray Firth. The works is located outside the village of Ardersier and can not be viewed from public areas due to natural vegetation. Due to expected large increase in flows, and the local vicinity of dolphin hotspots and a RAMSAR site to the existing outfall, it is proposed to utilise effective plant and technology to produce high quality disinfected effluent.

Culloden Moor/ Sunnyside Flow and Load Information

Dry Weather Flow	18.0	m3/day
Average Flow	22.0	m3/day
Peak Flow	50.0	m3/day
Biological Oxygen Demand	5.8	kg/day
Suspended solids	7.0	kg/day
Ammonia	0.8	kg/day
Phosphorus	0.2	kg/day

4.8.26 There is a railway line adjacent to site to the East, nearby houses to the North, River Nairn to the South. The works has been designed to reduce visual and noise impacts. Proposed developments in this area are small and it is anticipated that the there will be sufficient capacity in the existing works which had a design horizon of 2025. If significant additional flows are proposed, above the current indications in The Highland Council Master Plan, then other options will require further investigation.

Croy Flow and Load Information

Dry Weather Flow	24.0	m3/day
Average Flow	30.0	m3/day
Peak Flow	67.0	m3/day
Biological Oxygen Demand	8.5	kg/day
Suspended solids	10.6	kg/day
Ammonia	1.1	kg/day
Phosphorus	0.4	kg/day

4.8.27 Proposed developments in this area are small and it is anticipated that the there will be sufficient capacity in the existing works. The existing works is extremely small and a large area of land will need to be acquired if expansion is recommended in the future. This plant is near the village of Croy and adjacent to a school, which are major obstacles to development.

Cawdor Flow and Load Information

Dry Weather Flow	13.0	m3/day
Average Flow	17.0	m3/day
Peak Flow	38.0	m3/day
Biological Oxygen Demand	4.9	kg/day
Suspended solids	6.1	kg/day
Ammonia	0.6	kg/day
Phosphorus	0.2	kg/day

4.8.28 The site is located within a wooded area and any site expansion would require the felling of trees, presenting additional environmental considerations. The proposed developments in the area are small and it is anticipated that the there will be sufficient capacity in the existing works. If significant additional flows are proposed, above the current indications in The Highland Council Master Plan, then other options will need further investigation.

4.8.29 SEPA also note their concerns over increased water demand required to supply an increasing population, as this may also have considerable environmental impacts. Abstractions will need to be carefully considered in the context of the EU Water Framework Directive, which states that abstractions should not put water bodies at risk of deterioration in their ecological status.

Urban Drainage

4.8.30 Sustainable Urban Drainage Systems (SUDS) are an alternative form of drainage, which aim to emulate natural drainage systems as practicably as possible through permeable surface infiltration. SUDS attenuate the flow rate of surface waters by allowing percolation as opposed to increasing run-off generated off hard, impermeable surfaces.

4.8.31 Planning Advice Note 61: Planning and Sustainable Urban Drainage Systems (PAN 61), states that "the overall objective is to return excess surface water to the natural water cycle with minimal adverse impact on people and the environment". Further, PAN 61 details that SUDS works on the following principles:

- Manage surface water run-off on-site as near to source as possible.
- Slow down run-off.
- Naturally treat runoff.
- Release good quality surface water to watercourses or groundwater.

4.8.32 Guidance for SUDS[14] design is contained in the following regulations and good practice manuals:

- Planning Advice Note 61: Planning and Sustainable Urban Drainage Systems; Scottish Executive; July 2001
- Sustainable Urban Drainage Systems Design Manual for Scotland and Northern Ireland; CIRIA C521; March 2000
- Sustainable Urban Drainage Systems Design best practice manual for England, Scotland, Wales and Northern Ireland; CIRIA C523; March 2000
- Enhancing Sustainable Urban Drainage Systems for Wildlife; Scottish Environment Protection Agency Habitat Enhancement Initiatives
- Part M of the Technical Standards for compliance with the Building Standards (Scotland) Regulations 1990, as amended.

4.8.33 Once flow peaks have been attenuated to the desired level, water can be discharged at a controlled rate to nearby watercourses, provided that it is of the required quality. The effective use of SUDS requires a holistic approach to the whole implementation process. CIRIA C523[15] notes that to encourage use of SUDS on developments, it is important to have an awareness of the complete range of issues and the concerns of all the stakeholders involved.

4.8.34 Inverness Airport and the Civil Aviation Authority (CAA) have expressed concern over the use of large expanses of water as part of the drainage system. This is because such bodies of water attract birds to the area, which are hazardous to aircraft. The design of any SUDS systems must take this fully into consideration, as well as plans for future development of Inverness Airport. There should also be provision for future expansion of the airport.

[14] Urban Drainage and SUDS information adapted from A96 Corridor Phase 1 capacity studies (SUDS Assessment) for The Highland Council A96 Corridor/ Dalcross Masterplan Phase 1 report prepared by F.G. Burnett, 2005
[15] CIRIA C523 – Sustainable Urban Drainage Systems – best practice manual for England, Scotland, Wales and Northern Ireland

4.8.35 Scottish Water has expressed concerns over the ability of the existing network to accommodate the increased drainage discharge. SEPA have already communicated their concerns to Scottish Water that increased drainage demand must be accommodated in an acceptable manner. In the case of draining water from development areas to natural watercourses, SEPA normally require that the water is of satisfactory quality and that there is no increase to the risk of flooding downstream or elsewhere as a result of the development. Runoff rates are normally restricted to "Greenfield" or pre-development runoff rates. This can be done by attenuating flood peaks by providing storage areas.

4.8.36 SUDS generally fall into one of four categories. These are:

Basins and Ponds

4.8.37 Areas of open water are a part of the natural drainage pattern. The difference between basins and ponds is that basins are temporary water features and ponds are permanent water bodies. There are many different types of these forms of SUDS. Basins and ponds are advantageous over other forms of SUDS because they are a cost-effective means of storing large amounts of water. They may cause problems to aircraft in the form of birdstrikes if they are positioned too closely to the aerodrome. Also of fundamental importance is how any water bodies are positioned relative to the direction of runways.

Permeable surfaces

4.8.38 The surface is only part of the drainage device. The layer below the surface (sub-base) should be very porous to allow the flow of water. Permeable surfaces can vary in type and appearance. They include the following:

- Gravelled areas – water can drain through the gravel to the ground beneath the surface.
- Solid paving blocks with gaps between the blocks.
- Porous paviors or continuous surfaces that have a system of voids.

Filter strips and swales

4.8.39 These types of SUDS are constituted of sloping vegetated areas either in the form of a strip off ground that water can run across (filter strip) or a broad shallow channel. Filter strips are a type of source control, whereas swales are both a source control and a means of conveying runoff.

Infiltration devices

4.8.40 Infiltration devices allow for the infiltration of water, its temporary storage and gradual release. Soakaways and infiltration trenches allow underground storage. Infiltration basins detain water above the ground, which can then slowly infiltrate into the ground.

4.8.41 There is opportunity to use SUDS as the dominant form of drainage for new developments along the A96 Corridor, between Nairn and Inverness. The scale of development could be large, and the drainage design should incorporate different SUDS methodologies, as well as efforts to reduce the amount of storage required, such as rainfall collection.

4.8.42 The presence of Inverness Airport means that the use of expanses of water must not cause increased bird activity around the Aerodrome. Through intelligent siting of SUDS and other methods that are detailed in CAP680, it will be possible to utilise sustainable urban drainage systems that do not present an increased threat to aircraft, and could even be of net benefit by attracting birds away from the airport that may be causing a nuisance at present.

4.9 Soil [16]

Local Soil Types

4.9.1 The soil pattern in the Highlands is influenced to a large extent by climate, especially temperature and rainfall. Highland soil conditions can impose restrictions on land use in some areas, however within the A96 Corridor area; there are found high quality agricultural soils. The coastal belt is underlain by Upper and Middle Old Red Sandstone rocks, with conglomerates, sandstones and flags all being represented. In contrast, the foothills are underlain by harder rocks. Whilst the landscape has been determined mainly by the solid geology, it has been considerably modified by geomorphological, and particularly glacial impacts. The result of multiple glaciations during the Quaternary ice age period has been that superficial and periglacial deposits cover most of the land. Vast spreads of fluvioglacial sands and gravels also cover the coastal lowlands.

4.9.2 The dominant soils are podzols which cover 80% of the total area in Inverness and Nairn region. They are derived from acid parent materials and are characterised by coarse and moderately coarse textures with free or excessive drainage. Humus, iron and humus-iron podzol sub-groups are all represented, although given the extensive cultivation, most have their diagnostic upper horizons obliterated. Undisturbed soils are confined to well-established coniferous woodland where the vegetation beneath the canopy bears a close resemblance to that of native pinewood. Alluvial soils represent the next largest soil group, found extensively across the A96 Corridor area, but these are well drained and predominately cultivated.

4.9.3 In built up areas, soils are compacted and sealed by hard development which causes rain to run off rapidly, increasing the risk of flooding. Rainfall that does not evaporate or runoff percolates down through the soils to be stored in the zone of saturation, or the 'water table'. The water table generally follows the ground profile in a uniform soil but if less permeable layers are encountered, water will often emerge at the surface as a spring. Due to the extent of soil damage that development can impose on soil, it is imperative that a precautionary approach is taken to avoid negative effects on the natural environment. Important peat soils should be protected from development and drainage.

[16]Source: SNH Commissioned Report into Soils and Nature Conservation: an inventory of selected Natural Heritage Futures areas, available at http://www.snh.org.uk/pdfs/publications/commissioned_reports/soils%20nhf%20inventories.pdf

Contaminated Land

4.9.4 The Government has set a target of 60% of additional housing on previously developed land or through the conversion of other buildings. Local Plans require development proposals, for land where a history of land use/ management indicates that contamination may have occurred, to undertake a risk assessment to establish the level of contamination; provide an assessment of the impact of contamination together with provisions for treatment/ amelioration and decontamination of the site prior to further occupation.

4.9.5 The Scottish Vacant and Derelict Land Survey (2005) identifies that there were 58 hectares of land spread over 3 different sites in the Inverness and Nairn region known to be contaminated in 2005. This accounts for 5% of the total amount of derelict land where contamination is known in Scotland.

Table 4.5 Contaminated land identified by Inverness & Nairn Local Enterprise Company, 2005[17]

Area (ha)	% of Scottish Contaminated Derelict Land (by Area)	No. of Sites
58	5	3

Potential impact of development on soil quality

4.9.6 There is the potential that pollution, loss or damage of soils may occur through construction and infrastructure development. The Masterplan should recognise this risk and avoid disturbance of contaminated land, protect important peat and high grade agricultural soils. Mitigation measures may be necessary to negate the effects of new infrastructure on soils in the region.

4.9.7 Proposals to develop the former fabrication works at Whiteness/ Ardersier should reflect these considerations with respect to soil and contamination issues.

[17] Data sourced from Scottish Executive Statistical Bulletin ENV/2006/1: Scottish Vacant and Derelict Land Survey, 2005, available at http://www.scotland.gov.uk/Publications/2006/01/30155550/0

4.10 Air Quality

Nitrogen Dioxide

4.10.1 Nitrogen dioxide (NOX/ NO2) has adverse effects upon human health, particularly the respiratory system. At high concentrations, it causes inflammation of the airways and increases the response of sensitive individuals to allergens. Ecosystem health is also damaged by NO2 by contributing to acid deposition, eutrophication (nutrient enrichment) and promoting the formation of tropospheric (ground level) ozone.

4.10.2 Most nitrogen dioxide produced at a global level comes from natural processes, including fixation by lightning, volcanic activity and bacterial action (breakdown of organic matter). All combustion processes in air produce oxides of nitrogen. Road transport accounted for 37% of all UK NOx emissions in 2004 and this contribution is greatly increased in urban areas. Between 1990 and 2004, UK emissions of NOx decreased by 45% due to the installation of catalytic converters in vehicles. Other important sources of emissions are the electricity supply industry and the industrial and commercial sectors.[18]

4.10.3 In 1991, the Secretary of State for the Environment established the Expert Panel on Air Quality Standards (EPAQS) to provide recommended air quality standards for the UK. The standards recommended by EPAQS are used in formulating the UK air quality objectives laid out in the National Air Quality Strategy (AQS). The air quality objectives for nitrogen dioxide are: 200µg/m^3 (105ppb) as a 1 hour mean, not to be exceeded more than 18 times per year; and a more stringent annual mean of 40µg/m^3 (21ppb).

4.10.4 Hourly average concentrations of nitrogen oxides have been monitored in Inverness since 2001. Table 4.7 outlines the most recent results.

Table 4.6 Annual Mean NO2 Concentrations from the Inverness monitoring station[18]

Year	Annual mean NO2 concentration in µg/m^3	Number of times exceeded hourly mean of 200 µg/m^3
2002	22	0
2003	23	0
2004	22	0
2005	21	0

4.10.5 Automatic Site Data from http://www.aeat.co.uk/netcen/airqual/data/auto/inv2.html

[18] Table detail taken from Scottish Executive, Scottish Environmental Statistics Online, available at http://www.scotland.gov.uk/Topics/Statistics/Browse/Environment/seso/sesoSubSearch/Q/SID/144

4.10.6 Nitrogen Dioxide is monitored on a monthly basis in Inverness using diffusion tube samplers. The highest 2004 bias adjusted annual mean was recorded at Queensgate in Inverness and was 40.6 µg/m³. It is however suggested that two other sites in the same area, with annual means of 37.2 µg/m³ and 28.1 µg/m³, are more representative of NO2 levels in Queensgate. The estimated annual means for NO2 in 2005 are below the air quality objective of 40 µg/m³; however increases in traffic volumes in Inverness city centre could raise levels to this threshold.[19]

Particulate Matter

4.10.7 Particulate pollution can harm the human respiratory and cardiovascular systems, and is linked to asthma and mortality. Smaller particles are the most damaging and current targets focus on particles less than 10µm in diameter (PM10). The greatest source of PM10 is combustion. Road transport and domestic sources accounted for around 40% of UK emissions of PM10 in 2004. Other sources are mining, construction, secondary reactions between nitrates and sulphates, and suspended dusts and pollen. Between 1990 and 2004, UK emissions of PM10 fell by 48%.[20]

4.10.8 The Air Quality Strategy (AQS) objectives for PM10 come in two stages. Stage 1 sets objectives of: a 24 hour mean of 50µg/m^3 not to be exceeded more than 35 times a year, and an annual mean of 40µg/m^3. Stage 2 sets longer term objectives of: a 24 hour mean of 50µg/m^3 not to be exceeded more than 7 times a year, and an annual mean of 18µg/m^3 (both to be achieved by the end of 2010).

4.10.9 Particulate levels are measured at Telford Street in Inverness. In 2004, an average annual mean of 15 µg/m³ was recorded with one exceedance of the air quality objective of 50 µg/m³. PM10 has been measured by non-automatic gravimetric samplers in Inverness since 2002. The AQS annual mean objective of 18µg/m^3 was met in the Inverness site in 2005. The daily objective of 50µg/m^3, not to be exceeded more than 7 times per year, was also achieved. Table 4.7 outlines the most recent results.

Table 4.7 Annual Mean PM10 Concentrations from the Inverness monitoring station[20]

Year	Annual mean PM10 concentration in µg/m3	Number of times 24 hour mean exceeds 50 µg/m3
2003	17	10
2004	15	1
2005	17	2

[19] Detail taken from HITRANS SEA Environmental Baseline produced by Steer Davis Gleave, 2006, available at http://www.hitrans.org.uk/Strategy/SEA%20Annex%20B%20-%20Environmental%20Baseline.doc.pdf
[20] Table detail taken from Scottish Executive, Scottish Environmental Statistics Online, available at http://www.scotland.gov.uk/Topics/Statistics/Browse/Environment/seso/sesoSubSearch/Q/SID/121

4.10.10 Under the Environment Act 1995, Local Authorities are required to review and assess air quality within their areas to see if any of the National Air Quality Strategy (NAQS) objectives are unlikely to be met. In this event, more detailed assessments are required for areas of concern. Areas in which air quality will not, or is unlikely to, meet the NAQS objectives must be designated as an Air Quality Management Area (AQMA). There are currently no designated Air Quality Management Areas within the A96 Corridor study area. However, specific problem areas have been identified in Inverness city centre where nitrogen dioxide levels are approaching the threshold of 40 µg/m³ and in Nairn where PM10 levels could also be exceeded by 2010 at busy road junctions due to traffic growth.[19]

4.10.11 Although air quality is generally very good, within the more built up areas, if road traffic continues to rise, air quality could deteriorate to levels below national targets, particularly when considering bottleneck areas in Inverness, and the level of traffic routed through Nairn centre at peak travel times. It should be recommended that changes in local air quality are monitored following road works and local development of the A96 Nairn Bypass and changes to the Raigmore Interchange in Inverness.

Aircraft Emissions

4.10.12 Air services provide vital links to the area, and Inverness Airport has experienced significant growth in recent years. Primary services to London (providing links to locations all over the world), several other UK Airports and overseas exist, as well as regional/ national services to Edinburgh/ Glasgow and to the islands. Some services were introduced as a result of the Scottish Executive's Route Development Fund and the airport is one of the region's vital economic drivers. The UK Department for Transport's Aviation White Paper indicates that Inverness Airport could be handling 1 million passengers per year by 2010.[21]

4.10.13 Emissions from aircraft to the local environment have very little effect on the overall air quality health impacts. However, current concentrations of pollutants such as nitrogen dioxide, sulphur dioxide and PM10 are low and there is no difficulty in complying with the Governments air quality objectives. Due to the rural nature, the potentially exposed populations are also significantly lower when compared to population densities surrounding other airports across the UK.[22]

[21] Information from Inverness Transport Vision 2004-2031, report prepared by Atkins for The Highland Council, 2004
[22] Source: The Environmental Impact of Aviation in the Highlands and Islands, Highlands and Islands Enterprise, 2003, available at http://www.hie.co.uk/aviation-environment.htm

4.10.14 The Scottish Highlands and Islands, due to the nature of the routes, also use smaller classes of aircraft. As such, associated emissions are much smaller in magnitude, both in terms of total pollutant loadings, and average emissions per plane. This results in the relative contribution of these routes to the UK airline industry's total contribution to local air quality impacts being very small. However, these comparisons may not fully reflect the contribution of Inverness airport to local air quality impacts, mainly due to the existing good air quality. With respect to GHG emissions, the routes covered from Inverness are generally low-level flights and are not as damaging as aircraft emissions in the stratosphere, however with the prospect of direct European scheduled links from Inverness, this situation may change.[23] The effect of extending the airport, and increasing the number of flights, on local air quality and GHG contributions should be monitored.

4.11 Climatic Factors

4.11.1 Winter storms have doubled in frequency in the UK over the last 50 years, and many experts believe that by the end of this century Scotland will have warmer, wetter winters, less snowfall and an increased risk of flooding. Scotland can expect more extreme weather, sea level rises of up to 600mm threatening coastal areas and up to 90% less snowfall. Detailed information on the level of CO2 emissions at a local authority level are not available for the Highlands and Islands region, however the Scottish Executive annual publication "Key Environmental Statistics for Scotland" shows that, measured against 1990, Scottish net emissions of greenhouse gases in 2003 (taking account of emissions and removals due to land use change and forestry) were some 2.4 million tonnes of carbon equivalent lower (a reduction of around 14%).

Emission Levels and Targets

4.11.2 In 2003, Scotland's net emissions of carbon dioxide were 12.1 million tonnes of carbon equivalent (around 8% of the UK total). In 2003, UK net emissions of greenhouse gases were 13% below 1990 baseline levels. The Kyoto Protocol (1997) set legally binding targets under which the UK must reduce emissions of a basket' of six GHGs to 12.5% below 1990 baselines.[24]

[23] Scheduled European links and expansion discussed in HIAL's Inverness Airport Master Plan summary available at http://www.hial.co.uk/Inverness/Inverness%20Airport%20Master%20Plan%20Summary.pdf
[24] Information from Scottish Executive Statistics Online website at http://www.scotland.gov.uk/Topics/Statistics/Browse/Environment/TrendGasEmissions

4.11.3 The UK is currently targeting its commitment to reduce its emissions of CO2 by 12.5% in the period to 2008-12. Following large initial reductions, CO2 emissions increased in 2003 and 2004. Although the Kyoto commitment may be met, the Government says it is unlikely to meet the more ambitious 2010 domestic target of a 20% reduction compared to the 1990 baseline. The 2003 energy White Paper sets a target of a 60% reduction in the UK's carbon dioxide emissions by 2050. UK figures include an 'unallocated' component (4% of the UK total in 2003) which is not factored into individual country's totals. The 'unallocated' component includes some emissions from energy industries and aviation emissions among others.

4.11.4 The Executive is committed to tackling the issue and securing a safer, sustainable future for Scotland by, for example:

- Encouraging more efficient use of energy by the public and Scottish businesses, while increasing "greener" renewable sources of electricity and heat such as wind, wave, tidal, biomass (such as wood) and solar power.
- Supporting activities which promote new and cleaner vehicle technology and fuel, while urging the public to consider alternatives to driving cars (public transport, cycling, walking).
- Delivering significant carbon savings from Scotland's forests by increasing forest cover and through using more wood as fuel instead of fossil fuels.
- Promoting waste recycling initiatives - for both household and business waste under the National Waste Plan, to reduce waste to landfill sites and limit emissions of methane - a powerful greenhouse gas.
- Contributing to the development of a UK-wide policy framework on preparing for climate change to ensure Scotland is protected from the worst impacts.

Issues for consideration

4.11.5 Road traffic and aircraft volumes are forecast to increase across Scotland and the rest of the UK into the future. Therefore, the rerouting of key roads in the area and removing transport bottlenecks could have a cumulative impact on minimising the level of transport emissions within the A96 Corridor. As traffic numbers grow (to be expected in conjunction with population growth), it becomes more important to ensure that sustainable transport methods, walking and cycling access to local community facilities and employment, as well as shorter travelling times and distances are adequately considered and promoted.

4.11.6 With respect to new development sites, it is important to direct development away from areas with peaty soils and to minimise GHG emissions through the recycling of aggregate materials, promoting energy and water efficient buildings, and considering community heating as well as combined heat and power (CHP) systems.

4.11.7 Increased rainfall and associated flooding issues are also likely to become more evident as a consequence of climate change; therefore the A96 Corridor Masterplan should avoid any recommendations for development within identified floodplains. Water supplies may be affected by increased lack of rainfall in the summer months, and development should not exceed supply capacity.

4.11.8 With increased rainfall in autumn and winter and greater frequency of extreme weather events, including strong winds, heavy rainfall and flooding. There is also an increased risk that coastal areas will experience erosion and flooding from storm surges that arise when strong onshore winds combine with high tides.

4.11.9 Across the UK, coastal defence and managed coastal retreat are mounting priorities and increasingly the insurance industry is calling for stringent action to improve the built environment's resilience to climate change.[25]

4.12 Human Health and Population

Population

4.12.1 The population of Highland region has been increasing and, in the short term, is expected to grow further. This growth is a result of in-migration. This population change has not been constant and future changes will not affect each area the same. Significant growth is expected in the Inner Moray Firth area and in particular Inverness along with similarly significant changes in the population profile. There is an increasing trend towards an older population, particularly those aged 75 and over. The age profile across Highland is uneven with the rural areas retaining a more elderly population that is added to further as households move in to retire. In Inverness and the Inner Moray Firth area, where there has been considerable economic growth, the profiles indicate a younger population.

4.12.2 Table 4.8 presents data from the 2001 Census for the population of the towns and villages found within the A96 Corridor study area, and Table 4.9 presents details on the population profiles at a Highland regional level.

[25] Detail taken from the Highland Council Designing for Sustainability document, available at http://www.highland.gov.uk/yourenvironment/planning/developmentplans/developmentplanpolicyguidance/designingforsustainability.htm

Table 4.8 2001 Census Data – Population of A96 Corridor Towns & Villages [26]

Locality	2001 Population			Population change 1991-2001%
	All People	Males	Females	
Ardersier	968	475	493	- 8.25
Inverness (incl. surrounds)	**51,832**	**24,940**	**26,892**	**+ 5.82**
(Inverness city)	40,949	19,634	21,315	+ 0.08
(Balloch)	1,555	751	804	+ 38.72
(Culloden)	4,064	1,993	2,071	+ 10.77
(Smithton)	2,129	1,029	1,100	+ 62.64
(Westhill)	3,135	1,533	1,602	+ 59.79
Nairn	8,418	4,059	4,359	+ 6.66

Note: No figures were found for Croy, Culloden Moor, Cawdor or Auldearn

Table 4.9 Population Profiles at Highland Level [26]

Highland Area profiles (mid-2005 estimates)	Population profile	Years of healthy life expectancy at Highland level	Population size % change (1994-2004)	Population projections (2001-2020)
18.5% under 16 63.9% aged 16-64 17.5% aged 65+	51.1% females 48.9% males	68.9 for females 66.2 for males	Inverness + 5.4% Nairn + 7.0% Highland + 1.9%	Inverness + 5% Nairn + 5%

Health

4.12.3 As people are living longer, and the relative distribution of older people increases, the level of health care provision has to increase, as the population ages and the incidence of illnesses such as cancer and circulatory disease increases. The average age of people in the UK is quite high meaning that in the next 30-40 years, the pressures on the provision of services for an ageing population will increase substantially. The A96 Corridor Masterplan has to ensure that housing provision and access to health care provision, and other facilities, in the A96 Corridor are sufficient to cope with an increasingly aging population, as well as the projected increase of up to 30,000 people over the next 30 years.

[26] 2001 Census data for Town and Village populations available on The Highland Council Facts and Figures website at http://195.173.143.171/plintra/iandr/cen/pop_towns.htm

4.12.4 The population of the Highlands area are relatively healthy; with an average of 71% reporting that they feel in 'good health'.[27] The Scottish Index of Multiple Deprivation measures health inequalities associated with low income and deprivation. As such it identifies areas with higher than expected levels of ill health or mortality given the age/ sex profile of the population.

4.12.5 Physical inactivity constitutes one of the most widespread health detriments in Scotland. Six out of ten men and seven out of ten women undertake less than the minimum recommended levels of physical activity. In children, three in ten boys and four in ten girls fall short of the amount of physical activity required for good health.

4.12.6 Geographic access is another of the indicators that comprise the Index of Multiple Deprivation and measures drive time to a GP, supermarket, petrol station, primary school and post office. This indicator captures a set of problems such as financial cost, time and inconvenience associated with accessing such facilities. Within the A96 Corridor, there are no settlements which fall within the Scottish Index of Multiple Deprivation range of the lowest 15% most deprived areas.[28]

4.12.7 The Masterplan can contribute to improvements in the health of the population by promoting active forms of travel such as cycling and walking. An increase in the use of these modes and in public transport instead of the private car will also contribute to improving local air quality and reducing traffic related noise and vibration. The Masterplan can also improve road safety and contribute to a reduction in the number of road accidents. Further, the Masterplan can promote urban form that makes a positive contribution to long-term psychological well-being.

Housing Stock

4.12.8 Future economic growth is likely to be focused in the Inner Moray Firth area. The availability and cost of housing is a constraint on attracting people into some parts of the Inner Moray Firth and this could affect economic activity. The housing stock differs from the Scottish average in several ways; there is a lower proportion of affordable rented housing; more owner-occupied housing; and more private rented sector housing with a substantial amount of private rented housing tied to employment. [29]

4.12.9 A number of factors impact on the ability of housing developers, including registered social landlords (RSLs) to increase housing supply and meet demand. These include:

- Difficulties accessing suitable land for housing development at a price which makes it viable to develop for housing;
- Smaller developments resulting in difficulties achieving economies of scale;
- Poorer climate leading to a shorter building season;

[27] 2001 National Census Data, available at http://www.scrol.gov.uk/scrol/common/home.jsp
[28] Scottish Index of Multiple Deprivation lowest 15% of deprived areas in Scotland mapped for Highland region available at http://www.highland.gov.uk/NR/rdonlyres/6B20D14B-099F-4203-A6C0-364AA631B57E/0/simd2004_map.pdf

- Difficulties in site assembly, poor topography and site conditions, site servicing, transport of labour and material to rural areas, limited labour supply
- No or lack of effective infrastructure or wastewater infrastructure running at full capacity with no likelihood of investment and;
- Skills and manpower shortages in the construction sector.

4.12.10 These lead to high development costs and protracted development time-scales and constrained development opportunities. Demand for affordable housing is much greater than the current supply and in terms of overall numbers of applicants on the Council's housing list; the vast majority of demand for housing is concentrated in the Inverness and Nairn area. High demand combined with low turnover means that there are substantial waiting times for housing in some areas.[29]

4.12.11 The wider Inverness housing market area has experienced population growth in line with significant employment growth, which is anticipated to continue due to inward investment. In-migration, a young age structure of those currently resident in the area, and the overall trend towards smaller household size all contribute to a projected substantial growth in households and growing demand for housing in the area over the next five years.

4.12.12 Rural communities around Inverness city are affected by commuter pressure. House prices have recently been rising at a greater level than elsewhere. Figures suggest that there is a growing demand and supply imbalance and that a slow supply response is contributing to price increases. Low and moderate income households may therefore be finding it increasingly difficult to meet their housing requirements in the market, which in turn could be increasing demand for housing for affordable rent. [29]

4.12.13 Future demand for housing in the owner occupation sector is expected to remain buoyant but, other than through the A96 Corridor study, the extent to which this demand will be matched by a growth in the supply is unknown. A sluggish supply response may lead to further increases in the number of lower income households excluded from the private market as a consequence of the rapid increase in prices. A lack of housing is said to be limiting economic development in Nairn and Inverness.[29] Hence, the requirement for a Masterplan.

4.12.14 Demand for affordable housing for rent is much greater than current supply across the area and particularly within Nairn and the rural communities of Inverness. However there are small pockets of deprivation and lower demand housing. Inverness has the highest level of homelessness. Anecdotal evidence suggests that there is a greater demand for private rent accommodation than supply in Inverness, and that turnover is high.[29]

[29] Detail from the Highland Local Housing Strategy available at http://www.lhs.scot-homes.gov.uk/links/link2/highlandlhs.htm

4.12.15 Scottish Office Circular 12/96 and National Planning Policy Guideline 3 (revised) Land for Housing recognise that housing is a fundamental human need. The Scottish Executive, working in partnership with the private sector and housing agencies, is committed to ensuring that a decent home should be within the reach of every household. Whilst the responsibility for delivering this lies primarily with private developers, the Executive accepts that in certain situations of market failure, sufficient affordable housing may not be available to households drawn from the lower income groups.

4.12.16 In such circumstances, NPPG3 establishes that the provision and retention of affordable housing is a legitimate planning concern. Local plan policies must be based on a robust assessment of local needs in each community to be undertaken in conjunction with the local Housing Authority. Based on this evidence, clear guidance must be given on what constitutes affordable housing and the appropriate mechanism for securing it. Policies may provide for the retention of affordable housing for successive, as well as the initial occupants, and seek to reserve such properties for people falling within particular categories of need.

4.12.17 Suitable delivery mechanisms include the selective use of planning conditions, Section 75 and other legal Agreements and through partnership working with private developers, for example, by promoting land in public ownership or schemes that benefit from grant support. The Council's approach to this is set out in Highland Structure Plan Policy H5.

Policy H5 Affordable Housing:

"*The Council will, in association with other housing agencies, identify areas in Local Plans where there is a demonstrable need for affordable housing. Section 75 and other mechanisms will be used to secure developer contribution where justified. Affordable housing secured as part of a larger development should not be of significantly higher density or lower quality."*

4.12.18 It is concluded that an objective target of 25% affordable housing provision should normally be expected of all future developments comprising ten or more new or converted homes located within local housing stress areas. This percentage will be applied to the notional number of units capable of being developed at standard density levels. Such a rate is consistent with the policies of other Planning Authorities both within and outwith Scotland.[30]

4.12.19 With respect to housing in the A96 Corridor study area, the Masterplan should look to:

- Link with the town centre initiatives to increase the provision of housing, including affordable housing within Inverness and Nairn town centres.

[30] Affordable housing detail taken from the Highland Council website at http://www.highland.gov.uk/yourenvironment/planning/developmentplans/developmentplanpolicyguidance/affordablehousing.htm

- Ensure affordable housing is sited near community facilities and public transport routes, which should be achieved through density, rather than planning.
- Long term planning for affordable housing provision in relation to future expansion areas, to meet the Highland Council 25% targets.

4.12.20 In order to establish the requirements for building a socially sustainable community, the A96 Corridor Masterplan ensures engagement with key service providers relating to:

- Education.
- Social services.
- Community infrastructure (including leisure).
- Open space and play (urban greenspaces).
- Health.
- Worship.

4.13 Material Assets

4.13.1 In respect of the existing service infrastructure, the following can be reported: [31]

Gas

4.13.2 The existing gas network within the Corridor consists of a high transmission line which runs from east to west approximately parallel to the A96. Medium and Intermediate pressure network extend from this to cover the suburban areas of Nairn and Inverness. There is a minimum exclusion zone of 12m around the high pressure transmission main.

Water

4.13.3 There is an extensive existing mains water network within the Corridor with large size mains running on an east-west axis. The Corridor is supplied from two reservoirs and a water treatment plant which are located outside the study area. These reservoirs and the treatment plant also serve the wider Inverness and Nairn area.

[31] Infrastructure data adapted from A96 Corridor Phase 1 capacity studies for The Highland Council A96 Corridor/ Dalcross Masterplan Phase 1 report prepared by F.G. Burnett, 2005

Drainage

4.13.4 Mains drainage exists in the built up areas close to Inverness (i.e. Culloden/Balloch, Croy, Newlands, Ardersier and the Airport). There are wastewater treatment works at each of these locations within the study area. There is also an extensive urban drainage network in Nairn with the associated treatment plant outside the study area. The treatment plant in the eastern approaches to Inverness is under the administration of a PFI contract.

Electricity

4.13.5 The electricity network is served from a 132kV supply system from East to West in the southern part of the study area. The High Voltage (HV) cables run above ground on overhead pylons between main grid substations located in Inverness and Nairn. These grid substations supply the local urban areas and the Corridor. The HV network from these substations is concentrated around the Inverness and Nairn areas. The network within the study area is less extensive and is derived ultimately from one or other of the two grid substations mentioned above.

Waste

4.13.6 Figures are available from SEPA and the Highland Council Waste Arisings Reports, however the data is for Highland Council as a whole, and is not specific to A96 Corridor study area. The Highland Council recently upgraded recycling facilities in Inverness and developed a new recycling centre at Nairn. Since November 2004, the Highland Council has received £51 million from the Scottish Executive's Strategic Waste Fund to help improve recycling throughout the Highlands.

4.13.7 A kerbside collection operates in the Inverness area, which will be expanded to cover 46,500 households in the main population centres throughout Highland, including Nairn. The average household waste production for the Highlands is estimated at 1 tonne per household per year.[32]

4.13.8 The Highland Area Waste Plan (HAWP) has been developed by the Waste Strategy Group to establish a framework for improved waste management practices across the Highland Council local authority area. The plan analyses options for future waste management and describes the perceived best practicable environmental option for management of waste produced over the next 20 years.

[32]Ecological Footprint of Inverness Report, 2004, by Birch R., Barrett J., Wiedmann T., Stockholm Environment Institute at the University of York, available at http://www.york.ac.uk/inst/sei/IS/Inverness.pdf

4.13.9 The key aim of the area waste plan is to: [33]

'Contribute to the sustainable development of the Highland area by developing waste management systems that will control waste generation, reduce the environmental impacts of waste production, improve resource efficiency, stimulate investment and maximise the economic opportunities arising from waste'.

4.13.10 The plan primarily focuses on municipal solid waste (MSW), produced by households and some commercial premises, that is collected and managed by the local authority. It sets out the strategy for implementing the best practicable environmental option (BPEO) for this waste. The BPEO for the management of municipal solid waste within the Highland area contains the following elements:

- Preventing the generation of waste at source.
- All householders in the Highlands separating their recyclables and compostables for collection directly from their homes.
- Local compost plants around the Highlands producing compost for local markets.
- A materials recovery facility (MRF) for sorting and sending on materials for recycling.
- For wastes that cannot be recycled or composted existing landfills will continue to be used.
- For areas without an existing landfill, wastes would be sent to a new energy from waste (EfW) plant in the Inner Moray Firth (from 2010 onwards).
- Waste rejected from composting or recycling plants and bottom ash from the EfW plant would also be landfilled, at a new site in the Inner Moray Firth.
- Over a 20-year period, recycling is expected to increase from 2 to 27%, while composting will rise to 13%. EfW will be introduced from 2010 at a rate of 27% and landfill will decrease from 98 to 29%.

[33] Detail from the Highland Area Waste Plan available on the SEPA website at http://www.sepa.org.uk/NWS/areas/highland/awp/execsum.html

4.13.11 Energy recovery involves recovering part of the energy value from waste, either by burning or thermally treating the waste directly (e.g. incineration) or by burning a fuel produced by the waste (e.g. refuse derived fuel or landfill gas). The energy conversion efficiency of the plant will depend on the specific design, e.g. recovery of energy through combined heat and power (CHP). The BPEO for municipal wastes in Highland specifies energy recovery from 27% of the waste stream, from 2010. The type of technology has not been specified, however any plant will have to gain a pollution prevention and control permit (PPC) from SEPA requiring application of best available techniques (BAT). The EfW plant is expected to serve the areas of Inverness, Nairn, Ross & Cromarty, and Lochaber. In order to meet the requirements of the SEPA EfW guidelines, full kerbside segregation must be achieved by 2010 for these areas.

4.13.12 SEPA have stated that they would expect waste management to be considered strategically, in conjunction with the National Waste Strategy and Area Waste Plans. SEPA expect new developments to accommodate waste management facilities with reference to recycling facilities located adjacent to suitable local amenities. SEPA also recommend that the Masterplan provides space for three segregated waste bins in housing developments and for flats, space provision for one bin for general waste, one for dry recyclables, and communal space for green waste to reflect the Highland Council's waste collection and management policies. Consideration should be given to siting industries and waste management facilities in such a way that they could provide district heating.

4.13.13 SEPA recommend that the Masterplan makes provision for the need for development to incorporate waste minimisation measures, including the use of secondary aggregates, re-used or recycled materials in construction, along with any other measures to assist waste minimisation and sustainability in line with the Highland Council's sustainability guidance.

Telecommunications

4.13.14 A core fibre network runs parallel to the A96 and also along a southerly route through the Newland/Croy area. Core fibre also extends into the Ardersier area. This gives extensive coverage of the Corridor and allows considerable flexibility for future expansion.

4.14 Transport [34]

Road Network

4.14.1 On the eastern edges of Inverness, existing traffic count data indicates peak hour traffic flows of 1,559 vehicles (0800-0900 hours) travelling westwards along the A96 towards Inverness and 1,113 vehicles (1700-1800 hours) travelling eastwards along the A96 from Inverness have been established. On the western edges of Nairn peak hour traffic flows of 464 (0800-0900 hours) on the A96 travelling eastwards to Nairn and 686 (1700-1800 hours) on the A96 travelling westwards from Nairn have been identified. The east to west flow ratio as shown in Table 4.10 below, consistently shows that in the AM peak approximately 60% of traffic is travelling west and 40% east. Figure 4-6 provides an overview of key road, rail and cycle networks in the A96 Corridor area.

Table 4.10 Existing A96 Traffic Levels

Location	24 hour	AM Peak (8.00- 9.00)			PM Peak (17.00-18.00)		
		East	West	E/W (%)	East	West	E/W (%)
Nairn – Delnies	13239	299	464	39/61	686	497	58/42
Gollanfield - Newton of Petty	11764	281	524	35/65	620	402	61/39
Newton of Petty to Balloch	16215	400	567	41/59	694	590	54/46
Balloch - Smithton	15467	371	588	39/61	687	458	60/40
Smithton - West Seafield	26681	546	1157	32/68	1292	829	61/39
West Seafield – Raigmore	32488	661	1113	37/63	1559	1177	57/43
All Locations	115854	2558	4413	37/63	5538	3953	58/42

4.14.2 There are a number of key difficulties experienced on the A96 between Raigmore and Nairn, including:

- The mix of vehicles using the A96, and prevalence of tourists, farm vehicles and HGVs, can result in slow moving traffic.
- Overtaking can be difficult due to the single carriageway nature of the majority of the A96 and absence of long and straight sections of road. Particular problems occur when slow vehicles such as tractors use the road, resulting in queuing traffic.

[34] Transport data adapted from A96 Corridor Phase 1 capacity studies (Transport) for The Highland Council A96 Corridor/ Dalcross Masterplan Phase 1 report prepared by F.G. Burnett, 2005

- The merging of dual carriageway to single carriageway to the east of the Raigmore Interchange (eastbound) increases the accident risk.
- Congestion at the A96/ A9 junction at Raigmore Interchange presents difficulties during the AM and PM peak periods.

4.14.3 In addition, Nairn suffers from congestion and has many tight, narrow roads which are not designed to accommodate large volumes of traffic. The mini-roundabout on the A96 in Nairn is unlikely to operate satisfactorily with additional traffic pressures.

4.14.4 Discussions between Highland Council and the Scottish Executive are currently ongoing regarding the potential to dual the A96 to Inverness Airport. In particular, a fast-track study examining the dualling of the A96 has been commissioned.

4.14.5 Current accident statistics for the A96 show that in total 99 personal injury accidents (PIA) occurred in the last 5 years. The accident rate per million vehicle kilometres for this section of road is 0.152. The average accident rate per million vehicle kilometres for a typical rural single carriageway road with a lane width of 10m is 0.212. Therefore, the A96 has a lower than average accident rate.

4.14.6 There are no formal Park and Ride facilities on the A96 Corridor. However Park and Ride sites are proposed for Seafield and Inverness Airport.

4.14.7 The A96 Corridor Masterplan Phase 1 capacity assessments[35] identified the following key issues:

- Without any long term development traffic, the main A96 link between Inverness and Nairn is likely to operate beyond its capacity by 2024.
- Without any long term development traffic, the peak hour capacity through Nairn on the existing road network will be reached, though not exceed.
- The Raigmore junction is currently beginning to operate a capacity during peak periods.
- With the full assignment of the long term development's external car trips onto the A96, all links will operate significantly beyond their optimum capacity.
- With the full assignment of the long term development's external car trips on to the A96, and assuming a 40% distribution of traffic through Nairn, the peak hour capacity of the trunk road through Nairn will be exceeded.

4.14.8 A current study on traffic modelling, for the Masterplan proposals, is being conducted by Faber Maunsell and is due to report February/ March 2007.

[35] Capacity assessments from the A96 Corridor/ Dalcross Masterplan Phase 1 report prepared for The Highland Council by F.G. Burnett, 2005

Cycle Network

4.14.9 National Cycle Route One passes through a section of the study area. Within the study area, this route forms a link from Beechwood at the Inverness city boundary, eastwards across the A9 and passes through Culloden and Balloch to Cumberland's Stone off the B851, where it then leaves the study area. The section of route between Inverness and Culloden is a traffic-free route and the section east of Culloden is an on-road route.

4.14.10 No future National Cycle Routes are proposed within the study area. The existing east-west route does not facilitate effective connection between the main settlements and key destinations, such as the Airport, and the business and retail park. There are also no specific cycling facilities associated with the A96 between Inverness and Nairn.

Rail Services

4.14.11 The rail service in this area is essentially inter-urban providing a city to city service between Aberdeen and Inverness. Existing rail stations associated with the study area are located within Inverness town centre and to the south of Nairn town centre. Within the study area, the predominant trip destination/ origin is Inverness. The total number trips to/ from Inverness and the other stations on the line are shown in Table 4.11 This demonstrates the importance of the end-to-end trips, but also the use of Elgin, Forres and Nairn as commuting stations. Other data shows that the total usage of Nairn rail station in 2003/04 was 77,569 passenger journeys.

4.14.12 Currently, Monday to Friday, there are ten full workings arriving and departing from Inverness. These are supplemented by one short working to and from Elgin each day. Whilst the services are typically each hour, they are not at regular times, due to the limitations of the track capacity. On Sundays there are five services between Aberdeen and Inverness, operating between 1000 and 2100. Additionally, there are two short workings from Inverness to Elgin. These services are broadly two-hourly. Within this timetable, there are only two suitable arrivals into Inverness suitable for commuters, and only two suitable departures.

Table 4.11 Rail Passenger Journeys to/ from Inverness

Station	Passenger Journeys 2003/04
Nairn	50,578
Forres	36,348
Elgin	50,123
Keith	4,802
Huntly	3,240
Insch	1,593
Inverurie	7,470
Dyce	18,514
Aberdeen	94,317

4.14.13 Rail travel times are on a par with journeys by car. The journey time from Aberdeen to Inverness is approximately 2 hours 15 minutes, and the journey time for that section of the route between Nairn and Inverness is about 18 minutes.

4.14.14 The majority of the railway is single track with passing loops, and as such, track occupancy is at a premium. This has constrained the development of more frequent commuter services to Inverness, and has also constrained the development of additional stations – due to the impact additional stops have on increasing journey times, and increasing track occupancy. The long signalling blocks on the line and limited 'run-round' opportunities have also constrained the development of freight facilities on the line. Due to capacity constraints, this has favoured the strategic promotion of Inverness as a single regional focus for rail freight.

New Station at Inverness Airport

4.14.15 The development of a new rail station at Inverness Airport, has been proposed. This would complement a proposal for a freight facility and business park at the Airport. Whilst this scheme is included within Highland Council's Development Plan, firm proposals have yet to be drawn up for its development.

Additional Local Rail Halts

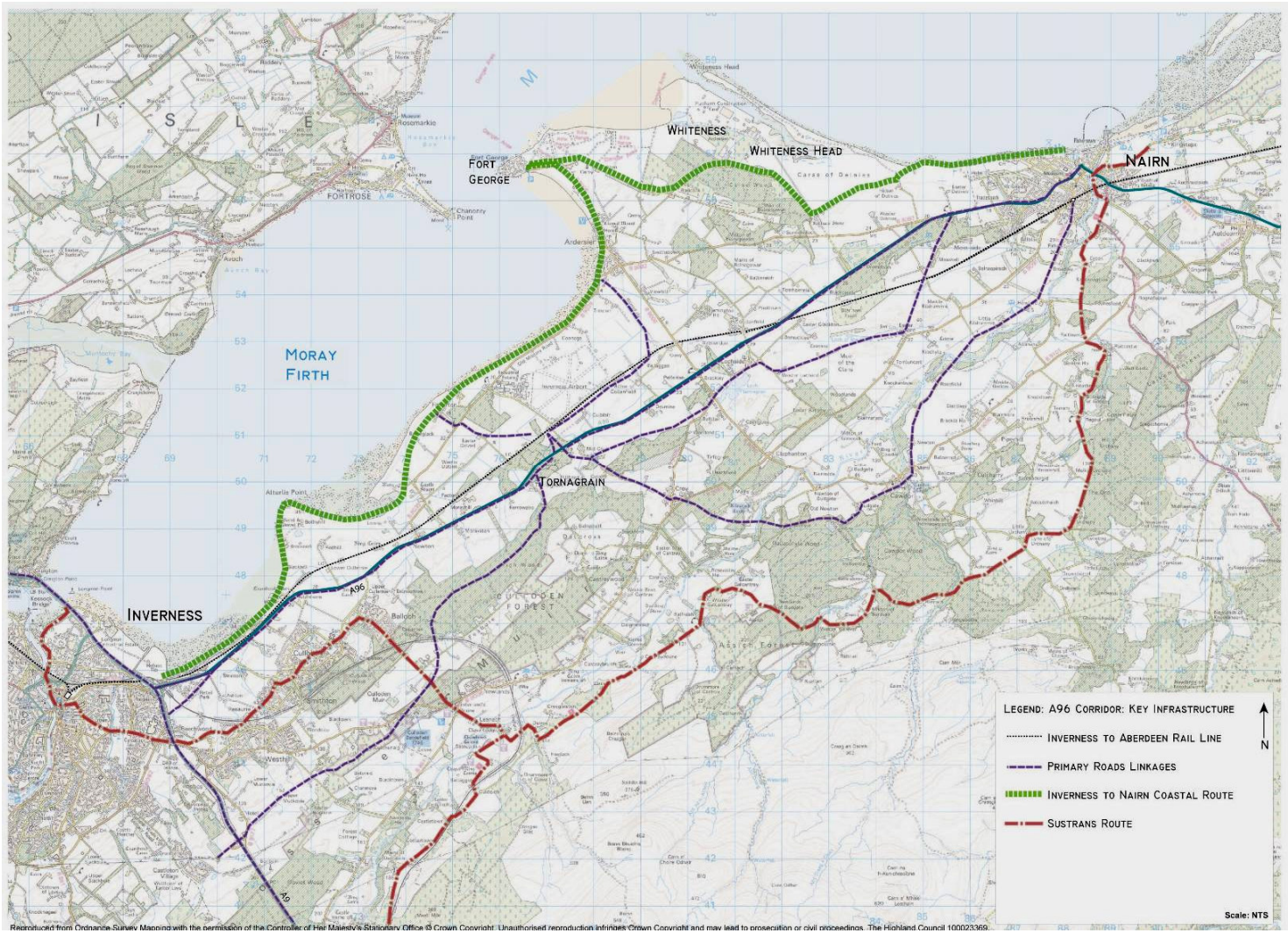
4.14.16 Highland Council, within their Local Transport Strategy, Structure Plan, and the Nairnshire Local Plan state a desire for improved local rail services between Nairn and Inverness, including additional rail halts. However, the provision of additional train halts between Nairn and Inverness would dilute the benefits from the operational flexibility improvements by increasing journey times, and using up any additional capacity generated. At present, additional halts are not proposed through the provisions of the Masterplan.

Bus Services

4.14.17 Within the A96 Corridor study area, there is a mixture of bus services. These range from express coach services operating to the Central Belt; longer distance regional coach services linking Inverness with Aberdeen along the A96 and local suburban services.

4.14.18 The express coach services do not particularly provide any local connections within the study area. Longer distance regional services along the A96 provide a 2 per hour daytime frequency. The combination of services provides frequent services along the A96, and from the villages of Westhill, Culloden and Balloch. Less frequent services are provided to the Airport and Ardersier. Finally, the more remote villages in the Corridor, such as Cawdor and Croy rely on public transport connections with relatively low frequencies.

Figure 4-6 Proposed Transport Infrastructure



Household Travel Characteristics

4.14.19 Table 4.12 presents household travel characteristics for travelling to work. This demonstrates the importance of bus in towns surrounding Inverness (e.g. Balloch and Culloden), and also highlights that car use is below regional and national averages. Cycling is also frequently used as a mode of transport to work/ study.

Table 4.12 Method of Travel to Place of Work or Study by % of Population Travelling

	Population travelling to work or study	Train	Bus minibus or coach	Taxi or minicab	Driving a car or van	Passenger in a car or van	Motorcycle, scooter or moped	Bicycle	On foot	Other
Highland	122,198	0.4%	13.4%	1.0%	43.0%	12.7%	0.5%	3.3%	24.7%	1.0%
Inverness	34,299	0.7%	10.5%	0.9%	46.4%	12.0%	0.6%	4.9%	23.5%	0.5%
Nairn	4,141	0.3%	7.8%	0.8%	33.9%	12.6%	0.1%	8.6%	35.3%	0.6%
Culloden	1,909	0.2%	22.4%	0.5%	24.0%	13.2%	0.3%	3.6%	35.1%	0.7%
Balloch	522	0.4%	16.1%	0.4%	22.8%	22.6%	0.4%	2.9%	33.0%	1.5%
Ardersier	271	0.4%	9.2%	4.1%	34.7%	6.6%	0.0%	0.7%	43.2%	0.7%

4.14.20 Typical trip characteristics show that for all household trips, almost 75% are car based. Of the remaining 25%, walk (16%) and bus (6%) are important. The varied mix of trip types is also important to consider. Traditionally the emphasis has been placed upon commuting trips, however these account for only 25% of a household's trip making patterns. Also of note is the length of trip. Trips within an easy walking distance make up 34% of the trips made; trips within 5km make up 48% of the trips made, and over such distance the bicycle can be a realistic option.

Noise

4.14.21 The European Noise Directive (2002/49/EC) from the European Parliament and Council on assessment and management of environmental noise was adopted in June 2002. As part of the implementation of the directive, individual Member States have to draw up strategic noise maps and action plans aimed at preventing and reducing environmental noise from road traffic, railways, aircraft, and industrial plant. The directive contains four elements:

- The harmonisation of noise indicators and assessment methods for environmental noise.
- The collection of information about noise exposure in the form of noise maps.
- The preparation of action plans.
- Informing and consulting residents.

4.14.22 In the first phase, noise maps have to be drawn up for urban areas with over 250,000 inhabitants, all major roads carrying more than 6 million vehicles a year, major railways with over 60,000 rail passengers a year, and finally, the major airports. In the second phase, urban areas with over 100,000 inhabitants, all major roads carrying more than 3 million vehicles, and railways with over 30,000 rail passengers a year will also be covered.[36] This process is currently underway in the UK but is not yet completed in Scotland and hence the data is not currently available.

4.14.23 The main source of ambient noise pollution in the UK is from road traffic. Noise is not only a disturbance but also poses a threat to human health. Noise guidance provided by the World Health Organisation states "general daytime outdoor noise levels of less than 55 dB(A) Leq are desirable to prevent any significant community annoyance". Noise levels above 55 decibels, causes 'community annoyance', and a change of ±3 dB(A) is held to be significant in terms of STAG appraisals.

4.14.24 The Masterplan for the expansion of Inverness Airport contains an assessment of expected noise increases and outlines their plans for effective day and night-time exclusion zones. There is currently no information available on the number of people affected by ambient noise levels within the A96 Corridor study area.

Energy

4.14.25 There is no direct data on domestic energy consumption within Inverness or Nairn, even though the data will exist in some form. This is the situation for many other cities and Local Authorities where the data is withheld by suppliers for confidentiality reasons.

4.14.26 UK domestic energy consumption increased by 32% between 1970 and 2000, despite energy efficiency improvements such as increased levels of insulation and more efficient electrical appliances. Over half of the energy consumed in homes is for space heating, 18 per cent is for cooking, lighting and appliances and the remainder (24 per cent) is for heating water. Direct domestic energy consumption by Inverness' households amounted to 20,523 kWh (Kilowatt-hours) per person during 2001. The majority of this was gas (81 per cent).

[36] Noise detail taken from the SEPA website at http://www.sepa.org.uk/noise/index.htm

4.15 Historic Environment

Defining the Historic Environment

4.15.1 Historic Scotland's definition for the 'historic environment' appears in Section 16(3) of the Public Appointments and Public Bodies etc. (Scotland) Act 2003 as,

'…any or all of the structures and places in Scotland of historical, archaeological or architectural interest or importance'.

4.15.2 Scottish Historic Environment Policy (SHEP 1) builds on this definition by identifying that the historic environment encompasses built heritage features (ancient monuments, archaeological sites and landscapes, historic buildings, townscapes, parks, gardens and designed landscapes, as well as marine heritage) and the context or setting in which they sit, and the patterns of past use, in landscapes and within the soil, and also in towns, villages and streets. The historic environment also has less tangible aspects recognised as the historical, artistic, literary, linguistic and scenic associations of places and landscapes.[37]

4.15.3 There are three main services for the historic environment; the Royal Commission on the Ancient and Historical Monuments of Scotland (RCAHMS), Historic Scotland and Local Authority Archaeology Services. An ancient monument is any of a wide range of sites, ruins, or other evidence of past human action. This definition extends from relict buildings, to crop marks in fields indicating the outline of former structures.[38] The historic environment should be recognised for its value both as a national asset in itself (tourist numbers attracted to the history and landscapes) and in its contribution to the quality of the rural environment in Scotland.

4.15.4 There are over 7800 scheduled ancient monuments (SAMs) in Scotland which have been designated as a result of direct evidence of past human action and scheduled status extends from the structure or artefact of interest to the surrounding land (historic setting). SAMs are usually monuments and buildings which are generally unoccupied, although there are several field SAMs, which are fields showing signs of past human action, however there may be no associated structures on the ground. Similar provision exists for wetlands and the water environment, where historic remains are protected by the water itself.

[37] SHEP 1 is the overarching policy statement for the historic environment and is available at http://www.historic-scotland.gov.uk/index/policyandguidance/sheps/shep1.htm

[38] MLURI report, The State of Scotland's Farmed Environment, 2005 available at http://www.macaulay.ac.uk/LINK/index.html

4.15.5 There are numerous recorded archaeological sites within the A96 Corridor area, and details of these are held by the Local Authority Archaeological Services. The number of archaeological sites is increasing as a result of new sites being identified, primarily during construction, and these sites often lie in areas where construction has not previously been undertaken. Historic Scotland provides details of identified sites and SAMs on their PASTMAP web facility, which is updated fortnightly, and provides details on Scheduled Monument Records (SMRs) with links to Local Authority archaeological contacts.

4.15.6 Development activity has the potential to adversely effect the historic environment through loss or damage to culturally significant sites and soils, effects on the historic and wider landscape setting, impacts on designed landscapes and the potential to damage archaeological resources protected by wetlands and woodlands. Other concerns include the inappropriate re-use of historic buildings. In addition to preserving the history of the region, cultural heritage is important to the economy and the tourism industry benefits from the rich cultural heritage of the region. Potential enhancement measures of the Masterplan may include improving access to historic sites by sustainable modes of transport and therefore reducing congestion surrounding these sites and in town centres.

Historic Environment Designations [39]

4.15.7 Historic environmental designations for the A96 Corridor are indicated on Figure 4-9. Particular attention is needed for buried archaeology, especially in relation to any expansion of Inverness. The city has a well-visited museum, regional theatre, Gaelic institutions and a wide range of festivals featuring most performing arts and local cuisine. The city, its historic centre designated as an Outstanding Conservation Area, occupies a unique position for promoting cultural heritage. Inverness Castle is identified in the Highland Structure Plan as a major tourist “icon” which disappoints. Existing uses prevent public access and the opportunity to network to other visitor sites in outlying localities. Ardersier is a conservation village, noted for its charm and appeal.

4.15.8 Clava Cairns, the Cambered Cairn at Corriemony and the Caledonian Canal system are amongst the many scheduled Ancient Monuments, which together with Culloden Battlefield, are either in state guardianship or of international significance. Castle Stuart and Dalcross Castles are part of a lineage of defensive buildings extending east into Nairnshire and Moray. A diverse industrial past is represented by hydro electric, smelting and engineering artefacts. Table 4.13 outlines a summary of the key designated features that present most concern for Historic Scotland, with respect to the A96 Corridor Masterplan development.

[39] Historic Environment designations provided by Historic Scotland Area Representative, direct communication, June 2006

Scheduled Ancient Monuments

4.15.9 There are 39 designated scheduled ancient monuments (2 of which are in the care of the Scottish Ministers) and 11 sites proposed for designation as scheduled ancient monuments, within the A96 Corridor Masterplan area. All scheduled ancient monuments are nationally important sites and the impact on any monument or its setting will need to be considered. Scheduled Ancient Monuments are protected under the 'Ancient Monuments and Archaeological Areas Act 1979'.

4.15.10 Scottish Ministers are also consulted on any works that may impact on the historic or landscape setting of a scheduled ancient monument through the 'Town and Country Planning (General Development Procedure Order) 1992'. The legislative requirements for scheduled ancient monuments should be fully taken into account throughout the planning process.

Listed Buildings

4.15.11 The study area defined for the A96 Corridor Masterplan encompasses some 59 Listed Buildings, breaking down to 6 category A lists, 40 category B lists and 13 category C(S) lists. These buildings are subject to Listed Building Consent for any works which may affect the architectural or historic character of the buildings, as set out in the Planning (Listed Buildings and Conservation Areas)(Scotland) Act 1997.

4.15.12 The responsibility for works to C(S) listed buildings lies with the local planning authority (apart from demolition, which is referred to Historic Scotland), whilst the planning authority have a statutory obligation to consult Historic Scotland on Listed Building Consent applications concerning works to A and B listed buildings. In addition to this, any works which may affect the setting of any A-listed buildings are subject to approval from Historic Scotland under the Town and Country Planning (General Development Procedure) Order (1992). The Guidance by which Listed Building Consent applications are assessed is set out in the Memorandum of Guidance on Listed Buildings and Conservation Areas (1998), available on the Historic Scotland website at http://www.historic-scotland.gov.uk/index/policyandguidance/memorandumofguidance.htm

Designed Landscapes

4.15.13 Historic gardens and designed landscapes form an important part of the cultural heritage in the A96 Corridor study area. Historic Scotland defines gardens and designed landscapes as;

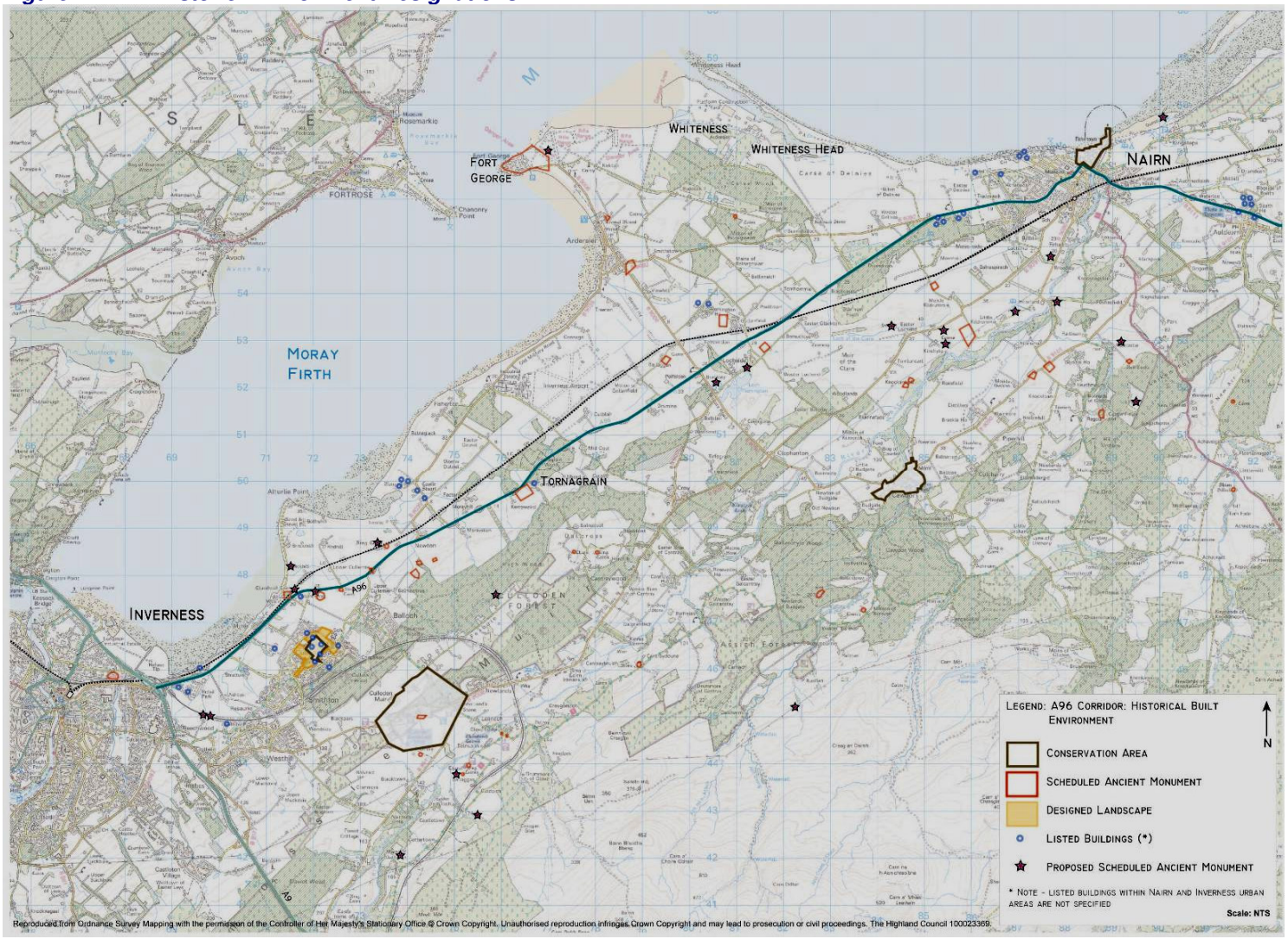
'…grounds which are laid out for artistic effect and most often include architectural features, trees, shrubs, flowers, lawns and parklands'.

4.15.14 Such features are safeguarded by Historic Scotland as they are an important cultural asset and are often threatened through inappropriate development. There are 2 sites within the study area which appear in the Inventory of Gardens & Designed Landscapes in Scotland, namely Culloden House and Dalcross Castle. Any proposed works should be planned to avoid development within these designated sites and to have minimal impact on their historic and landscape setting.

Table 4.13 Historic Features Presenting Most Concern for Urban Framework Plans

Designation	East Inverness Framework	Nairn South Framework
Scheduled Ancient Monuments	6001 - (A) Milton, ring-ditch 4993 – (A) Allanfearn, barrows 5008 – (A) Balloch of Culloden, 5021 – (Upstanding) Isle View, ring cairn 5201 – (A) Lower Cullernie, ring-ditch 3745 – (Upstanding) Newton of Petty, chambered cairn & stone circle 5025 – (A) Balmachree, 5298 – (A) Morayston, ring-ditch	9433 – (Upstanding) Kebbuck Stone, Cross Slab 5018 – (A) Easter Delnies, unenclosed settlement 5308 – (A) Meikle Kildrummie, enclosure 5095 – (A) Howford, ring-ditch
Proposed SAMs	AMJ/8127/1/1 (11535) (A) Ashton Farm cottages, ring ditch and pit circles AMJ/8122/1/1 (11427) (A) Blackhill, unenclosed settlement AMJ/8123/1/1 (11428) (A) Blackhill, palisade enclosure AMJ/8121/1/1 (11429) (A) Lower Cullerine, settlement AMJ/8204/1/1 Lonnie, settlement	AMJ/8279/1/1 (11733) – (A) Broadley House, roundhouses AMJ/8231/1/1 (11804) – (A) Howford, Enclosure AMJ/8268/1/1 (11606) - (A) Little Kildrummie, Three Barrows
Listed Buildings	Category B 8030 Allanfearn Farmhouse Category B 8060 Stratton Lodge Hotel Category B 8059 Stoneyfield House Category B 8035 Castlehill House Category B 8036 Cradlehall House	Category B 14061 Delnies Delniesmuir and Gate Lodge *2 Category B 14060 Delnies Beldorney Category B 14062 Delnies Sandwood and Gate Lodge *2 Category B 14057 Meikle Kildrummie
Gardens and Designed Landscapes	Culloden House	

Figure 4-7 Historic Environment Designations



Conservation Areas

4.15.15 The study area covers 3 Conservation Areas (CA), these being Culloden House and Policies CA, Culloden Battlefield CA and Ardersier CA. Works to buildings and structures within this area are subject to Conservation Area Consent, which is the responsibility of the Planning Authority with the exception of demolition cases, which must be referred to Historic Scotland for consultation.

4.15.16 Historic Scotland note that Culloden, Culloden Moor and Ardersier are all areas identified for possible settlement expansion and the setting of these conservation areas should be considered during the planning of this expansion.

Battlefields

4.15.17 There is no formal statutory protection for battlefields at present. However, Historic Scotland is actively developing a strategy for their protection and has recently commissioned The Battlefields Trust to create a gazetteer of key sites. Informed by this work, Historic Scotland is preparing a draft Scottish Historic Environment Policy document for battlefields, with a view to public consultation. As part of this process, Historic Scotland will consider the production of an Inventory of key Scottish Battlefields. Although it is not currently possible to legally schedule a historic battlefield in Scotland, Culloden Battlefield does have protected status due to physical archaeological remains on the site which are currently scheduled, including graves and cairns.

Development Pressures on the Historic Environment [40]

Main Proposed Settlement – post 2011

4.15.18 Most of the Scheduled Ancient Monuments near to the proposed settlement study area are cropmark sites (sites only visible from aerial photographs). It is likely that the settlement will have some impact on the setting of these scheduled ancient monuments and this needs to be considered with location and design planning. The impact on the setting of the monuments that are located on higher ground to the south of the settlement area should be considered when determining the exact location and construction of the settlement.

[40] Synopsis provided through direct communication with Historic Scotland area representative

4.15.19 Dalcross Castle and Designed Landscape is situated on Drummossie Muir, close to the south of the new settlement site. The Castle is an A-listed, late 16th and early 17th century tower. Although the woodlands and trees in the policies shelter the grounds and obscure views in the policies from the surrounding area, views can be obtained from the Castle to the Moray Firth, particularly in winter. Historic Scotland advise that in developing proposals the castle be included in any visual impact assessment.

Potential A96 Road Development

4.15.20 There are at least 6 scheduled sites and one proposed scheduled site that lie very close to the current A96. Historic Scotland therefore advise that the impact on scheduled ancient monuments, historic buildings and designed landscapes of construction, sourcing of aggregates and any junction roads associated with the development be considered.

Potential Marina Development

4.15.21 For this development option Historic Scotland recommends the impact on the setting of Fort George be considered with careful consideration with respect to the height of new developments, in relation to current buildings within the proposed development area. They also advise that if there is the possibility of increased traffic on the B9092 road due to new developments then any impacts upon access to Fort George should also be assessed.

Potential Airport Expansion

4.15.22 There are 7 scheduled monuments in the general vicinity of the development area and Historic Scotland recommends that the setting of these scheduled ancient monuments be considered.

Town Expansion

4.15.23 Historic Scotland recommends that any expansions at Culloden and Culloden Moor be considered carefully to minimise the impact on the historic environment of this area. At Culloden Moor particular consideration should be given to two areas:

- The first is the Scheduled Ancient Monument 967, Culloden Battlefield, Graves of the Clans, Cairn and Well of the Dead which lies within the Culloden Battlefield Conservation Area. The A-listed Culloden Memorial Cairn, a circular boulder cairn with domed apex also sits on the battlefield.

- The second area for consideration is the prehistoric funerary landscape surrounding Clava, which includes 4 scheduled monuments, one of which is a property in care of the Scottish Ministers.

4.15.24 It is important to consider the current development of Scottish Historic Environment Policy regarding battlefields when developing the Masterplan.

4.15.25 At Culloden, the A-listed, late 18th century classical style Culloden House and Culloden House Stables form the centrepiece of an important collection of listed buildings which lie at the centre of the area identified for possible expansion. The core of the estate is a Conservation Area and is also enclosed by Culloden House Designed Landscape, a 17th century designed landscape, considerably modified in the late 18th century. It is historically important as a 19th century exemplar of the recognition and appreciation of a historic landscape due to its close association with the Battle of Culloden (1746), which took place within its policies.

4.15.26 Despite 20th century suburban development, the integrity of the core designed landscape is relatively intact. Woodland belts and housing development restrict views from the site. A major vista north from the house is interrupted by traffic entering Smithton. However the formal approach to the designed landscape is still defined by the principal avenue from the south west.

Access, Interpretation and Management

4.15.27 Historic Scotland would consider the inclusion of the 6 scheduled monuments and 4 proposed scheduled monuments (that lie on Forestry Commission land), into the improved walking and cycling routes to be advantageous. However, they ask that the impact of any new planting schemes on the historic environment is taken into account as they generally discourage planting in the vicinity of a scheduled ancient monument, and the consent of the Scottish Ministers would be required within the boundary of the designated area.

4.15.28 Historic Scotland would also recommend that the Masterplan addresses the possibility of future management of the 2 Designed Landscapes which it encompasses. They suggest an objective of the plan should be the implementation of a woodland management plan for the setting of Culloden House as views north would be greatly enhanced by a parkland replanting scheme, which includes the northern boundary of the park.

4.16 Landscape Considerations

Designated Sites

4.16.1 The two key designations for landscapes in the Highlands and Islands are:

National Scenic Areas (NSAs) – designated by Scottish Ministers as the best of Scotland's landscapes, deserving special protection in the nation's interest. Sites are nationally important areas of outstanding natural beauty and represent some of the best examples of Scotland's greatest landscapes, particularly lochs and mountains. Development control measures for the 40 National Scenic Areas in Scotland were introduced by the Scottish Development Department through SDD Circular No 20/1980. National Planning policy for NSAs is set out in NPPG14 on Natural Heritage. Within the Inverness East, Nairn and Lochaber region, SNH have identified 10 National Scenic Areas.

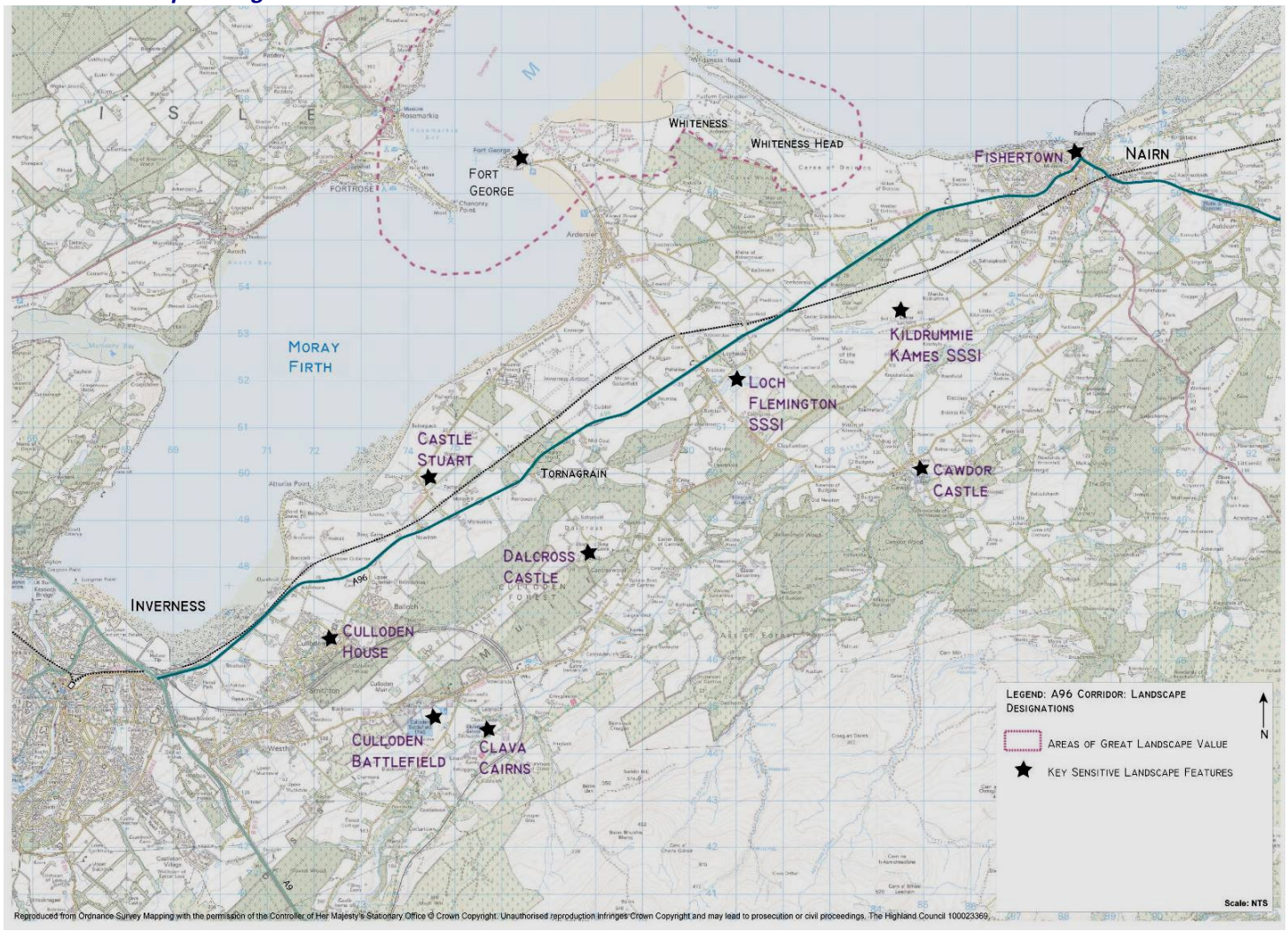
Areas of Great Landscape Value (AGLVs) – the requirement to designate AGLVs is set out in SDD Circular 2/1962. They are defined by local authorities in development plans with a view to safeguarding areas of regional or local landscape importance from inappropriate development. A number of other regional and local landscape designations are also used by local authorities in Scotland as a well-established and valued approach to protecting and guiding change in areas of particular landscape importance. The key feature of the Inner Moray Firth Area of Great Landscape Value (AGLV) is the interplay between the headlands at Chanonry Point/ Fort George, the Black Isle coastal footpath, and the Sutor narrows at the head of the Cromarty Firth.

4.16.2 Key sensitive landscapes that have been identified within the A96 Corridor study area include:

- Culloden Battlefield (Scheduled Ancient Monument)
- Culloden Forest (Ancient Woodland)
- Dalcross Castle (Historic Garden and Designed Landscape)
- Carse Wood (Ancient Woodland)
- Tornagrain Wood (Ancient Woodland)
- Delnies Wood (Ancient Woodland)
- Whiteness Head/ Carse of Denies (Area of Great Landscape Value and SSSI)
- Kildrummie and Loch Flemington (SSSI)

4.16.3 These areas should be carefully considered as key landscape resources and their protection is fundamental to the environmental quality of the Corridor.

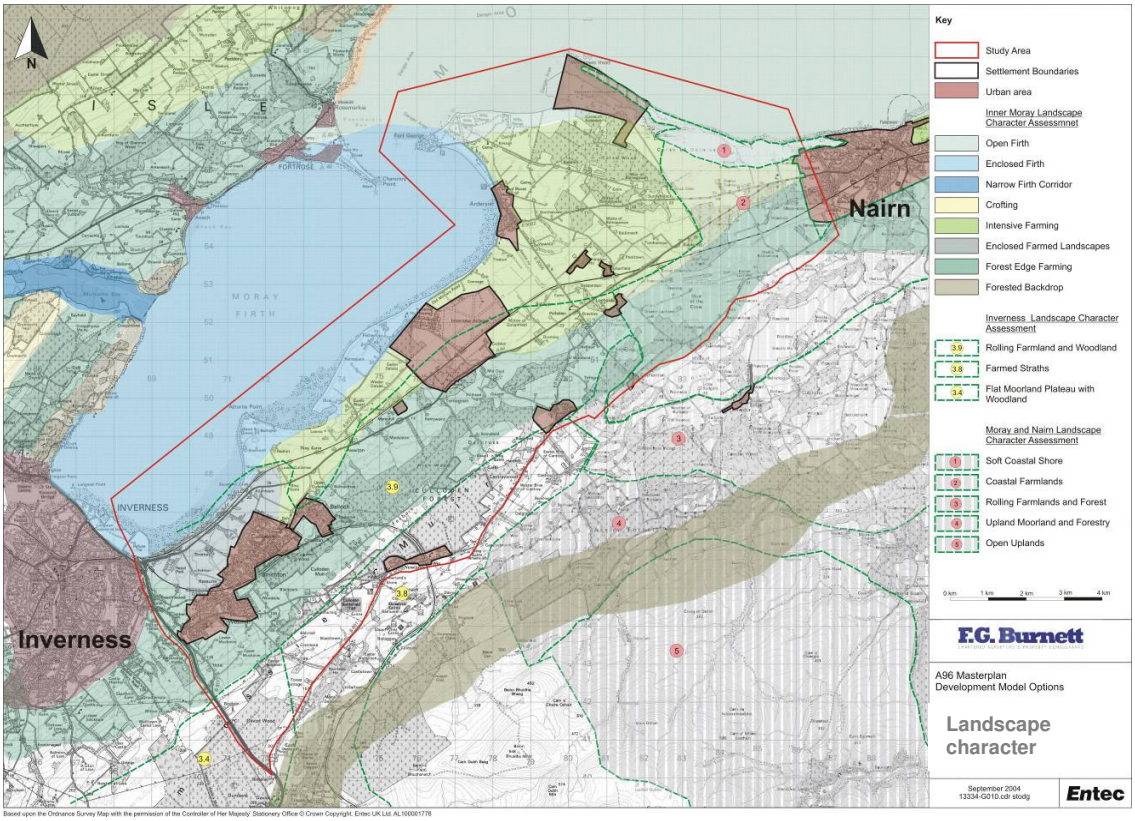
Figure 4-8 Landscape Designations and Features



Landscape Capacity [41]

4.16.4 SNH highlight the fact that there are no landscape designations on or near the A96 Corridor; however development proposals lie in an area characterised by open views to the Black Isle, and a key entry point to the city. SNH state that landscape impacts will need to be carefully considered throughout the planning process and that development in the area should be consistent with the Inverness area and Inner Moray Firth Landscape Character Assessments. Figure 4-9 below, outlines the landscape character as designated in the Phase 1 stage of the A96 Corridor Masterplan process and Table 4.14 provides a breakdown of the character types and the descriptions as listed in the Phase 1 report.

Figure 4-9 *A96 Corridor Study Area Landscape Character Designations* [42]



[41] Capacity assessments taken from the A96 Corridor/ Dalcross Masterplan Phase 1 report prepared for The Highland Council by F.G. Burnett, 2005

[42] Character assessments taken from the A96 Corridor/ Dalcross Masterplan Phase 1 report prepared for The Highland Council by F.G. Burnett, 2005

4.16.5 There is some capacity within the landscape for development east of Inverness and north of Culloden, the existing woodland features have the potential to form a visual barrier and enhance the setting to development. The issue of settlement coalescence between Inverness and Culloden/ Smithton would have to be considered. There would be capacity to develop recreation and open space features in this landscape. The existing woodland adjacent to the firth edge and urban areas would provide a valuable backdrop and setting to any new proposals.

4.16.6 Development proposals for any new growth near Gollanfield would require a landscape strategy due the openness of the landscape. Capacity for development exists south of Inverness Airport. The existing forestry and woodland near Tornagrain and North of Croy providing visual containment for new development. The mature forest edge and woodland will create strong visual barrier and a valuable starting point for an integrated landscape framework within the settlement.

4.16.7 Development at Morayhill could be accommodated within the landscape using the existing topography to contain the settlement. Steeper topography south of the A96 and future felling of any forestry will have to be considered when considering size and location of any new settlement. There is some capacity to develop near the coast at Redhill although the location of a new settlement may be constrained by intervisibility between landscape character areas and skyline development issues. Views from flat ground to south and west as well as views from Black Isle would have to be considered.

4.16.8 The overall landscape capacity is favourable at Mosshall to the west of Nairn, the existing woodland to the north of the site acting as valuable containment and backdrop to a small settlement. There is capacity to expand Ardersier Village that can avoid conflict with existing landform and protected designations in this area. The concentration of existing woodland and forestry would allow some settlement growth at Croy and Tornagrain pending future forest management.

Table 4.14 A96 Corridor Study Area Landscape Character Types and Descriptions [43]

Landscape Character Type	Description
Forest Edge Farming	The area comprises of gently undulating land and convex slopes, which is characterised by a framework of coniferous woodland and rectilinear field patterns. This landscape forms a distinct wedge between Inverness and Nairn separating the hills and high ground of Moray with the coastal farmland areas. Typical settlements of this landscape are farm holdings with some small villages including Tornagrain and Croy. Views are generally restricted due to the existing forestry although there are some areas with expansive views.
Intensive Farming	The area comprises of generally flat to undulating landform composed of large arable fields interspersed with forestry plantations. The simple wide horizontal landscape and lack of structural elements gives it an overriding expansive scale. Large farm holdings are typical of this landscape often associated with mature trees and forestry. Views are open with extensive views to Moray Firth and Black Isle.
Enclosed Farmed Landscapes	The area comprises of flat to gently undulating lowlands, of firths and flood plain with remnants of estate woodland, scattered mature trees and open fields. Farm holdings within this landscape are often enclosed by mature trees and development expansion at Inverness and Culloden has encroached on the landscape. Views are generally semi enclosed with some views to the Moray Firth and Black Isle.
Enclosed Firth	This is a coastal landscape type with a variety of shorelines and intertidal areas with the edge of the firth often characterised by complex natural patterns including mudflats. Industrial and urban features are prominent features along the coastline. Views are open to the Moray Firth and Black Isle.
Open Firth	Open Firth is a flat to gently undulating coastal landscape with large expansive areas of sand and shingle beaches. The coastal edge consists of natural landscape patterns and characteristic vegetation is low lying and salt tolerant. Existing settlements are located at river mouths, back dune systems or on rocky headlands where there is access to deep water. Views along the coastline and to the Black Isle are expansive.
Rolling Farmland with Woodland	This landscape has been strongly influenced by human occupation and is characterised by rolling landform with hill slopes and plateaux with a diverse mix of open agricultural land and woodland. The woodlands vary in character from dense coniferous plantations to mature broad-leaved, together creating varying patterns of openness and enclosure. The main form of settlement occurs as small farms or small villages, which are typically associated with road junctions and bridging points. Expansion of Culloden and Balloch has encroached into this landscape.

[43] Landscape character and descriptions taken from the A96 Corridor/ Dalcross Masterplan Phase 1 report prepared for The Highland Council by F.G. Burnett, 2005

Landscape Character Type	Description
Farm Straths	This landscape consists of broad, flat to gently undulating landform edged by the steep, rocky, side slopes of the surrounding uplands. The character varies from high exposed rough pasture to sheltered improved pastures in low-lying areas. Typical settlements of this landscape are farm holdings and estate buildings. Views are semi enclosed with wider views to the hills and uplands to the south.
Flat Moorland Plateau with Woodland	The area comprises of flat to gently undulating moorland plateau and is characterised by open heather moorland creating a uniform open landscape. The scale of the landscape is large and there is a general feeling of openness with some areas of plantation forestry. This landscape is largely uninhabited and settlements are concentrated on outer edges and adjacent landscape character types. Plateau areas are open with expansive views of the uplands and distant hills. However, plateau side slopes restrict visibility of adjacent lower areas.
Rolling Farmland and Forest	This landscape is made up of diverse range of landform including rounded hills, broad and narrow incised valleys and undulating upper slopes. The gently rolling landscape has a visual balance of open farmland and woodland, the mix of native and coniferous woodland and hedgerows form dominant enclosing features within the agricultural landscape. Typical settlements of this landscape are traditional farm holdings with some small villages. Recent housing associated with some traditional settlements tends to dominate the landscape due to differing scales and contrasting layout patterns. This landscape character type overlaps with the Forest Edge Farming landscape character area
Coastal Farmlands	This is an expansive coastal plain landscape consisting of flat to undulating arable fields with a mixture of broad-leaved woodland and coniferous forestry. The bands of coniferous planting creating a strong backdrop to the large fields
Soft Coastal Shore	This area is a flat to gently undulating coastal landscape with large expansive areas of sand and shingle beaches. The coastal edge consists of natural landscape patterns and characteristic vegetation is low lying and salt tolerant. Existing settlements are located at river mouths, back dune systems or on rocky headlands where there is access to deep water. Views along the coastline and to the Black Isle are expansive This landscape character type overlaps with the Open Firth character.
Upland Moorland with Forestry	This landscape character area is located on the boundary of the study area and comprises of largely inaccessible areas of broad, rounded hills and upland plateaux.
Open Uplands	This landscape character area is situated to the south of the study area and consists of rounded hills and gentle undulating plateaux.

Access and Recreation

4.16.9 The Scottish Executive is committed to promoting outdoor activities as a means to a healthier lifestyle, and to help rural economies through the attraction of visitors and tourists. Improving opportunities to increase access to Scotland's countryside, increasing the number of recreational facilities on offer and improving those currently in existence will be important in rural development.

4.16.10 However increasing tourism may result in erosion of paths, increased litter and pollution as a result of increased car journeys, unless public transport is provided. SNH does not anticipate that there will be a sudden surge of extra visitors to the outdoors, rather a steady increase in responsible access in the years ahead as people become more aware of and confident about using access rights and with improving access opportunities – including the development of path networks. Footpaths and cycleways between Inverness and Nairn are limited, however there is an opportunity to enhance access provision in the area and expand/ integrate the existing network of paths.

4.16.11 In conjunction with footpaths and cycleways, SNH recommend that existing areas of greenspace or wildlife corridors already in place should be retained as far as possible.

4.17 Inter-relationships

4.17.1 Part 2 of Schedule 3 (in relation to Section 14) of the Environmental Assessment (Scotland) Act 2005 indicates that in addition to providing an overview of relevant aspects of the environment, it is important to identify the inter-relationships between topics. This section fulfils this requirement.

Table 4.15 Inter-relationships between SEA topics

SEA Topic	Inter-relationship	Comments
Biodiversity Flora & Fauna	Climatic Factors Soil Water Landscape Historic Environment	Terrestrial biodiversity throughout the A96 Corridor is dependent on existing habitats and the connections between them. Throughout Scotland, the climate is expected to get warmer and wetter, potentially affecting species found at the edge of their range around the A96 area. Development opportunities should be concentrated on redeveloping brownfield land and include habitat connections (wildlife corridors) as key conditions for any development on greenfield sites. Habitat networks and corridors will allow the migration of wildlife from development areas, with the added benefit of reducing the impact of climate change on species and increasing the resilience of native populations, as isolated populations of any species are more susceptible to disease, predation and displacement. Soil quality and sealing by hard development affects the numbers of invertebrates in any area, which in turn impacts upon the numbers of birds and mammals (including badgers) which can be supported. Aquatic biodiversity around the area is dependent upon good quality

SEA Topic	Inter-relationship	Comments
		environments (riverine, coastal and marine); therefore development in the area must be carefully considered to avoid pollution events that could negatively impact both freshwater and marine habitats. Any development proposals near protected areas should be subject to Appropriate Assessments to determine likely impacts and identify methods for mitigating and avoiding negative effects. The introduction of more trees and habitat connections could have added benefits for the local landscape; however careful consideration should be given to any planting regime around historic sites.
Water	Climatic Factors Biodiversity Human Health Material Assets Historic Environment	Warmer, drier summers can affect water quality by reducing local water levels, whereas increased winter rainfall could lead to more frequent flooding events. Run-off from fields, diffuse and point source pollution events can all negatively affect the local water environment, with riverine pollution continuing to the coast and harming sensitive shellfish sites. Pollution can build up along the food chain, therefore affecting birds and mammals in the area. Floods can affect both material possessions and lead to increased incidence of disease in human populations through overflowing sewers and raw waste. Flood conditions also negatively affect biodiversity through increasing pollution events. Coastal flooding may also become more frequent through sea level rise, storm surges and climate change. Increased abstractions from groundwater sites and increased water use due to increasing populations can seriously threaten the supply of freshwater during the summer months, and impact negatively upon local biodiversity. In many cases, water actually protects aspects of the historic environment, which through climate change and more frequent dry summers could be damaged through increased exposure to air.
Air Quality	Human Health Biodiversity Climatic Factors Historic Environment Landscape	Air quality in the A96 study area is generally good; however increases in population and air traffic will lead to poorer standards in some places. Reduced air quality can affect human health, through increased incidence of respiratory illnesses, asthma and bronchial conditions. Increasing traffic levels and the associated waste gases can lead to localised acidic conditions, which can negatively impact the historic environment by increasing rates of erosion. Poor air quality could lead to reductions in biodiversity levels in affected areas. The increased production of transport fumes will exacerbate current climate problems, with transport being the fastest growing source of greenhouse gases. Re-routing major roads, and the introduction of bypasses may affect the local landscape and integration should be carefully considered. However, the suggested bypasses should improve local air quality and reduce congestion through Nairn centre and Raigmore.

SEA Topic	Inter-relationship	Comments
Human Health	Population Water Air Quality Climatic Factors	The population of the Highlands is in generally good health, and the area is seen as a healthier place to live than other, larger urban areas. Rapid, unmanaged increases in population numbers can negatively affect the health of the population in general as health and social services become stretched. Extra health provision, as well as social and education services need to be matched to demand and rates of population growth. Similarly, supplies of water and energy must be co-ordinated to avoid shortages whilst maintaining local environments. Increased populations will use more energy, leading to further increases in energy consumption with associated impacts on air quality and the production of greenhouse gases. Opportunities for introducing renewable energy and energy efficiency in conjunction with new developments should be actively promoted. Similarly, opportunities to promote healthy travel options including walking and cycling should be developed and actively encouraged. Public transport provision and the development of realistic alternatives to car travel can be designed into the Masterplan.
Historic Environment	Landscape Population Water Climatic Factors Soil Material Assets	The A96 study area has a multitude of historic features which, in conjunction with the natural heritage of the area attracts many tourists and helps support the economy of the region. These features can be negatively affected by various factors including visitor pressure, erosion, improper re-use of buildings, scrub invasion, improper planting (leading to damage by roots), poor management, abandonment and direct damage by animals or vandals. Archaeological sites have statutory protection and all development plans should seek to avoid any damage to both the historic feature and the landscape or historic setting in which it is found. Drainage by abstraction or drying through climate change can also expose submerged features, leading to more rapid deterioration. Conservation areas can be negatively impacted by inappropriate development which is not in keeping with the surrounding area, townscape or landscape. Landscape features including field boundaries, stands of trees or woodland may not be protected by legislation, however new development should respect the landscape character.

4.18 Summary of A96 Corridor Environmental Concerns

Difficulties and Limitations of the Baseline Data

4.18.1 The baseline data gathered is considered sufficient to identify and assess potential significant environmental effects associated with the draft A96 Corridor Masterplan. There are limitations to the data and there are data gaps, mainly as a result of the lack of specific source data for the A96 Corridor area.

Summary of main environmental issues

4.18.2 A brief synopsis of the main environmental issues and problems facing the Inverness and Nairn Corridor is provided, as follows:

Biodiversity, Flora & Fauna

- Many habitats throughout Inverness & Nairn now exist only as isolated remnants of once larger areas of wetland, woodland or moorland. Wildlife often cannot move between these remnants, and so populations of some species become isolated and more vulnerable to changes in climate, disease and predation (habitat fragmentation).
- SNH comment that this makes it especially important to maintain and enhance the connectivity of natural and semi-natural habitats within the Corridor.
- Conflicts between different biodiversity interests exist; as there will be different issues in different locations, and legal restrictions on the control of some species. For example, European protected species – bats, otters, dolphins and porpoises, waterfowl and UK protected species – badgers, red squirrels, great crested newts.
- Conflict between badger foraging and development pressures on suitable land.
- Designated sites of natural and historic or cultural value should be protected as a priority, including established woodlands, semi-natural habitats, wildlife corridors, green wedges Conservation Areas and historic features.
- Appropriate assessments will be required for any works or plans likely to affect European sites (SPAs and SACs) protected under the EU Habitats and Birds Directives.
- Potential impacts on SSSI areas and other designated sites must be considered when assessing road route options – final routing must be clarified as the suggestion that a route has been chosen can lead to presumptions of effects on sites.
- Golf course developments along coastal links must be reviewed to determine effects upon designated sites – Appropriate Assessment will be required for each site affected, with full appraisals respecting the legal requirements and management objectives of each site. Proposals for Castle Stuart Golf Course have outline planning consent from the Highland Council.
- Development options for extending settlements or introducing new settlements must respect designated areas and any spatial plans which impact, or have the potential to impact designated sites, must be fully appraised and the legal requirements of the sites adhered to.

- The proposed route of the coastal link path in the Green Framework is located adjacent to a number of protected sites which are sensitive to disturbance (dogs/ walkers/ children); SNH and the Highland Council Access Officer have worked closely with Cornerstone Golf Ltd to route paths away from the shore at Castle Stuart Bay. Planning consent has been given following consultations between developers, planning authorities and SNH.

- A similar approach will be required on all sections of the path route which run adjacent or close to the designated SAC and Ramsar sites.

Soil, Water & Land Use

- Building development can result in increased soil sealing and increased surface runoff reaching watercourses, with associated potential for pollution/ spillage events and an increase in sewage treatment discharges from pipes.

- Some water bodies in the area, such as Loch Flemington, are suffering from nutrient enrichment as a result of past land management practices and sewage discharges, resulting in 'blooms' of blue-green algae, which can kill other aquatic life.

- Development on identified floodplains should be avoided – SNH stress that this guidance is repeated in the Scottish Executive SPP7: Planning and Flooding (2004)

- Many sources of pollution directly affect species at the lower end of the food web, such as filter feeding bivalves (cockles, mussels, etc), pollutants may then be passed on up the food chain.

- Dolphins live at the edge of their range in the Moray Firth and suffer from a number of pressures such as noise disturbance and pollution. SNH recommend that assessments should be made for all development works along the A96 Corridor to determine whether wastewater discharges or spillages will be likely to affect, be made within, or adjacent to, areas frequently used by dolphins.

- Increasing water demand along the corridor and associated abstractions have the potential to affect biodiversity and relevant protected species or designated sites at source.

Population & Health

- There is a need to ensure that local residents have easy access to the areas of countryside, river, woodland, coast and historic or geological features that surround settlement areas. This should not compromise the economic activities of surrounding land, but at the same time, it should allow quiet recreation and interpretation with minimal disturbance to wildlife.

- Projected population increases in the area are expected to increase traffic pressure in Nairn town centre and at the Inverness Raigmore Interchange; leading to higher levels of congestion and local urban air pollution, there is an identified need to bypass both of these areas.

- Increasing populations require sufficient access to services, healthcare, reliable public transport and greenspaces – preferably in conjunction with designed walking and cycling routes.

Material Assets, Infrastructure & Landscape

- New developments must be adequately serviced by effective utilities infrastructure, preferably infrastructure that is designed following sustainability principles minimising energy use and maximising renewable or recycled resources.

- Energy and water efficiency should be designed into new settlements and renewable energy sources, community heating or CHP systems utilised wherever possible.

- Waste management for increasing populations should incorporate provision for effective recycling and minimisation.

- Urban drainage should be designed using SUDS principles to minimise risks of flooding.

- The A96 Corridor has been identified as the key development region within the Inverness-Nairn area, with retail, commercial, residential and industrial projects planned. Airport expansion within the area is also being considered along with upgrades to the trunk road itself.

- Inappropriate development can affect the landscape, the historic environment (destruction of resources/ impacts on historic or landscape setting) and amenity values for local residents.

- Local landscapes and important views should be adequately protected.

4.19 Evolution of the Environment in the Absence of the Masterplan

4.19.1 Whilst the purpose of Strategic Environmental Assessment is to assess the impact that the provisions of the Masterplan 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 Masterplan, effectively an assessment of a 'No Action' strategy.

4.19.2 There are difficulties in predicting how baseline conditions will evolve in the absence of a Masterplan. In general terms, it is considered that, in the absence of any overall development strategy for the corridor, development in the Inverness and Nairn Corridor would still take place but would be less well attuned to environmental and other strategic objectives and priorities.

4.19.3 Assuming 'No Action', or a worst case scenario, it is likely that:

- Unmanaged population growth of up to 30,000 people will exacerbate various environmental problems associated with urban air pollution, wastewater treatment and water demand, unrestricted land use change, unsuitable development and associated impacts upon climatic factors, landscape quality, local biodiversity and health infrastructures.
- Piecemeal development will lead to increased habitat fragmentation and deterioration of green wedges and wildlife corridors, without planned provision to maintain and enhance wildlife routes, leads to increased species loss from the area, also potentially damaging for protected sites and species in the area.
- Population growth leads to undue pressures on water supply and wastewater facilities in the absence of strategic planning, exacerbating existing biodiversity and water quality concerns with associated negative impacts on Bathing Waters, Shellfish and riverine and marine biodiversity.
- Similarly problematic for waste infrastructure and recycling facilities, leading to continued reliance on landfill and incineration and associated impacts for climate change.
- Potential development within floodplains leading to continued reliance on expensive and environmentally damaging flood defences.
- Deterioration of the extensive historic environment, with unmanaged development and unsuitable re-use of buildings potentially leading to increased rates of damage, destruction and loss.
- Increased levels of traffic on key routes produces overspill onto peripheral routes at peak times and increased congestion at identified bottlenecks on the A96 trunk route will significantly increase levels of local urban air pollution in Nairn and Inverness.
- Marginalisation of Nairn town centre as people travel to Inverness and other regional centres for work, shopping and entertainment.
- Encroachment of unmanaged and unsuitable development impacts upon local landscapes, townscapes and seascapes.
- Local populations move on as amenity levels drop, services become oversubscribed and the current good quality of life deteriorates.

5 Analysis of SEA Objectives

5.1 Selection of SEA Objectives

5.1.1 SEA objectives have been selected and designed to appraise the Masterplan. The objectives are focussed around matters that the Masterplan could influence (either directly or indirectly). SEA objectives form the basis for the appraisal of the Urban and Green Frameworks within the Masterplan. They provide the starting point for ensuring that the SEA issues are at the heart of, and are fully integrated into, the A96 Corridor Masterplan.

5.1.2 Following the Scoping Report responses from the CAs, some objectives were reviewed, and Table 5.1 outlines a summary of the individual objectives and the objective selection process. The objectives identified are initially used in the appraisal of the Masterplan by determining the compatibility between the Masterplan objectives (i.e. Highland Smart Growth Development Principles) and the SEA objectives.

Table 5.1 SEA Objectives and Reasoning

SEA Objectives		SEA Topics
1	**To protect designated wildlife and geological sites, maintain and enhance habitat connectivity and avoid irreversible species loss**	**Biodiversity, Flora & Fauna**
Reasoning behind chosen objective(s): SEPA, SNH and the Forestry Commission all indicate concerns over potential damage to protected sites such as Ramsar Sites/ SPAs / SACs / SSSIs The A96 Corridor Masterplan must take into account internationally protected Ramsar sites for wetlands around the Moray Firth, as well as all of the designated protection areas identified by SNH. Development proposals should seek to maintain these sites and avoid damage. However, if development is unavoidable on a protected site, appropriate assessments must be carried out, relevant licences should be sought and damage should be kept to the absolute minimum. Many species of national importance, including bats, badgers, water voles, otters and red squirrels are found within the A96 Corridor study area – all practical efforts should be made to ensure that development impacts upon priority and protected species are minimised. Aqueous habitats will include coastal waters, inland standing waters and riverine locations. As well as identifying key species and habitats, priority should be given to means of reducing habitat fragmentation, improving woodland networks and wildlife corridors, therefore enhancing biodiversity levels through development options such as the Green Framework. Urban developments should seek to ensure the maximisation of urban green space as a means of improving/ maintaining biodiversity and increasing local amenity value.		
2	**To promote healthy living: create conditions to improve health and reduce health inequalities**	**Human Health & Population**
3	**To promote vibrant and viable neighbourhoods and townscapes**	
4	**To protect and enhance greenspace: improve the quality of publicly accessible open space**	
Reasoning behind chosen objective(s): Development proposals should provide high quality spaces for local residents that allow for a combination of purposes including		

SEA Objectives		SEA Topics
gardens, parks and useful recreational areas. The A96 Corridor Masterplan outlines the development of a Green Framework for the A96 Corridor, with provisions for improving woodland cover in the area and promoting access by extending the local cycle and footpath network. Areas of increased woodland cover with enhanced walking and cycle paths should lead to greater use by the local community and add value to local tourism. Security and lighting issues will have to be properly considered. The Green Framework should consider means of providing access to the abundant natural features and places of interest along the A96 Corridor area; prioritise structural landscaping that provides connections between wildlife areas, improving biodiversity levels and limiting the effect of habitat fragmentation. The Urban Frameworks should include provision for local and community services including recreational and sporting opportunities, education, retail, healthcare and employment, all accessible by walking or cycling routes and public transport. The A96 Corridor Masterplan should incorporate means to improve public transport availability and infrastructure that provides access to local town centres, community facilities and recreational areas along the A96 Corridor. Development options which maximise public transport as a means of reducing the need to travel by private car and to improve overall emission levels from local traffic should be promoted. The Masterplan should seek to align access choices with improvements to local urban biodiversity levels, whilst providing areas that work well for the local population.		
5	**To manage growth ensuring rural land take is minimised, appropriately remediate contaminated sites, conserve soil resources and safeguard prime agricultural land**	**Soil**
Reasoning behind chosen objective(s): Development options should identify contaminated sites and seek to remediate or develop within suitability for use / fit for purpose guidelines. Where possible, development should be prioritised on brownfield sites over greenfield and options included to reduce waste, reuse quality/ useful topsoil and also to reuse or recycle aggregates from development.		
6	**To protect surface and groundwater quality, reduce water pollution to levels that do not damage natural systems**	**Water & Climatic Factors**
7	**To maintain water abstraction, run-off and recharge within carrying capacity (including future capacity)**	
8	**To maintain and restore key ecological processes, e.g. hydrology, water quality, coastal processes and flood plain development (reduce risk of flooding)**	
Reasoning behind chosen objective(s): SEPA reports indicate the quality of river, coastal and bathing waters in the local area and it should be a priority of the A96 Masterplan not to adversely affect any of these quality classifications. SEPA have expressed concern over the potential for pollution events from development that could affect water courses or run-off into designated areas, affecting protected species of birds, shellfish and marine mammals. All development proposals should take account of and provide for ecological processes, including land vulnerable to erosion from sea, changes in landscape features including golf courses along coastal areas (which could lead to protected site issues) and the detrimental effects of building infrastructure. Where possible, proposals should consider means of reducing vulnerability to the effects of climate change (e.g. flooding, extreme weather, etc.). All new development proposals should take account of those areas identified by SEPA as flood plains, or at risk of flooding (SEPA flood risk maps are now available). Preference should be given to development outwith flood zones, however if necessary to develop within a recognised flood zone, adequate flood prevention and mitigation measures should be adopted. SEPA are concerned over water abstractions, wastewater handling and local capacities in conjunction with projected population increases. Development should be compatible with public drainage infrastructure such that foul water drainage is directed to a public sewerage system capable of treating waste water to a high standard. SEPA highlight that water requirements associated with future growth should not to lead to reductions in biodiversity (CAR regulations from WFD). Where possible, proposals should consider means of reducing vulnerability to the effects of climate change (e.g. flooding, extreme		

SEA Objectives		SEA Topics
weather, etc.) through the inclusion of Sustainable Urban Drainage Systems (SUDS) to handle surface run-off and direct flows to natural watercourses. Developments should provide water demand reduction measures through the improved/ increased use of sustainable building techniques.		
9	**To promote/ increase use of public transport**	**Air & Climatic Factors**
10	**To reduce local urban air pollution at identified problem areas**	
11	**To manage climate change: reduce local GHG emissions associated with development**	
12	**To promote energy conservation through sustainable design and construction: reduce the need for energy and to travel**	
Reasoning behind chosen objective(s): Sustainable communities that incorporate energy efficiency measures in sustainable building designs should be encouraged and promoted. Priority should be given to proposals that include considerations for energy efficiency and the inclusion of renewable energy options, such as small-scale and microgeneration technologies, combined heat and power systems, or biomass and sustainable forestry options. Forestry Commission Scotland have indicated that they would be in favour of any such provisions. Developments that outline methods of minimising waste to landfill, recycling or reusing wastes and aggregates in order to reduce primary production, should also be encouraged. Traffic projections for growth in the A96 Corridor could seriously increase local levels of urban air pollution. Bypass options for Nairn and the Raigmore interchange in Inverness should be assessed to determine the effects on local urban air quality. Public transport, bus and rail infrastructure and services should be developed to accommodate projected growth and provide realistic alternatives to travelling by car. Full consideration should be given to minimising the need for travel and energy from the outset, e.g. determining the proportion of materials or services required which can be derived from local sources and promoting the use of sustainable building techniques where potential energy demand and local facilities are optimised. Local services that are accessible by non-motorised means should be promoted.		
13	**To respect urban form: value local distinctiveness and improve the quality of the built environment**	**Material Assets**
14	**To promote waste recycling, re-use and reduction measures, in accordance with the waste hierarchy, including the re-use and recycling of finite resources**	
Reasoning behind chosen objective(s): The stated 'Development Principles' for the A96 Corridor Masterplan aim to take advantage of environmentally sensitive building design that respects and responds to the Highland vernacular and materials. Development proposals should seek to enhance the local amenity value for residents by providing urban greenspaces and access to facilities and services within reasonable walking distances. Security and lighting should also be adequately considered. Waste management should be considered strategically across the A96 Corridor Masterplan area, for both municipal and non-municipal waste. SEPA have indicated their preference for the provision a network of waste management infrastructure/ facilities that deals with waste close to source in a sustainable manner. SEPA also recommends that new housing developments allow space for three segregated waste bins per house and that flat developments provide space per flat for general waste, dry recyclables and appropriate space for general green waste facilities, in accordance with the Highland Council's waste collection/ management policies.		
15	**To protect and where appropriate, enhance the historic environment**	**Historic Environment/ Cultural Heritage**
Reasoning behind chosen objective(s): The A96 Corridor contains many historic, archaeological and cultural sites of importance; the Masterplan should recognise these		

SEA Objectives		SEA Topics
features and aim to incorporate their locations and relevant protection zones/ criteria into all development considerations. Priority should be given to the protection of historic sites, ancient woodlands, SSSIs, SACs, SPAs, Ramsar sites, designed landscapes and gardens, Conservation Areas and Areas of Great Landscape Value.		
16	**To manage the character and appearance of the landscape and townscape, conserve scenic areas, protect and enhance landscape value, particularly designated areas, strengthening local distinctiveness and sense of place**	**Landscape**
Reasoning behind chosen objective(s): The A96 Corridor Masterplan includes proposals for the development of new golf courses and associated facilities, with the inclusion of a hotel and holiday accommodation. The A96 Corridor Masterplan should take account of the Highland Council and SNH landscape character assessments and protected sites designations at all stages of development proposals and planning. Every effort should be made to maintain or enhance landscape value.		

5.2 Compatibility Testing

5.2.1 This aspect of the SEA process tests the compatibility of the selected SEA objectives with the stated Vision and Development Principles for the Masterplan:

Vision

A Masterplan for the A96 Corridor should provide for distinctive 'green' Highland places where people can chose to live, learn and earn successfully.

Collaboratively, all stakeholders will endeavour to deliver the Masterplan through pioneering governance and commercial astuteness.

Development Principles

In respect of ***the environment*** to -

- Take advantage of environmentally sensitive building design that respects and responds to the Highland vernacular and materials. And is energy efficient.
- Maintain and enhance open space, natural features and critical environmental areas and ensure these are provided within settlements and integrated into development that maximise their recreational contribution to the quality of life.

In respect of ***economic development*** to -

- Ensure land use is appropriate and that development uses sites to maximum advantage emphasising sustainable development.
- Promote a mix of land uses that allows houses and jobs to be closely related and the mix to be more varied toward the centre of places.
- Make development decisions predictable, fair and cost-effective through developing a clear masterplanned context delivered by a stakeholder process that understands market trends & demands for realistic deliverability over time.
- Every new dwelling should have a new job created.

In respect of ***accessibility*** to -

- Deliver walkable and cycle friendly places that are distinctive and attractive with a strong sense of place through legible and permeable design.
- Cultural and recreational services that are accessible within 10 minutes for the majority of residents should be provided early in development phasing.
- Relate development density to accessibility to help ensure viable public transport services.
- Ensure accessibility through mobility choice by actively promoting attractive public transport.
- Address key road challenges including the Raigmore Interchange and appropriateness of the Nairn by-pass.

In respect of ***community inclusion*** to:

- Create a range of housing opportunities and choice (through variety, type and tenure) to suit a range of needs and promote a range of housing density to achieve choice.
- Strengthen existing communities through the provision of services and opportunities for the wider community.
- Make development decisions predictable, fair and cost-effective through developing a clear masterplanned (including design codes) context and straightforward processes delivered by a stakeholder process (including exploring private/public partnerships to deliver infrastructure and services timeously).
- Understand market trends & demands and developer interest in order to ensure a commercial framework for realistic deliverability over time.
- Provide ducted infrastructure to ensure maintenance in the longer term does not undermine urban quality.
- Ensure that the masterplan can be flexible enough to change over time as circumstances change.

5.2.2 A compatibility appraisal matrix is provided in Appendix C. The headline results of this assessment suggest that the Masterplan Vision accords with all the SEA objectives. However, there is potential for conflict when considering biodiversity, habitats, soil and water effects associated with population increase, land take and built development.

5.2.3 Potential conflicts are also evident when considering the wider impacts of population increase, job creation and road development on air quality and climate emissions. The assessment highlights that population growth in the area is a given, and that these potential conflicts cannot be directly resolved through the provisions of the Masterplan. However, the Masterplan is a key tool in managing and mitigating the negative effects.

5.2.4 Overall, the SEA objectives and the Masterplan Vision and Development Principles reflect and support each other in achieving the aim of sustainably managing the effects of growth.

6 Assessment of Environmental Effects and Mitigation Measures

6.1 Assessment Methodology

6.1.1 Due to the inherent uncertainties involved in assessing a plan that is not to be fully implemented until post 2011, and the fact that the Masterplan outlines a broad strategic framework for guiding development, rather than defining the terms of an individual development proposal, the level of detail in the assessments is accordingly broad, and relies on expert analysis and judgement to predict potential effects and ascertain how these effects can be accommodated for.

6.1.2 Assessments were carried out using matrices in two stages:

- The first considers Urban and Green Frameworks by analysing potential effects on each of the SEA topics and assessing how the Masterplan addresses or accounts for effects, in accordance with stated SEA objectives – assessment matrices are provided in Appendix D. These matrices consider potential significant effects (positive and negative), temporal effects (long/ short term/ permanent/ temporary/ ongoing), as well secondary/ indirect and cumulative effects, as required by SEA regulations.

- The second set of matrices considers the headline features of the Preferred Options for both Inverness and Nairn – provided in Appendix E, and discussed further in Section 7.

6.1.3 Colour coding is used in all matrices to help clearly identify which features are positive and which have potentially negative effects. Urban and Green Framework assessments use the coding outlined in Table 6.1, and the assessments for compatibility of objectives and the headline features of the Preferred Options use the coding outlined in Table 6.2.

6.1.4 The use of matrices provides a systematic and transparent method of demonstrating which features and details have been considered. The use of colour coding allows readers to easily identify and compare effects across assessments, to ensure consistency of approach.

6.1.5 A ‘precautionary approach’ is taken, especially with qualitative judgements and mitigation is suggested if it is considered that the plan may impact negatively.

6.2 Risks and Uncertainties Associated with the Assessment

6.2.1 The assessment here is based on available information for baseline environmental conditions and on certain assumptions as to how the baseline will evolve over time. It is not possible to say with certainty what the effects will be and how severe or otherwise they may be. Much of the assessment has relied on expert judgement which is based on experience of environmental assessment methodology in practice.

6.3 Approach to Mitigation

6.3.1 It must be acknowledged that one of the key benefits of the A96 Corridor Masterplan as a whole is the long-term, strategic mitigation of potentially significant effects associated with population growth, in an area with high quality environmental and built heritage assets.

6.3.2 The Masterplan has taken account of the negative implications of growth and employs a hierarchical approach to mitigation:

Avoid – Minimise – Remedy – Compensate – Direct – Enhance

6.3.3 The Masterplanning approach is a rigorous and advanced process. As such, the A96 Corridor Masterplan has sought to avoid potential environmental effects wherever possible and to minimise the effects associated with population growth. Where effects are expected, and unavoidable, the Masterplan considers means to remedy or compensate (for example by designing in wildlife and landscape corridors, to compensate for potential losses due to land take and urbanisation).

6.3.4 Where possible, the Masterplan has sought to minimise and compensate negative effects by directing development to the most appropriate locations, providing capacity assessments and recommendations for services infrastructure and roads, and protecting considerable areas of countryside and woodland from development. Through the consideration of a Green Framework in conjunction with the Urban Frameworks, the Masterplan outlines measures to compensate for negative effects and the means to enhance many features and provisions for local populations and wildlife.

Table 6.1 Colour Coding for Assessment Matrices (Urban & Green Frameworks)

Significant positive impact	Minor positive impact	Mixed impact - Positive or negative	No impact/ effect predicted	Neutral or unknown impact	Minor negative impact	Significant negative impact

Table 6.2 Colour Coding for Assessment Matrices (Compatibility and Preferred Options)

Strongly supports achievement of SEA Objective	Supports achievement of SEA Objective	Supportive or conflicting depending on circumstances	No relationship	Conflicts with achievement of SEA Objective	Strongly conflicts with achievement of SEA Objective
++	+	+/–	0	–	– –

6.4 Assessment of Urban Frameworks

6.4.1 Urban Frameworks were developed for Inverness and Nairn, following key Highland Smart Growth Principles, (assessed for compatibility in Section 5). The option development and consideration/ consultation processes led to defined Preferred Options, which are considered in Section 7, however the general frameworks for urban growth were assessed in detail to determine common features and potential concerns.

6.4.2 Full assessment matrices are provided in Appendix D. The key significant effects associated with the Urban Frameworks were identified and assessed, in accordance with SEA Regulations; the matrices also outline mitigation methods and residual effects. A summary of the assessment is provided in Table 6.3.

Table 6.3 Summary of Urban Frameworks Assessment

Potential Significant Effects	Mitigation Measures	Residual Effect
Biodiversity, Flora & Fauna Loss of greenfield sites to development and associated impacts on local biodiversity, habitat connectivity and protected sites	The Masterplan works to accommodate growth and to effectively manage associated negative impacts upon local biodiversity concerns by providing ample green spaces, buffer zones (green wedges), safeguarding protected areas, woodland and countryside All detailed development proposals with the potential to affect European protected sites are required to be subject to Appropriate Assessments under the provisions of the EU Habitats Directive, which requires consideration of effects on the management and integrity of the site in question	Some permanent loss of local greenfield space compensated by urban development of greenspace and the quid-pro-quo protection and enhancement of extensive areas throughout the A96 Corridor
Human Health & Population Rapidly increasing local populations and in-migration can lead to displacement and social exclusion for resident populations without sufficient provision for affordable housing and accessible health and social care	The Masterplan affords opportunities for local healthcare provision, education (life-long learning incorporated in provision for primary schools, high schools and further education facilities), social and community services (in response to demand), improved public transport infrastructure, community access and employment options as well as the protection of cultural heritage and the historic environment	The Masterplan outlines proposals that direct development to the most suitable locations (after considerable consultation processes) that are expected to lead to the realisation of viable neighbourhoods and sustainable patterns of phased development Viable neighbourhoods includes the provision of affordable housing to meet the Highland Council's target of 25% provision in areas of housing stress
Soils Soil resources include archaeological soils containing remains and a record of past human activity, development could lead to the loss of some of these areas/ features Some land take is necessary to	Following consultations with Historic Scotland, the Masterplan highlights identified historic features and affords protection from development, in association with Highland Council policies that presume against development that negatively affects historic features Rural land take has been minimised	Minor negative impact of development overall, however the Masterplan works to minimise negative effects by assigning multiple urban areas for greenspace, as well as identifying much of the A96 Corridor hinterland as of value and worth protecting

Potential Significant Effects	Mitigation Measures	Residual Effect
accommodate expected population growth leading to concerns over the potential effects of land use change	throughout the Masterplanning process with key development areas now concentrated around the urban fringes of Nairn and Inverness	
Water Risk of pollution affecting watercourses that leads to negative impacts upon high quality protected marine, coastal and inland standing waters Risk of increased populations overloading current wastewater treatment works leading to increased incidences of sewage contamination/ overflow Increased populations will lead to increased water demand that could outweigh current capacity levels	The Masterplan directs the framework for development proposals and provides fully assessed capacity studies for local water supply and treatment, an assessment of SUDS methodologies, as well as directing future development away from flood plain areas, as part of the fundamental planning approach The Masterplan provides a strategic approach with effective phasing of development with water supply infrastructure and waste water treatment that replaces existing small sites to improve the local water environment	Minor negative impact of development, as increased construction and population can be expected to impact upon water quality at some point, however the Masterplan limits these effects through consideration of floodplains and increased planting, which can help reduce pollution impacts Overall long term effect is expected to be neutral with some potential for short term impacts if development is not properly phased with water supply and treatment infrastructure The Masterplan recommends effective co-ordination and delivery mechanisms based on joint ventures across the A96 Corridor
Air Increasing populations will lead to increased transport emissions – either by increasing private car use or through increased demand for public transport Significant negative effect on overall urban air quality to be expected from increased population	The Masterplan addresses these issues by providing for improved public transport infrastructure (bus lanes and rail upgrades, park and ride facilities, accessible high density housing making routes more viable for transport operators and more attractive for residents) The Masterplan provides for the fundamental design principle of creating walking and cycle friendly places as well as improving public transport infrastructure Proposals for A96 dualling will help improve traffic flow, dispersing emissions and allowing the provision of dedicated bus lanes to improve public transport infrastructure Suitable provisions for a bypass at Nairn will significantly improve local air quality in the town	The Masterplan will have a positive effect on managing transport emissions The Masterplan cannot reduce expected increases but does provide means to mitigate and promote alternative forms of transport in a strategic manner Ongoing negative effect due to expected increases in transport levels The Masterplan provides means to mitigate these pressures but must be combined with other proposals and technologies to determine a suitable long-term sustainable solution
Climatic Factors Overall negative impacts on climate due to pressures of accommodating up to 30,000 more people in any area All development will present issues with respect to energy use and transportation effects	The Masterplan is not responsible for these impacts but addresses the issues of how to accommodate such growth in a sustainable manner The Masterplan mitigates and manages climatic impacts through the strategic direction of growth to make accommodation of 30,000 people less damaging Extensive planting regimes will go	The Masterplan addresses the issues of sustainably managing population growth, however the overall impact of development will be negative as GHG production will increase in line with population levels The Masterplan does leave scope for future renewable energy considerations, but does not include any specific

Potential Significant Effects	Mitigation Measures	Residual Effect
	some way to mitigating GHG local production	recommendations The Masterplan directs the framework for future development but cannot control methods used by developers Negative impacts are therefore expected
Material Assets Potential for new development to detract from existing character of Nairn's seaside holiday setting Potential that new development and in-migration increases property prices and leads to exclusion of local residents Development pressure could reduce greenspace and urban amenity Increasing rates of local consumption and waste production increases pressure on local facilities	Key development principle is to respect the Highland vernacular design and create effective places that respect local character and distinctiveness The Masterplan secures green spaces within the Urban Frameworks Smart Growth principles are proven to deliver more effective places that add to urban amenity for residents The Masterplan outlines appropriate mixed use and housing density development that respects local distinctiveness, providing for local historic features and settings The Highland Council have indicated that housing developments will have sufficient space for waste segregation at source, allowing more effective management and recycling	Overall positive impact as the Masterplan provides a strategic framework for the development of the A96 Corridor over the coming 40 years with key objectives to deliver places that work well for residents, within the local urban setting and wider countryside environment The Masterplan does not address waste issues directly but does provide a strategic framework for development proposals to provide more detailed assessment at local levels Proposals for waste management facilities are not included within the remit of the A96 Corridor Masterplan
Historic Environment Potential for urban development to lead to damage to, or in extreme cases, loss of local historic features Potential for unsuitable development to affect the wider historic or landscape setting of features and affect the townscapes of Conservation Areas Potential loss or damage to historic/ natural history features associated with road developments	Consultations with Historic Scotland have helped direct the Masterplanning process The Masterplan identifies the many historic features within the area as priority assets and presumes against development that will negatively impact protected features The Highland Council has similar policies within the Inverness and Nairnshire Local Plans Road routings are indicative only and are not to scale, historic features will be taken into account in more detailed appraisals and EIA at lower levels of plan development, with the presumption that specific routes that impact historic sites will be rerouted to avoid damage	Overall neutral impact is expected for the Urban Frameworks as the Masterplan recognises historic sites and lists them as constrained development areas Planting proposals could affect some features, requiring further consultation with Historic Scotland on suitable planting regimes/ exclusion zones The historic environment is recognised as adding value to new developments as it encourages/ aids the establishment of an area
Landscape Developments have the potential to negatively affect the local landscape through unrestricted and unsympathetic construction that does not respect landscape features or important views	The Masterplan is developed to address the issue of suitable locations for development that is going to happen along the Corridor The Masterplanning process includes the use of Landscape Character Assessments and Landscape Capacity Appraisals to determine areas capable of absorbing new/ increased urban	Overall positive effects are expected for the Urban Frameworks Urban Frameworks recognise local features, important views and the landscape qualities of the approaches to Nairn and Inverness The Masterplan aims to deliver

Potential Significant Effects	Mitigation Measures	Residual Effect
	development The Masterplan maintains open aspects, introduces green wedges and environmental buffer zones at critical places to ensure there are no encroachments/ coalescence of urban expansions	urban expansion to accommodate population increases whilst maintaining the local 'countryside' feel to the area

6.5 Assessment of Green Framework

6.5.1 Green Framework policy and proposals fall into five broad categories relating to:

- Environmental Protection and Enhancement
- Biodiversity
- Development
- Recreation and Leisure
- Infrastructure

Environmental Protection and Enhancement

6.5.2 The approach for protection and enhancement is to ensure that the critical environmental assets of the Corridor are recognised and that these can be safeguarded and enhanced through appropriate land management and, where appropriate, through improved accessibility. The policy approach was to identify:

- Substantial countryside and forestry areas to be safeguarded from development, recognising the importance of the SSSIs at Kildrummie Kames and Ardersier.
- The Special Protection Areas and Ramsar site at Alturlie, Whiteness and Nairn to ensure that any development proposals include Appropriate Assessments and address their requirements, as they are developed.
- That the Moray Firth Special Area of Conservation is another critical consideration.
- A noise sensitive zone with regard to the airport and its expansion. This establishes a zone within which human habitation would be inappropriate, on the grounds of long-term adverse health impacts, although working environments would be appropriate.
- Critical views from the Corridor that should be maintained and, where practical, enhanced.
- Green wedges and buffers at critical locations, to ensure that these are not developed and, moreover, environmental or recreational enhancement proposals are brought forward. These are located –
    - Adjacent to the A9 to ensure an appropriate open entrance to Inverness from the south.
    - Around Culloden Battlefield and Clava Cairns to recognise the sensitive nature and historic setting for these national features.

- To the south of Culloden Battlefield to ensure an appropriate buffer to this sensitive location.
- To the east of Culloden to promote a clear definition to the development of East Inverness, maintain the setting of Balloch and discourage coalescence.
- To the west of Inverness Airport Business Park to assist in the definition of the business park and to ensure appropriate settings for the business park and Castle Stuart Golf courses, as well as small hamlets at this location.
- Between Croy and Tornagrain to clearly define both settlements and ensure no coalescence.
- To the east of Croy to ensure the village is clearly defined.
- Between Ardersier and Fort George to ensure that critical natural and built environmental assets in this area maintain an appropriate historic context and landscape setting.
- At Carse of Delnies to ensure that Whiteness and Nairn maintain their clear identity and for Nairn West, in particular, to provide the opportunity for defining structural landscaping.
- Across the south of Nairn to ensure that the setting for new development is clearly defined and that development proposals within extensive floodplain is discouraged.
- To the east of Nairn to provide a setting for eastward expansion of the town, allow for appropriate structural/ screening landscape, mitigate against coalescence with Auldearn and recognise the setting for historical and built features.

Biodiversity

6.5.3 The Framework recognises the opportunity to establish new wildlife and landscape corridors to encourage biodiversity through appropriate linkages. In particular, three corridors have been identified at Mains of Balnagowar, Morayston and Newton. These features also develop the landscape character of the Corridor.

Development

6.5.4 Clearly, the Green Framework recognises the development proposals for the Corridor and existing places. It also recognises *green* development golf based proposals for Castle Stuart, Nairn West and the growth of Inverness Airport. The opportunity to bring forward a park at Longman for the benefit of the Corridor is proposed through the Green Framework.

6.5.5 Further, development proposals establish that some limited growth of smaller settlements across the Corridor, to meet local need, will be essential. The Framework identifies Auldearn, Ardersier, Cawdor, Croy and Culloden Moor as appropriate locations.

Recreation and Leisure

6.5.6 Proposals for recreation and leisure are focused on developing a coherent paths and trails network that allow people to access the Corridor and to link important natural and built features. This includes a coastal path and a landward trail that provide effective east-west links. These are supplemented by north-south links to the new and existing settlements and places. This is augmented by a route to connect critical tourist centres at Culloden Battlefield, Croy, Cawdor, Cawdor Castle, Rait Castle and Auldearn Battlefield.

Infrastructure

6.5.7 The Green Framework provides guidance and/ or support for important infrastructural elements to ensure the successful development of the Corridor over the long-term, including:

- The dualling of the A96 across its entire length through the Corridor.
- The identification of an appropriate Grid substation site at Clephanton, adjacent to the powerlines.
- The identification of a waste water treatment works at Blackcastle Quarry.
- The establishment of the need to enhance the east-west rail line through new signalling and passing places in order to increase carrying capacity.

6.5.8 Full assessment matrices are provided in Appendix D. The key significant effects associated with the Green Framework were identified and assessed, in accordance with SEA Regulations; the matrices also outline mitigation methods and residual effects. A summary of the assessment is provided in Table 6.4 and an overview of the Green Framework proposals is provided in Figure 6.1.

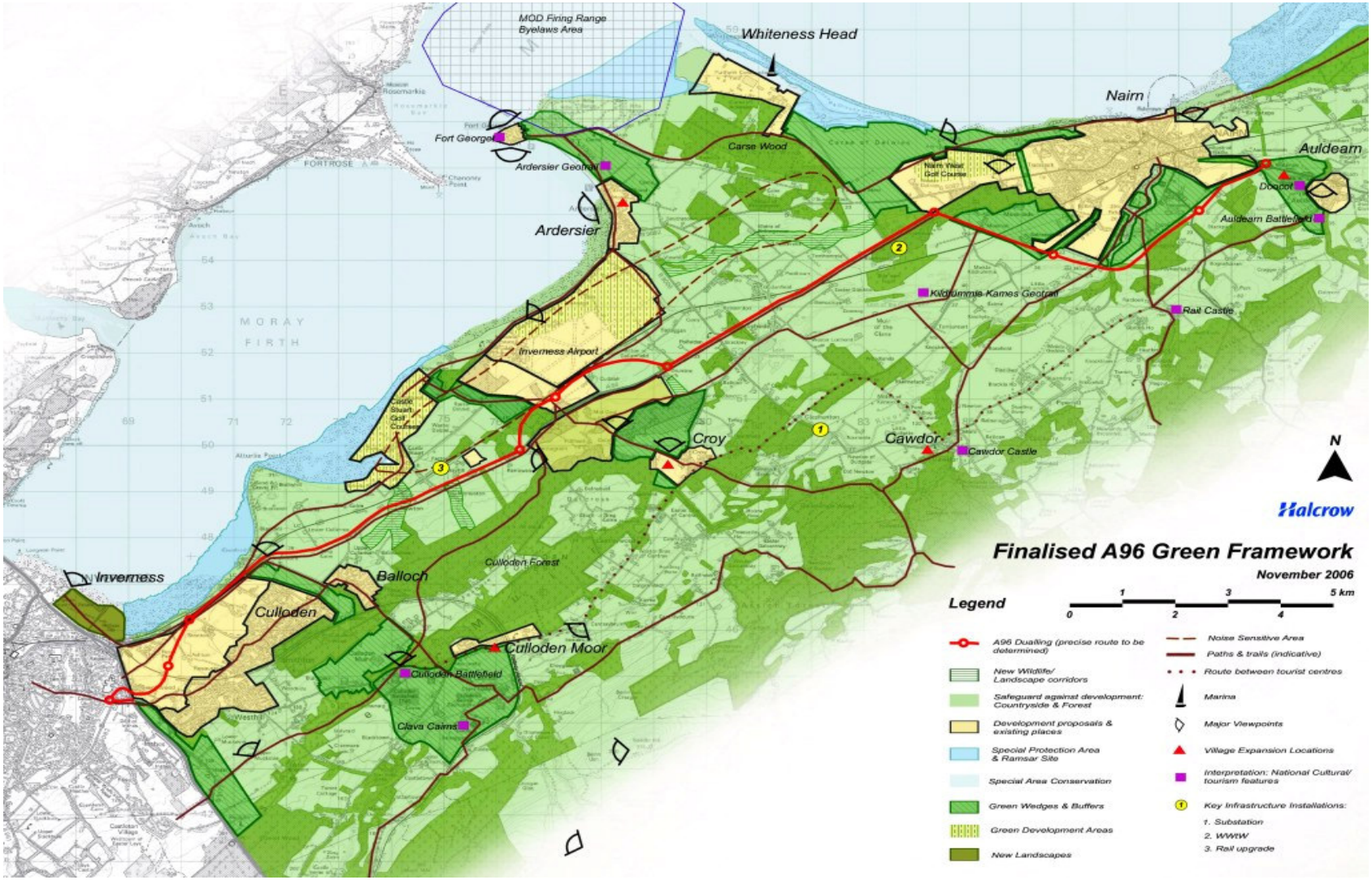
Table 6.4 Summary of Green Framework Assessment

Potential Significant Effects	Mitigation Measures	Residual Effect
Biodiversity, Flora & Fauna Development proposals could affect the integrity of the many high quality European and nationally designated protected sites found across the Corridor Developments could lead to increased habitat fragmentation Unregulated development could lead to loss of important wildlife networks leading to increased pressure on biodiversity levels	Appropriate Assessments will be required for any detailed development proposal that could impact upon European protected (Natura 2000) sites Coastal paths will require consultation with SNH to determine the most effective routes that minimise disturbance to sensitive protected areas Newly identified wildlife corridors are a direct result of the Masterplan process Other developments within the Corridor can be considered 'green' developments including golf courses	Significant overall positive effect through protection of extensive countryside and woodland areas, development of additional wildlife corridors and the identification and safeguarding of protected European and national sites of importance Extensive planting and urban greenspace proposals will help create habitat connections through urban areas

Potential Significant Effects	Mitigation Measures	Residual Effect
Human Health & Population Potential for numerous development proposals to negatively affect the overall environmental quality of the A96 Corridor Positive effects are to be expected through the development of the Green Framework proposals with the inclusion of extensive walking paths and trails along and across the Corridor	The Masterplan provides Urban Frameworks guiding sustainable development for the accommodation of expected population increases of up to 30,000 people Green Framework proposals increase the environmental aspects for the sustainable development of the Corridor area as a whole	The Masterplan has an overall significant positive effect in developing the A96 Corridor with respect to sustainable patterns of location and type of development by minimising and mitigating negative effects associated with large population increases The Masterplan provides the framework for improved path networks, access to local environmental assets and important viewpoints across the Corridor The Masterplan also presumes against development in unsuitable or protected areas
Soils Positive overall effects identified by minimal land take for urban development and the protection of countryside and woodland areas Positive effects to be realised by securing green wedges and buffer zones between urban areas	Loss of greenfield land is minimised by the Masterplan and the Green Framework provides quid-pro-quo protection of other greenfield areas	The Masterplan provides an effective framework for managing growth and minimising rural land take The Masterplan works to safeguard countryside, woodland, environmental and historic assets
Water Positive effects associated with green corridors along identified floodplains mitigating flooding effects Positive effects associated with protection of countryside and woodland areas Proposals for extensive tree planting can have positive effects on protecting surface waters and reducing pollution levels	The Masterplan provides capacity assessments for water supply infrastructure, recommends SUDS inclusion in new developments and avoids inappropriate development within identified floodplains The Masterplan identifies the need for additional waste water treatment facilities and provides a strategic approach to replace existing small sites and improve the local water environment	Population growth could have a detrimental effect on water quality, however the Masterplan manages growth to mitigate and minimise negative effects Positive effects will be evident after phased provision of improved utilities infrastructure Overall, the Masterplan presents positive effects on protecting water quality
Air The Green Framework promotes improved access to environmental and historic features at various points across the A96 Corridor leading to improved access by public transport The Green Framework will help address local urban air quality by developing integrated green wedges and buffer zones between urban centres	The Masterplan provides an integrated approach to access by public transport between urban centres and the numerous environmental and historic features within the A96 Corridor The Masterplan provides an integrated approach to addressing urban air quality by re-routing the A96 Corridor around Nairn and improvements to the Raigmore Interchange Green Framework provisions include planting and landscaping for screening which will also help reduce impacts	The Masterplan presents significant benefits for local populations and tourists by providing for improved public transport infrastructure The Masterplan should produce minor positive benefits for local urban air quality, however these could be negated by overall increases in traffic levels associated with population increases

Potential Significant Effects	Mitigation Measures	Residual Effect
Climatic Factors The protection of countryside and woodland assets and tree planting proposals will help offset and mitigate local increases in GHG production by providing enhanced carbon sinks The Green Framework provides walking and cycle routes to help reduce the need for motorised transport between urban centres and along the Corridor as a whole	The Masterplan addresses increased emissions by improving carbon sinks and protecting large areas of countryside and woodland from land use change Detailed development proposals will be required to demonstrate consideration of energy conservation in line with the Highland Council's Development Plan Guidance, 'Designing for Sustainability in the Highlands'	Population increases will increase overall GHG emissions, leading to a negative assessment of effects, however the Masterplan directs growth and provides Green Framework proposals to mitigate climate effects Overall positive effect for the Masterplan as it sets the framework for sustainable growth along the A96 Corridor, promoting energy conservation and reducing the need to travel by designing urban environments with mixed use and mixed density housing close to urban centres, as well as improved greenspaces and extensive walking and cycle routes across the Corridor
Material Assets Enhanced green wedges, buffer zones and protection of local environmental areas, countryside and woodland will improve amenity levels for local populations Potential for increased rural and coastal littering as trails and paths become more frequented	Improving the quality of the built environment includes providing adequate greenspace for local amenity and recreation as well as protecting valuable local environmental assets as provided throughout the Masterplan Enhancement possible with provisions for waste management along Green Framework paths and trails, including segregated bins, effective collection and appropriate signage	Significant positive effects anticipated through the realisation of Masterplan proposals The protection of critical views also adds to local distinctiveness Potential for litter and waste along sensitive coastal areas and countryside paths can be minimised through effective facilities and collection
Historic Environment Significant positive effects associated with Green Framework proposals for protection and enhancement of critical environmental and built assets	The Masterplan outlines plans for improved access to, interpretation of, and links between critical sites	Built and natural historic features are treated as assets to be secured for the long term enjoyment of local population and visitors
Landscape Loss of key landscape features and views can lead to public concern and in extreme cases, outrage at new development Positive effects associated with the recognition and protection of numerous critical views Positive effects associated with protection of large areas of countryside and woodland	The Masterplan is designed to accommodate significant population increase in a sustainable manner without detracting from the local character, important views and local natural and built heritage features The Masterplan recognises and maintains key views/ outlooks and safeguards large areas of countryside and woodland from development	The Masterplan is expected to have an overall significant positive effect in accommodating population and urban growth sympathetically within local landscapes and outlooks

Figure 6.1 Overview of A96 Corridor Masterplan Green Framework



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7 Alternatives Considered

7.1 Summary of Development Option Appraisal Process

7.1.1 Framework options for Inverness East and Nairn were produced through a stakeholder consultation process termed Collaboration for Success (CfS). This process allowed governmental agencies, community groups, political interests and private stakeholders the opportunity to participate in the development of five framework options (alternatives) for each location, which reflected the range of issues, concerns and opportunities represented by the mixed groupings. Each option was subject to review and appraisal on the following:

- Transport, access and accessibility
- Education & lifelong learning
- Development capacity
- Marketability
- Infrastructure
- Community
- Existing development
- Adjoining land uses and relationship with surrounding communities
- Pollution, waste and resources
- Energy
- Buildings, urban design and land use
- Open spaces
- Site characteristics
- Topography
- Landscape features
- Wildlife and habitat
- Views

7.1.2 The framework options/ alternatives were reviewed by technical staff to allow ease of comparison across a range of indicators. The updated framework options were then subject to a second round of CfS workshop events, containing a similar mix of expertise as the first, where each option framework was assessed in the context of:

Accessibility – Examining the range of transport options available including new road and rail infrastructure, public transportation links and improved pedestrian and cycle connectivity.

Economy – Promoting a strong local economy based on local job creation, education & lifelong learning opportunities and set within realistic market ambitions.

Community – Assessing the options with regards social justice, crime prevention planning, health and safety and the opportunity to create distinct and attractive places.

Environment – Looking at the opportunities to create quality urban design and the sustainable integration of land use, as well as how the development options would influence waste disposal and energy use, pollution reduction and mitigate for landscape and ecological impacts.

7.1.3 In parallel to the CfS sessions, technical reviews of the options assessing planning and urban design, transportation and market suitability were conducted by Halcrow and other consultants.

7.1.4 The outcome of both the CfS sessions and technical review process was a ranking of framework options for suitability and sustainability, which in turn led to the identification of the preferred development options for Inverness East and Nairn. The resultant preferred options are hybrids of the individually assessed options, which incorporate the benefits and eradicate major problems identified within the individual framework options.

7.1.5 A summary of option assessments associated is provided in Appendix B. The appraisal process outlined does not specifically consider SEA objectives, as these were considered in the appraisal of Urban Frameworks, as outlined in Section 6 above. The individual option appraisals concentrate on Urban Framework objectives of:

- Population and Human Health
- Flooding, Drainage and Urban Greenspace
- Land Use
- Landscape

7.2 Results of Development Option Appraisal Process

7.2.1 For **Inverness East**, the technical consultants' preferences were divided between options A (marketability), C (delivery and urban form) and E (traffic and planning), reflecting the range of strengths and weaknesses in each case.

7.2.2 A number of common themes emerged, which included the creation of a compact place with good mix of housing densities, the need to balance new employment opportunities with future population growth, the opportunities to integrate education, research and related business activities as a development cluster, and the selection of an A9/A96 bypass route which also furthers accessibility by non-car transport modes

7.2.3 Stakeholder participation through a series of workshop sessions at the East Inverness Framework Planning Group, ranked options A, B and D. Additional points of emphasis related to the scope to strengthen community provision for the established Culloden community within a new District centre for East Inverness.

7.2.4 Opportunities to facilitate bulky goods retailing adjoining the existing Retail Park to minimise transport effects and land take, consolidating wedges of parkland and flood risk zones as major open space corridors, and the merits of Beechwood as a university campus location offering high levels of accessibility.

7.2.5 No clear overall preference for a particular option emerged from public responses. Different options performed better on certain aspects of development suggesting that a hybrid overall solution would best match local expectations.

7.2.6 The strongest messages concerned the wish to retain Balloch as a freestanding community within a green setting, support for urgent upgrading of the trunk road network and availability of coherent transport alternatives, together with the need to address significant deficiencies in key public services locally. The main agency comments covered rail services, green wedges, the new Inverness College/ UHI campus and the impact on birds and sensitive coastal habitats.

7.2.7 For **Nairn**, the technical consultants' preferences were stated as option A (marketability), B (traffic and planning), C (delivery) and E (urban form). Common development principles which emerged included the strong desirability of locating new population growth such that it can help reinforce a strong nucleus of town centre functions, the acute requirement to stimulate additional employment opportunities in Nairn, to avoid reinforcing the current high dependence on unsustainable levels of net commuting, and the selection of an effective trunk road bypass route that also serves and integrates expansion into the fabric of the wider town.

7.2.8 Stakeholder participation through a series of local workshop sessions and discussion at the Nairn Framework Planning Group, ranked options as A and B followed by C. Although broadly similar to the technical outcomes, important issues were identified in relation to the avoidance of flood-risk zones, resistance to low density housing development on the western approaches, and a strong awareness of the very high intrinsic amenity of lands adjoining the River Nairn and overlooking the Firth at Delnies – these areas reflect both the original market town/ service centre and later coastal (fishing, links golf and mass tourism) traditions of Nairn.

7.2.9 Levels of public interest and participation in Nairn were particularly high and there was a noticeable appetite for the town to take stock and move forward. Option B (southern expansion) was strongly favoured in the written responses received. There was a high level of support for a town bypass and the earliest possible implementation. Town centre regeneration was important, together with well-planned and resourced green space.

7.2.10 Again, different options performed better on certain aspects of development suggesting that a hybrid overall solution would best match local expectations.

7.3 Assessment of Preferred Options (Headline Features)

Preferred Option – East Inverness

7.3.1 The 'headline' statistics for East Inverness are a future population of 7,000, some 3,300 new housing units and the creation of approximately 3,500 jobs.

7.3.2 Figure 7.1 illustrates the 'preferred' Development Framework proposals for East Inverness as recommended to the Highland Council. The principal features are as follows:

- Dual carriageways bypass route linking from an upgraded A9 junction at Inshes, northwards across the railway to connect with the A96 in the vicinity of the Smithton interchange. Direct access for adjoining business, retail, campus and residential developments.

- Park and ride scheme with bus links adjoining the Smithton junction, and provision for a transport interchange facility to serve the Campus, including a longer term rail halt option at Beechwood.

- Upgrading of the Culloden distributor from the A96 as far as the new District Centre to be situated centrally by Smithton, including provision for a major supermarket outlet.

- Hotel developments at Stratton Lodge and at the A96/ bypass gateway site where there is scope for an iconic entrance building.

- Bulky goods outlets (regional retail) between the bypass and the existing West Seafield Retail Park.

- New Inverness College/ UHI campus comprising faculty, research/ incubator and student/ staff accommodation with buildings held to the north-eastern flanks of the site in a high quality parkland setting, and segregated pedestrian links spanning west across A9 into the city and the railway into East Inverness.

- An Innovation Park for spin-off businesses and high growth technology enterprises opposite the Campus at West Seafield.

- A major Regional Sports complex situated at East Beechwood

- A formal Town Park and adjoining structural open space at Smithton/ Resaurie including informal landscaped areas, core footpaths and flood alleviation measures connecting through to adjoining countryside green wedges and the projected coastal trail.

- A reserved site for a secondary school close by the Park and District Centre.

- A compact new residential quarter lying to the west of Culloden and offering a range of mainstream and affordable dwellings with a graduated density mix with lower intensity housing towards the northern margins by Milton of Culloden.

7.3.3 An appraisal of the headline features of the Inverness Preferred Option against the SEA Objectives is provided in Appendix E. This assessment highlights the following environmental considerations:

- Positive effects are associated with the headline features with respect to provisions for improving human health and amenity levels for local populations, with the inclusion of connected path and cycle networks, community sports facilities and quality urban greenspaces.

- Positive effects are also to be realised with respect to education and life-long learning by the improved provision of primary and high schools, as well as tertiary education facilities.

- Public transport provisions including park and ride and improved interchange facilities will result in benefits with respect to air and climate factors, however, these benefits could be tempered by the general growth in transport to be expected.

- A transport interchange next to campus, business, housing and sporting areas will be convenient for local populations but may not be of much benefit to local health when considered in conjunction with the dual carriageway route.

- An iconic entrance building could cause concern and should be sympathetic to the surrounding environment and setting.

- Significant positives are likely by linking urban walking and cycling routes to those outlined in the Green Framework.

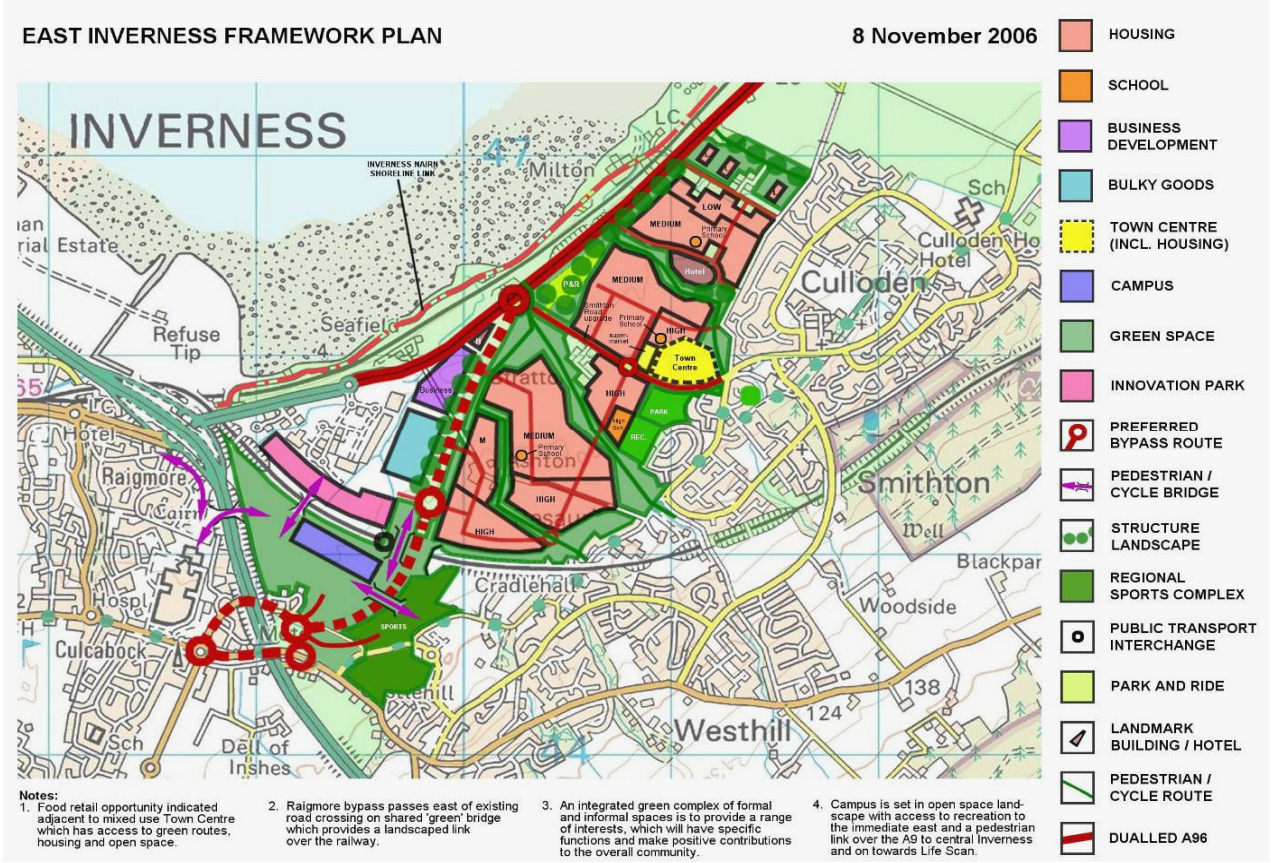
- Features which carry potential negative aspects are those associated with roads in general, and routes adjacent to high density housing and schools. However, some of the negative effects associated with transport pollution and road safety may be mitigated by the close proximity of greenspaces, parkland and appropriate calming measures.

- A dualled bypass will help reduce congestion levels; however as the route passes directly by the regional sports complex, campus greenspaces and high density housing, anticipated health benefits from improving traffic flow may not actually be realised.

- Advantages lie in the choice of location for retail outlets, being next to existing retail space, which supports objectives to respect urban forms, minimise energy use (e.g. in waste handling from multiple distinct sites) and protecting greenspace in other areas.

- Extensive greenspace and walkable access between housing and the campus and sports facilities will present long term benefits for local residents.

Figure 7.1 Overview of East Inverness Preferred Option



Preferred Option – Nairn

7.3.4 The 'headline' statistics for expansion of Nairn are a long term population increase of 9,000, an additional 4,300 housing units and the creation of at least 4,500 jobs.

7.3.5 Figure 7.2 illustrates the 'preferred' Development Framework proposals for Nairn as recommended to the Highland Council. The principal features are:

- A96 bypass starting from Drumdivan in the west, crossing the river at Howford and connecting back to the existing trunk road at Auchnacloich. This also enables a direct link for future development at Delnies.
- Two intermediate junctions on the new bypass where it crosses the A939 Grantown route and at a convenient point for access to serve proposed development at South Nairn.
- Eventual doubling of the town's size with total expansion capacity for an additional 9000 persons.
- A new neighbourhood at South Nairn representing the first phase of town expansion, including new District centre facilities located towards the north, from which improved pedestrian links will facilitate use of town centre shopping and other functions.
- Development of additional riverside and woodland based leisure and recreational facilities utilising adjoining floodplain lands.
- Site to be reserved for a secondary school.
- Longer term residential and community development at West Nairn (Delnies), clustered around the proposed third golf course and ancillary uses, and connected to the projected coastal footpath link from Nairn to Whiteness/Inverness.
- Major business and industrial land allocations on the eastern flanks of the town at Balmakeith.

7.3.6 An appraisal of the headline features of the Nairn Preferred Option against the SEA Objectives is provided in Appendix E. This assessment highlights the following environmental considerations:

- Introducing the bypass will have significant benefits in reducing local urban air pollution in the centre of Nairn, improving road safety for local residents and enabling the desired regeneration of the town centre.
- Concerns over exact routing and potential impacts upon local historic features (particularly around Howford Bridge) should be resolved through further consultation. The Masterplan provides an indicative framework for strategic development and the exact route should accommodate historic environment concerns in conjunction with Highland Council policies to protect historic features.
- The junction at the A939 provides benefits through access to proposed recreational areas and environmental assets/ visitor centre, and could increase access by public transport.

- Good access to main roads will make developments appealing to public transport providers, quality landscaping will increase the appeal to new residents and the proximity to business, retail, education and district centre facilities will help bring a good mix of residents promoting vibrant neighbourhoods.

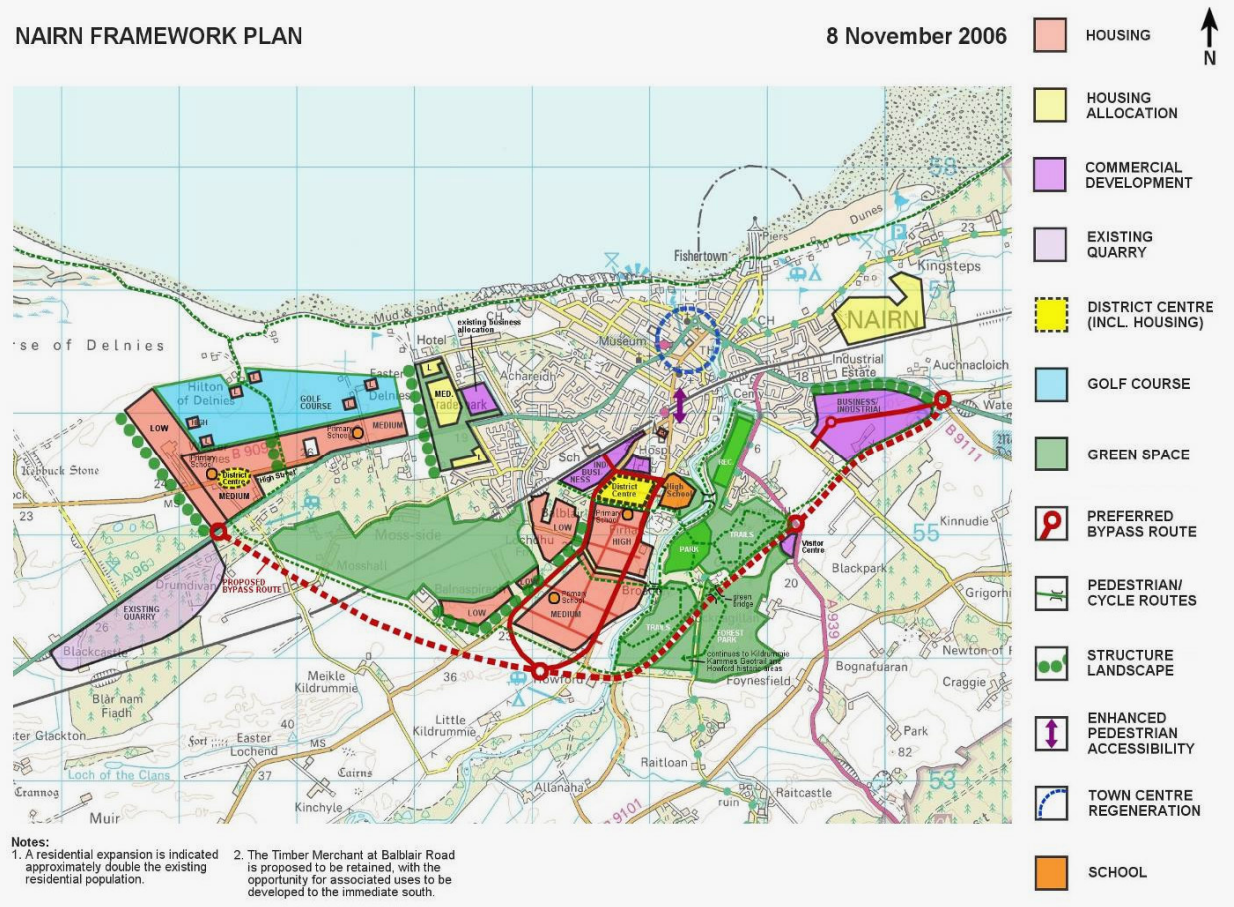
- Close proximity to open spaces and recreational areas will add to the appeal of the area, especially as the urban development avoids identified floodplains (developed as parkland and recreational areas).

- Avoiding hard development on floodplain minimises likelihood of extensive material damage and helps maintain water quality and aquatic diversity, as well as local townscapes.

- Proposals to link this area with geo-trails will increase opportunities for access, interpretation and appreciation of local natural history and environmental features.

- Potential for negative effects on sensitive European protected sites along the coast associated with disturbance, littering and short-term impacts from construction – will require close consultation with SNH to determine most appropriate routes, signage and waste management provisions.

Figure 7.2 Overview of Nairn Preferred Option



7.4 Assessment of Cumulative Effects

Background

7.4.1 The aim of the cumulative impacts assessment is to identify, describe and evaluate cumulative and synergistic effects in order that they can be avoided, minimised or enhanced as appropriate.

7.4.2 The cumulative effects of the Interim A96 Corridor Masterplan alongside potential effects associated with other 'relevant corridor developments' (i.e. allocated sites in the development plan or planning approvals/applications) have been considered.

Other Corridor Developments

7.4.3 The outline planning application relating to a new settlement/ resort masterplan, as submitted by the Whiteness Development Company, for the former Ardersier fabrication site was approved by the Highland Council, subject to call-in by the Scottish Executive. The proposals include provision for 1950 new dwellings to be constructed during 2008-18, which suggests an eventual population of approximately 4000 inhabitants on completion.

7.4.4 Moray Estate's have proposals for a new community by Tornagrain and it is understood that the key size characteristics are a little fewer than 4700 dwellings/ 10,000 population when fully developed by 2041. A planning application for this proposal has not yet been submitted to Highland Council. It is understood that this is likely to be in the autumn 2007.

7.4.5 Expansion of several existing Corridor villages is a key component of the draft Masterplan – these are identified as Culloden Moor, Croy, Ardersier, Cawdor and Auldearn. Each of these communities has the benefit of existing Local Plan land allocations for residential and community uses. These commitments comprise almost 500 additional dwellings, with capacity for up to 1000 additional residents overall.

7.4.6 Any proposals to increase or amend these allocations will need to respect Highland Council guidelines controlling the margin of expansion to no greater than +25% during any ten year period, and should undergo full public consultation in 2007.

7.4.7 Other key developments within the Corridor include a new Castle Stuart golf course/ hotel/ lodges and a replacement visitor complex at the Culloden Battlefield site.

7.4.8 Activity and passenger throughput at Inverness Airport continue to increase with several airlines announcing additional services/ destinations. Consultants have been instructed to progress the first phase of the airport Business Park and early commitment to a hotel facility is also anticipated.

7.4.9 Cumulative effects are therefore difficult to predict as each of the development considerations are currently subject to further consultation and assessment, however it is expected that the effects of development assessed previously in this report will be just as relevant.

7.4.10 Specific concerns are raised when considering the redevelopment of the former Ardersier fabrication works at Whiteness, with respect to contaminated soils and associated impacts that any disturbance may have on the sensitive and protected coastal zone in the immediate vicinity. These potentially significant impacts will require careful consideration, Appropriate Assessments and the utilisation of suitable remediation or containment strategies. It is acknowledged that the development of a marina and holiday accommodation is in keeping with the traditional nature of Nairn as a resort location, and will bring benefits in terms of revenue and employment. However the integrity of the European designated sites and bathing waters should be protected as a priority.

7.4.11 Similarly, coastal golf course developments will have positive effects on local amenity, employment and recreation; however careful consideration of impacts upon designated sites will require Appropriate Assessments and the utilisation of effective management and containment strategies, to prevent any disturbance or pollution impacts. These considerations are also relevant for the upgrading or introduction of coastal trails and any path networks along/ across other designated sites (for example the proposed geo-trail will require careful routing) to prevent any degradation in quality. Short term, reversible impacts may be considered acceptable, but will require appropriate consents from SNH and other relevant bodies, including Historic Scotland, SEPA and the National Trust for Scotland.

7.4.12 Airport expansion and hotel developments have the potential to impact greatly upon water demand and wastewater treatment capacities, as well as having long term negative impacts upon air quality and climate releases. There should be stringent guidelines in place to ensure water reduction and energy efficiency technologies are utilised, to offset the damaging impacts of increased transportation emissions, especially those associated with increasing levels aircraft emissions.

7.4.13 In all cases, development should be in response to demand, effectively phased and co-ordinated throughout the Corridor to minimise the cumulative impacts of multiple development projects.

7.4.14 In many cases, appropriate use of environmental assessment techniques will be required including future SEA at lower levels of planning and development, EIA on specific projects as required by the Environmental Assessment (Scotland) Regulations (1999) and, as mentioned Appropriate Assessment (AA) as required by the EU Habitats Directive for any projects or plans that may have significant impacts upon the integrity or management of protected European sites.

8 SEA Indicators, Implementation & Monitoring

8.1 SEA Indicators

8.1.1 A key result of the SEA process is in presenting which environmental effects (positive and negative) are most attributable to the plan/ policy/ strategy (PPS) in question and identifying means to monitor the impact of the PPS on those environmental conditions, or receptors.

8.1.2 Potential indicators have been chosen to enable the monitoring and review of the Masterplan post adoption, and to assess whether progress is being made towards greater sustainability in the A96 Corridor. The indicators selected are intended to measure the success, or otherwise, of the A96 Corridor Masterplan preferred options in meeting environmental objectives and their effect on the environment.

8.1.3 Table 8.1 lists a series of indicators and data sources, however it must be stressed that the onus for monitoring and review lies with the Highland Council and it is up to their planning groups to identify which indicators are most suitable, how often monitoring and reviews should take place and from there, which measures to implement on identification of either problems that should be addressed, or potential benefits that could be enhanced.

Table 8.1 Potential Indicators and Data Sources

SEA Objective		Potential Indicators/ Monitoring Data	Potential Data Sources
Biodiversity, Flora & Fauna			
1	To protect designated wildlife and geological sites, maintain and enhance habitat connectivity and avoid irreversible species loss	• Area of geological SSSIs affected by new development • Areas of European or national designated sites (Ramsar, SACs, SPAs and SSSIs) affected by development • Number of development applications with approved Appropriate Assessments • Changes in monitored populations of protected species (eg. badgers) • Associated monitoring indicators of the Highland and Inverness / Nairn Local Biodiversity Action Plans (LBAP) • Changes in area of woodland cover / protected / ancient woodlands	• Designated sites – The Highland Council, SNH, Historic Scotland • Protected woodlands / woodland areas – Forestry Commission Scotland, SNH • Local priorities, targets and indicators for monitoring – Inverness to Nairn LBAP • Inverness Badger survey – SNH • Migrating and resident bird data, breeding locations to be avoided – RSPB, SOC • Data on protected marine habitats and marine species – Moray Firth Partnership
Human Health & Population			
2	To promote healthy living: create conditions to improve health and reduce health inequalities	• Changes in number of households within 10 min walk from key services • Changes in number of households within 10 min walk from greenspace / recreational facilities	• Access to key services at settlement zone level – The Highland Council • Access to facilities and services information – Scottish Household Survey

SEA Objective		Potential Indicators/ Monitoring Data	Potential Data Sources
3	To promote vibrant and viable neighbourhoods and townscapes	• Changes to population profile / local life expectancy / mortality causes / road accidents • Projections of population / number of household increases • Changes in the area of protected amenity and recreational open space • Changes in the amount of semi-natural woodland cover • Changes to the length of cycle and walkways • Changes in the number of recreational facilities (indoor and outdoor)	• Years of healthy life expectancy at Highland level – The Highland Wellbeing Alliance • Population profiles – The Highland Council, Census Information • Access to local greenspace, area, number of sites – The Highland Council • Length of cycle/footpath network – The Highland Council, Green INverness
4	To protect and enhance greenspace: improve the quality of publicly accessible open space		
Soil			
5	To manage growth ensuring rural land take is minimised, appropriately remediate contaminated sites, conserve soil resources and safeguard prime agricultural land	• Changes in the numbers of local contaminated sites • Area of prime quality agricultural land affected by new development • Changes in the amount of vacant land • Changes in the amount of derelict land • % of new dwellings and re-use of existing buildings on previously developed land	• Areas of contaminated land – Highland Council, SEPA • Number of greenfield sites – The Highland Council Housing Land Audits • Number of brownfield sites – The Highland Council Housing Land Audits • Vacant land, properties and derelict land – The Highland Council Vacant & Derelict Land Studies
Water & Climatic Factors			
6	To protect surface and groundwater quality, reduce water pollution to levels that do not damage natural systems	• Changes in length of rivers classified as being of excellent / good quality • Changes in classification of surrounding bathing waters • Number of water pollution incidents reported to SEPA • Number of water courses requiring alteration as a result of new development • Areas of development in identified flood plains • Change in number / frequency of flooding incidents • Number of new sites developed within 500 metres of coast • Changes to local water supply and waste water capacity • Number of developments incorporating SUDS • Number of new houses / buildings incorporating water reduction technologies	• Water quality, flood maps/ zones, number and severity of pollution events – SEPA • Wastewater treatment infrastructure – Scottish Water • Local wastewater capacities, projections for increased demand – Scottish Water • Margin between water supply and projected demand – Scottish Water • Number and location of proposed coastal developments – The Highland Council • Land vulnerable to erosion from the sea – Moray Firth Partnership, The Highland Council, SNH, SEPA
7	To maintain water abstraction, run-off and recharge within carrying capacity (including future capacity)		
8	To maintain and restore key ecological processes, e.g. hydrology, water quality, coastal processes and flood plain development (reduce risk of flooding)		
Air & Climatic Factors			
9	To promote/ increase use of public transport	• Convenience of public transport and travel demand by mode • Changes to frequency / carrying capacity of local public transport services	• Convenience of public transport and travel demand by mode – Scottish Household Survey • Local readings for PM10 and Nox gases – Inverness monitoring station

SEA Objective		Potential Indicators/ Monitoring Data	Potential Data Sources
10	To reduce local urban air pollution at identified problem areas	• Changes to public transport infrastructure • Changes to number of local attractions / facilities accessible by public transport • Changes in the concentration and emissions of local air pollutants • Changes to traffic levels in bypassed areas and in trunk road length • Changes in levels of local CO2 production • Number of new developments that utilise energy from renewable sources • Number local renewable resources • Number of new houses / buildings meeting BREEAM standards for sustainable buildings	• Level of traffic in area – Scottish Transport Statistics • Number of visitor attractions accessible by public transport – The Highland Council • Proportion of journeys made by 'green' modes – Travel to Work Statistics • Local carbon dioxide emission rates – The Highland Council, SEPA • Local gas and electricity energy use rates (domestic, business, industrial) – NOT IDENTIFIED • Renewable energy production within the A96 Corridor study area – The Highland Council • Mode of travel – Scottish Transport Statistics, The Highland Council
11	To manage climate change: reduce local GHG emissions associated with development		
12	To promote energy conservation through sustainable design and construction: reduce the need for energy and to travel		
Material Assets			
13	To respect urban form: value local distinctiveness and improve the quality of the built environment	• Number of affordable housing units provided • Changes to levels of aggregate production / amount of aggregates re-used or recycled • Number of new houses with space provided for segregated waste bins • Number of flats with space provided for segregated waste provision • Number of developments incorporating green waste management facilities • Change in number of recycling facilities provided within area • Change in total amount of waste sent to landfill	• Affordable Housing data from monitoring statistics of local housing strategies • Municipal waste arisings – The Highland Council Area Waste Plan Progress Report • Number of recycling/ waste handling/ landfill facilities – The Highland Council Area Waste Plan
14	To promote waste recycling, re-use and reduction measures, in accordance with the waste hierarchy, including the re-use and recycling of finite resources		
Historic Environment/ Cultural Heritage			
15	To protect and where appropriate, enhance the historic environment	• Number and area of developments affecting Conservation Areas • Number and area of protected sites or listed features that are affected by development	• Number, area and locations of historic buildings/ archaeological sites – Historic Scotland, The Highland Council
Landscape			
16	To manage the character and appearance of the landscape and townscape, conserve scenic areas, protect and enhance landscape value, particularly designated areas, strengthening local distinctiveness and sense of place	• Changes to landscape character • Changes in area of woodland cover • Changes in habitat connections – area of new planting (eg. trees/ hedgerows)	• Landscape character assessments / designations – The Highland Council, SNH • Historic Land Use Assessments – Historic Scotland, SNH

8.2 Implementation

8.2.1 The A96 Corridor Masterplan will provide a framework for the development of the A96 Corridor between Inverness and Nairn. The Masterplan will not provide the precise details of what development will come forward; this will be for the individual planning proposals to provide. When the Masterplan is adopted as SPG, and subsequently integrated within the Local Development Plan, it will become a material consideration in the determination of any planning application for the area.

8.2.2 The SEA of the Masterplan will provide information as to the likely environmental effects of development coming forward as envisaged by the Masterplan. However, the detail of any potential effects will depend on the detail of the proposals. On this basis, there is likely to be a requirement for separate environmental assessments of individual planning applications, potentially including full EIA as required under the environmental Assessment (Scotland) Regulations 1999. The SEA of the Masterplan identifies the environmental issues which are most likely to be affected by redevelopment proposals and should assist in determining an appropriate scope for any EIA, or other environmental issue-specific assessments, which may be required as part of future planning applications coming forward under the Masterplan.

8.3 Monitoring Framework

8.3.1 Monitoring of the environmental performance of the A96 Corridor Masterplan during its life is a key requirement of SEA. Effective monitoring can help with future assessments, as detailed baseline data is complied and assessed for comparison. Changes in baseline conditions or results will present tangible information that can then be attributed directly to development within the study area, or may be identified as being the result of other factors, not previously identified. In this way, a constant progression towards coupling environmental sustainability with sustainably developing the A96 Corridor in response to population and economic demand is realised.

8.3.2 This is not a short term process, monitoring should be considered a necessary, long term and on-going commitment to sustainable development, as continued International, European and domestic legislation is expected to increase the burden of environmental reporting over time. Taking the steps now to initiate effective monitoring systems and review periods will help the Highland Council demonstrate effective action, vision and understanding of the requirements for transparency. Table 8.2 outlines a basic framework that incorporates the proposed SEA indicators and a rationale for the monitoring methodology. The monitoring measures proposed are based on the environmental issues identified as potentially being subject to significant effects from the Interim Masterplan.

8.3.3 Monitoring will be conducted by the Council, in their capacity as Responsible Authority for this SEA. It is proposed that a Monitoring Register be maintained by the Council, detailing the relevant information to meet the monitoring requirements specified here. The Monitoring Register will be available to the public and a short annual Monitoring Report will be produced by the Council, summarising the findings of the monitoring conducted during the previous year. The Monitoring reports will be forwarded to the SEA Gateway and published on the Council website.

Table 8.2 Proposals for a Monitoring Framework

Monitoring Proposed	Rationale	Targets and Actions
Biodiversity, Flora and Fauna		
Areas of European or national designated sites (Ramsar, SACs, SPAs and SSSIs) affected by development	European sites are key natural assets of the area and should be protected from development as a priority. A record of areas affected will build effective baseline data for future protection or enhancement measures	Target – No change, or increased areas of protection Actions – If protected sites are affected, effective consultation with relevant authorities and developers to determine remediation/ compensatory measures
Number of development applications with approved Appropriate Assessments (AA)	Various development proposals across the area may impact upon European sites, a record of approved AA will demonstrate the Council is meeting the requirements of the Habitats Directive	Target – All relevant development proposals present effective appraisals of potential effects on European sites Actions – If protected sites are likely to be affected, in any way, effective consultations with relevant authorities to determine appropriate action
Area of geological SSSIs affected by new development	Important geological SSSIs are a prominent feature of the area and should be protected as a priority A record of areas affected will build effective baseline data for future protection or enhancement measures	Target – No change, or increase areas of protection Actions – If protected sites are affected, effective consultation with relevant authorities and developers to determine remediation/ compensatory measures
Changes in monitored populations of protected species (eg. badgers)	Inverness and the A96 Corridor supports a large badger population, monitoring will help determine effects of development on population levels	Target – Maintain healthy populations Actions – Any major proposals should incorporate a badger survey to determine likely effects on local populations Effective consultation with relevant authorities and developers required to determine relocation/ compensatory measures
Associated monitoring indicators of the Highland and Inverness / Nairn Local Biodiversity Action Plans (LBAP)	The BAP is currently being reviewed, any indicators relevant to species or habitats within the Corridor area should be incorporated into the Monitoring Framework	Target – Incorporate local priority habitats and species into development considerations Action – Requires further consideration in association with local biodiversity officers
Changes in area of semi-natural woodland cover / protected / ancient woodlands	Monitoring increases or reductions in woodland areas associated with development will allow early compensatory or enhancement measures to be implemented	Target – Maintain ancient and protected woodland, increase area of semi-natural woodland Action – If developments affect protected sites then effective consultation with relevant authorities and developers required to determine relocation/ compensatory measures

Monitoring Proposed	Rationale	Targets and Actions
Human Health and Population		
Changes in number of households within 10 min walk from key services	Will give an indication of the success of Masterplan proposals to develop successful places that improve non-motorised access to key services	Target – Increase Action – Establish baseline data on current situation, record anticipated effects of new development proposals and actual effect on completion
Changes in number of households within 10 min walk from greenspace / recreational facilities	Will give an indication of the success of Masterplan proposals to develop successful places that improve access to recreation and improve urban greenspace provision	Target – Increase Action – Establish baseline data on current situation, record anticipated effects of new development proposals and actual effect on completion
Changes in the area of protected amenity and recreational open space	Will give an indication of the success of Masterplan proposals to develop successful places that improve access to recreation and improve urban greenspace provision	Target – Increase Action – Establish baseline data on current situation, record anticipated effects of new development proposals and actual effect on completion
Changes in the amount of semi-natural woodland cover	Will give an indication of the success of Masterplan proposals to develop successful places that improve access to recreation and improve urban greenspace provision	Target – Increase Action – Establish baseline data on current situation, record anticipated effects of new development proposals and actual effect on completion
Changes to the length of cycle and walkways	Will give an indication of the success of Masterplan proposals to develop successful places that improve access to recreation and improve urban greenspace provision	Target – Increase Action – Establish baseline data on current situation, record anticipated effects of new development proposals and actual effect on completion
Changes in the number of recreational facilities (indoor and outdoor)	Will give an indication of the success of Masterplan proposals to develop successful places that improve access to recreation	Target – Increase Action – Establish baseline data on current situation, record anticipated effects of new development proposals and actual effect on completion
Changes to population profile / local life expectancy / mortality causes / road accidents	Changes against existing data/ baselines could indicate healthier living conditions by design	Target – Improve health conditions, reduce accidents, mortality and morbidity Action – Establish baseline data on current situation, record anticipated effects of new development proposals and actual effect on completion
Projections of population / number of household increases	Monitoring actual increases against projections will help with development phasing in response to demand	Target – Phase development in response to demand to maintain steady population growth and minimise unnecessary development Action – Planning response to development coordination and phasing of appropriate infrastructure provision

Monitoring Proposed	Rationale	Targets and Actions
Soil		
Changes in the numbers of local contaminated sites	Will demonstrate either positive or negative effects associated with development	Target – Prevent contamination, remediate and re-use contaminated sites Action – Maintain record of developments improving baseline conditions
Area of prime quality agricultural land affected by new development	Will demonstrate either positive or negative effects associated with development	Target – Maintain most fertile areas and key soil resources Action – Planning response to protect agricultural resources
Changes in the amount of vacant land	Will demonstrate either increases or reductions associated with development	Target – Reduce Action – Planning response to direct development
Changes in the amount of derelict land	Will demonstrate either increases or reductions associated with development	Target – Reduce Action – Planning response to direct development
% of new dwellings and re-use of existing buildings on previously developed land	Will demonstrate either positive or negative effects associated with development, especially in utilising brownfield sites	Target – Increase Action – Planning response to direct development
Water		
Changes in length of rivers classified as being of excellent / good quality	SEPA maintain records of local ecological and chemical river quality, changes will demonstrate positive or negative effects associated with development	Target – Maintain or improve local river quality designations Action – Consult with SEPA to identify causes of deterioration, if attributed to development identify remediation processes and apply polluter pays principle
Changes in classification of surrounding bathing waters	SEPA maintain records of bathing water quality, changes will demonstrate positive or negative effects associated with development	Target – Maintain or improve local bathing water quality designations Action – Consult with SEPA to identify causes of deterioration, if attributed to development identify remediation processes and apply polluter pays principle
Number of water pollution incidents reported to SEPA	Changes in the number of incidents reported that can be attributed to development processes will demonstrate positive or negative effects associated with development	Target – Reduce Action – Consult with SEPA to identify causes of pollution, if attributed to development identify remediation processes and apply polluter pays principle
Number of water courses requiring alteration as a result of new development	CAR Regulations apply restrictions to the number and type of engineering works along water courses to reduce the potential impact of flooding events	Target – Maintain river courses to reduce flooding impacts Action – Planning response to direct development, in consultation with SEPA

Monitoring Proposed	Rationale	Targets and Actions
Areas of development in identified flood plains	Government policy directs development proposals away from identified flood plains, and the Masterplan recognises the flood plains in and around Inverness and Nairn	Target – Prevent development within identified floodplains Action – Planning response to direct development
Change in number / frequency of flooding incidents	Increased rainfall across Scotland could significantly increase the frequency and magnitude of flooding events Records of events and areas affected will help direct future planning to avoid affected areas	Target – Develop detailed record of flooding incidence and areas affected Action – Planning response to direct development
Number of new sites developed within 500 metres of coast	There is recognised potential for increased coastal flooding due to sea level rise and increased extreme weather events, that could lead to increased incidence of storm surges	Target – Protect coastal areas from potential flooding events Action – Planning response to direct development. Coastal developments should include effective appraisals of flooding risks
Changes to local water supply and waste water capacity	Changes to supply infrastructure to meet demand should work to maintain local water quality and reduce overflow/ pollution incidents	Target – Improve supply and treatment capacities Action – Planning response to phase development according to demand
Number of developments incorporating SUDS	The inclusion of SUDS technologies in new developments will help mitigate the increased risk of flooding and maintain water quality	Target – New developments to include effective SUDS Action – Planning response to ensure effective SUDS provision
Number of new houses / buildings incorporating water reduction technologies	In accordance with Highland Development Plan Guidance, 'Designing for Sustainability in the Highlands', new developments should include proposals for reducing water demand in domestic and business developments	Target – Reduce water demand through inclusion of appropriate technologies in new developments Action – Planning response to ensure effective appraisal and inclusion of water demand reduction technology
Air and Climatic Factors		
Convenience of public transport and travel demand by mode	Monitoring changes in demand and convenience will demonstrate effective action associated with increasing public transport provision	Target – Improve uptake of public transport options Action – Planning response to improve infrastructure and accessibility
Changes to frequency / carrying capacity of local public transport services	Monitoring changes in frequency and carrying capacity will demonstrate effective action associated with increasing public transport provision	Target – Improve uptake of public transport options Action – Planning response to improve infrastructure and accessibility
Changes to public transport infrastructure	Positive changes in infrastructure (e.g. bus lanes, interchanges) will demonstrate effective action associated with increasing public transport provision	Target – Improve uptake of public transport options Action – Planning response to improve infrastructure and accessibility

Monitoring Proposed	Rationale	Targets and Actions
Changes to number of local attractions / facilities accessible by public transport	Increases in the number of facilities accessible by public transport will demonstrate effective action associated with increasing public transport provision	Target – Improve uptake of public transport options Action – Planning response to improve infrastructure and accessibility
Changes in the concentration and emissions of local air pollutants	Important to demonstrate expected improvements at identified problem areas Important to monitor effects of new routes and road developments within urban areas	Target – Reduce levels of urban air pollution Action – Highland Council should introduce air sampling at upgraded areas to determine effects (positive or negative) Planning response to direct road improvement
Changes to traffic levels in bypassed areas and in trunk road length	Reductions in traffic numbers through urban centres in favour of bypass routes will improve local urban air quality and road safety Increases in traffic levels associated with population increase should be monitored to develop future baseline statistics	Target – Reduce levels of urban air pollution, improve local road safety Action – Highland Council should investigate regular traffic surveys on key development areas to determine effects of increased populations
Changes in levels of local CO2 production	No records for local CO2 pollution available for baseline assessment Identified need to develop baseline information for future review	Target – Produce effective assessment of carbon footprint/ CO2 emissions for key development areas Action – Highland Council should investigate means of producing details for A96 Corridor area to demonstrate effects of development over time
Number of new developments that utilise energy from renewable sources	Government goal to improve domestic energy efficiency to meet carbon reduction goals Future developments should include effective means of reducing reliance on fossil fuels	Target – UK Government target to reduce CO2 emissions by 60% by 2050 Action – Planning response to drive energy efficiency/ demand reduction by design
Number of local renewable resources	Producing information on local resources and available energy produced/ number of energy users in the area will demonstrate effective action in meeting renewable energy targets	Target – UK Government target to produce 10% of energy from renewable sources by 2010 Action – Planning response to drive renewable energy considerations within developments Highland Council should give priority consideration to community heating, microgeneration and other small scale renewable energy options
Number of new houses / buildings meeting BREEAM standards for sustainable buildings	Increases in energy efficient and sustainable buildings is a key aim of the Highland Council Development Plan Guidance and will help meet targets as above Recording details will help demonstrate positive action and inform future reviews	Target – Increase Action – Planning response to drive sustainable buildings, energy efficiency and demand reduction

Monitoring Proposed	Rationale	Targets and Actions
Material Assets		
Number of affordable housing units provided	To ensure that new developments meet Highland Council targets of 25% provision in areas of identified housing stress Affordable housing units should not be of inferior quality	Target – Increase affordable housing to meet Highland Council target of 25% provision in areas of identified housing stress Action – Planning response to direct development and ensure quality
Changes to levels of aggregate production / amount of aggregates re-used or recycled	Reducing the reliance on primary production produces significant benefits in reducing energy use and climate emissions Records of changing use will demonstrate positive/ negative effects associated with development	Target – Increase recycling/ re-use of aggregates Reduce reliance on primary production Action – Planning response to drive appropriate construction methods that reduce energy demand
Number of new houses with space provided for segregated waste bins	SEPA recommend planned provision for waste segregation and efficient handling Each new house should have space for 3 segregated bins	Target – Increase segregated waste provision in accordance with Area Waste Plan Action – Planning response to drive accommodation of waste segregation in new developments
Number of flats with space provided for segregated waste provision	SEPA recommend planned provision for waste segregation and efficient handling Flatted developments should have space for communal segregated waste	Target – Increase segregated waste provision in accordance with Area Waste Plan Action – Planning response to drive accommodation of waste segregation in new developments
Number of developments incorporating green waste management facilities	SEPA recommend planned provision for waste segregation and efficient handling Green waste management includes composting facilities	Target – Increase green waste facilities in accordance with Area Waste Plan Action – Planning response to drive accommodation of green waste management in new developments
Change in number of recycling facilities provided within area	SEPA recommend planned provision for waste segregation and efficient handling New development areas should include recycling facilities close to source	Target –Increase recycling facilities in accordance with Area Waste Plan Action – Planning response to drive accommodation of recycling facilities in new developments
Change in total amount of waste sent to landfill	Increasing populations will result in increased waste production and increased waste to landfill Monitoring changes in levels sent to landfill will demonstrate effective action in managing population growth if other waste management provision is effective	Target – Reduce waste to landfill per capita Action – Planning response to ensure effective waste management provision in new development aids reduction targets

Monitoring Proposed	Rationale	Targets and Actions
Historic Environment		
Number and area of developments affecting Conservation Areas	Maintaining a record of development applications affecting Conservation Areas will demonstrate positive action in maintaining the historic environment and in providing evidence for future reviews	Target – Maintain historic environment Action – Planning response to direct development that respects and maintains the character of Conservation Areas
Number and area of protected sites or listed features that are affected by development	Maintaining a record of development applications affecting protected sites/ listed features will demonstrate positive action in maintaining the historic environment and in providing evidence for future reviews	Target – Maintain historic environment Action – Planning response to direct development that respects and maintains the integrity, character, landscape and historic settings of protected sites and listed features
Landscape		
Changes to landscape character	Effects upon landscape character should be a key consideration of any detailed development proposal Maintaining a record of development impacts and changes to Landscape Character Assessments will demonstrate positive action for review	Target – Maintain high quality landscapes Improve landscape where possible Action – Planning response to limit development that negatively impacts landscape quality Planning response to encourage proper consideration of landscape effects
Changes in area of woodland cover	Monitoring increases or reductions in woodland areas associated with development will allow early compensatory or enhancement measures to be implemented Maintaining a record of such changes in the A96 Corridor will demonstrate effective action for future review	Target – Increase Action – Planning response to ensure effective assessment of landscape impacts and inclusion of compensatory/ screening measures where appropriate
Changes in habitat connections – area of new planting (eg. trees/ hedgerows)	Improvements to landscape possible by appropriate screening/ soft landscaping such as tree planting with associated benefits for wildlife Maintaining a record of such changes in the A96 Corridor will demonstrate effective action for future review	Target – Increase Action – Planning response to ensure effective assessment of landscape impacts and inclusion of compensatory/ screening measures where appropriate

9 Next Steps

9.1 Introduction

9.1.1 This section of the ER outlines the next steps and indicative programme towards the adoption of A96 Corridor Masterplan accompanied by this SEA.

9.2 Indicative Programme

9.2.1 The Interim A96 Corridor Masterplan is to be considered by Highland Council at the Planning, Development, Europe and Tourism Committee (PDET) on the 31 January 2007 with a recommendation to consult on the Masterplan and accompanying ER (this document).

9.2.2 Consultation is due to run for a period of 4 weeks between 6 February 2007 and 5 March 2007. The ER (including the Interim A96 Corridor Masterplan) will be submitted through the SEA Gateway to enable the Consulting Authorities (CAs) to consider and comment upon the ER. Any comments from the CAs will be captured by the SEA Gateway and forwarded to the Responsible Authority (i.e. Highland Council) and copied to Halcrow. This document can be viewed at the Council's offices at Glenurquhart Road, Inverness as well as on the Council's website at

http://www.highland.gov.uk/businessinformation/economicdevelopment/regeneration/a96-corridor-masterplan.htm.

9.2.3 The Non-Technical Summary of this ER can also be viewed separately. The Council will organise consultation with the public on the Interim Masterplan and ER during this period. If you would like to attend the public consultation events please forward your contact details to Mike Greaves[44] at Highland Council.

9.2.4 After and during the consultation period there will be a review of the comments received and these will be considered in the process of finalising the Masterplan, before it is put to the Council's PDET Committee on the 14 March 2007 for approval and adoption as Supplementary Planning Guidance (SPG). The finalised Masterplan, when adopted, will be accompanied by an SEA Statement which will detail the results of the consultation on this ER and show how comments have been addressed in finalising the Masterplan.

[44] Mike.Greaves@highland.gov.uk

9.2.5 On adoption of the A96 Corridor Masterplan, the SEA process will move into the monitoring phases. This will involve undertaking the monitoring as described in Section 8 of this ER.

9.2.6 Highland Council will progress the preparation of Local Development Plans (LDPs) early in 2008. The LDP applicable to the Inverness & Nairn area will be prepared in the context of the A96 Corridor Masterplan SPG. The intention is that the LDP, following LDP inquiry in 2010 will be adopted in 2011, incorporating the A96 Corridor Masterplan. Following the adoption of the LDP Action Plans, Development Briefs and Masterplans will be prepared for specific development areas within the A96 Corridor.

9.2.7 In summary, the indicative programme is outlined below:

31 January 2007	Interim A96 Corridor Masterplan considered at PDET Committee and recommended for formal consultation
6 February to 5 March 2007	Consultation period on Interim A96 Corridor Masterplan (including SEA)
14 March 2007	Final A96 Corridor Masterplan (including SEA) considered at PDET Committee and recommended for adoption as SPG
Early 2008	Progress LDP
2010	LDP Inquiry
2011	Adoption of LDP
2012 onwards	Progress Action Plans, Development Briefs and Masterplans