

FALKIRK

Local Development Plan²

Main Issues Report

Environmental Report

Appendix 2: Detailed Environmental Assessment Matrices

February 2017



Falkirk Council

Scope of Assessment

The detailed assessment matrices contain the results of the environmental assessment which has been generated by assessing performance of the preferred options and their reasonable alternatives against the SEA objectives for each environmental topic area by asking specific assessment questions. These are detailed comprehensively within the Environmental Baseline Report (Appendix 1) and are repeated below for ease of reference:

Table 1: SEA Objectives and Assessment Questions

Sub-Topic	Objectives	Questions
Biodiversity, Flora & Fauna		
Habitats	<ul style="list-style-type: none"> Increase/enhance biodiversity in the wider environment. Safeguard and enhance priority habitats (as defined in the FABAP) Safeguard ancient and long established woodland as a habitat resource of irreplaceable value Increase the rate of new woodland planting to help achieve the aims of the Falkirk Forestry and Woodland Strategy Protect Urban Open Space which has intrinsic biodiversity and nature conservation value or value as part of a network. 	<ul style="list-style-type: none"> To what extent will the option conserve/ enhance or degrade biodiversity? (consider the number/area and status of species or habitats in question) Does the option safeguard and enhance FABAP priority habitats Will the option safeguard ancient and long established woodland Will the option lead to the creation of new woodland Does the option protect urban open space with biodiversity and nature conservation value?
Habitat Networks	<ul style="list-style-type: none"> Prevent the further fragmentation of key habitat networks and contribute to improved habitat connectivity, guided by the Falkirk integrated habitat network study. 	<ul style="list-style-type: none"> Does the option enhance the wider Falkirk Integrated Habitat Network?
Species	<ul style="list-style-type: none"> Maintain and enhance the populations of European Protected Species and other legally protected species, including protection of their resting places. Safeguard and enhance priority species (as defined in the FABAP) Contain the spread and reduce the impact of invasive species 	<ul style="list-style-type: none"> Does the option maintain and enhance populations and resting places of European Protected Species? Does the option safeguard and enhance FABAP priority species Does the option reduce the impact of invasive species?
Protected Sites	<ul style="list-style-type: none"> Avoid adverse effects on the integrity of Natura 2000 sites. Protect and enhance sites which have been designated due to their biodiversity and nature conservation value Designate any unprotected sites which have particular biodiversity and nature conservation value. 	<ul style="list-style-type: none"> Will the option have a likely significant effect on any Natura 2000 site? Does the option protect and enhance sites designated for their biodiversity and nature conservation value?
Population & Human Health		

Sub-Topic	Objectives	Questions
Population	<ul style="list-style-type: none"> Ensure that new housing to accommodate projected population growth is located sustainably 	<ul style="list-style-type: none"> Is the new housing proposal in a sustainable location?
Degraded Environment	<ul style="list-style-type: none"> Increase the amount of land on the vacant and derelict land register which is brought back into beneficial use. Increase the amount of potentially contaminated sites which are decontaminated through new development. 	<ul style="list-style-type: none"> Does the option bring land on the vacant and derelict land register back into beneficial use? Does the option enable the decontamination of polluted land?
Waste Management and Disposal	<ul style="list-style-type: none"> Ensure that there is a network of modern waste handling facilities available across the Council area to support the staged targets within the Zero Waste Plan. Reduce waste through maximising the reuse, recycling and recovery of resources 	<ul style="list-style-type: none"> Does the option safeguard and/ or improve the network of modern recycling facilities available across the Council area? Does the option maximise the reuse, recycling and recovery of resources?
Access to Open Space, Recreation and Countryside	<ul style="list-style-type: none"> Increase access to Open Space, Recreation and the Countryside Encourage the promotion and connectivity of the Central Scotland Green Network within and linking beyond Falkirk. 	<ul style="list-style-type: none"> Does the option increase access to open space, recreation or the countryside? Does the option encourage the promotion and connectivity of the CSGN?
Open Space Quantity, Quality & Accessibility	<ul style="list-style-type: none"> Ensure that all settlements 5ha/1000 people of open space. Improve the quality of open space Ensure that households are within an acceptable walking distance to different types of open space with reference to the standards set out in the Open Space Strategy. 	<ul style="list-style-type: none"> Does the option result in a loss of open space in a settlement which doesn't have 5ha/1000 people of open space? Does the option result in a loss of open space which would mean that the settlement no longer has an acceptable amount of open space? Does the option improve accessibly to open space?
Noise	<ul style="list-style-type: none"> Reduce the proportion of the population affected by nuisance noise issues. 	<ul style="list-style-type: none"> Does the option reduce the proportion of the population affected by nuisance noise?
Odour	<ul style="list-style-type: none"> Reduce the proportion of the population affected by nuisance odour issues. 	<ul style="list-style-type: none"> Does the option reduce the proportion of the population affected by nuisance odour?
Exposure to Risk of Accidents from Major Hazards	<ul style="list-style-type: none"> Reduce the amount of new development sites which are impacted by HSE consultation zones 	<ul style="list-style-type: none"> Is the option impacted by HSE consultation zones? Is the option likely to increase the proportion of the population impacted by HSE consultation zones?
Soil		

Sub-Topic	Objectives	Questions
Contaminated Land	<ul style="list-style-type: none"> Reduce contamination and safeguard soil quality 	<ul style="list-style-type: none"> Does the option reduce contamination? Does the option safeguard soil quality?
Abandoned Mineral Workings	<ul style="list-style-type: none"> Increase the amount of abandoned mineral workings rehabilitated through the development process 	<ul style="list-style-type: none"> Does the option rehabilitate abandoned mineral workings?
Unstable Land	<ul style="list-style-type: none"> Increase the amount of unstable land remediated through the development process 	<ul style="list-style-type: none"> Does the option remediate unstable land through the development process?
Agricultural Land	<ul style="list-style-type: none"> Reduce the amount of prime quality agricultural land which is allocated for development. Protect prime quality agricultural land 	<ul style="list-style-type: none"> Does the option protect prime agricultural land (class 1, 2 & 3.1)?
Carbon Rich and Rare Soils	<ul style="list-style-type: none"> Protect carbon rich and rare soils 	<ul style="list-style-type: none"> Does the option protect carbon rich soils and other rare soils (basin peat, blanket bog, peat alluvium complex, peaty podzols, peaty gleys, podzols, humus iron podzols and saltings)?
Geodiversity	<ul style="list-style-type: none"> Ensure that Local Geodiversity Sites are afforded a protected status Improve the opportunities for education and interpretation at Local Geodiversity Sites 	<ul style="list-style-type: none"> Does the option impact upon Local Geodiversity Sites? Does the option improve access to and/or improve opportunities for education and interpretation at Local Geodiversity Sites?
Water		
Ecological Status of Waterbodies	<ul style="list-style-type: none"> Protect the water environment Prevent deterioration and enhance the ecological status of waterbodies Prevent deterioration and enhance the status of groundwater bodies Achieve good ecological status Promote sustainable water use 	<ul style="list-style-type: none"> Does the option protect the water environment? Does the option prevent the deterioration of the ecological status of waterbodies? Does the option enhance the status of waterbodies? Does the option prevent the deterioration of the status of groundwater bodies? Does the option enhance the status of groundwater bodies? Does the option promote sustainable water use?
Flooding	<ul style="list-style-type: none"> Reduce overall flood risk Ensure that new development avoids areas of flood risk and safeguards the functional flood plain 	<ul style="list-style-type: none"> Does the option reduce overall flood risk? Does the option avoid areas of flood risk?

Sub-Topic	Objectives	Questions
Air		
Air Quality	<ul style="list-style-type: none"> Keep air pollution below Local Air Quality Management thresholds 	<ul style="list-style-type: none"> Will the option lead to Local Air Quality Management thresholds to be breached?
Exposure to Reduced Air Quality	<ul style="list-style-type: none"> Reduce the proportion of the population affected by reduced air quality. Avoid the designation of new AQMA Avoid breaches of National Air Quality standards 	<ul style="list-style-type: none"> Does the option reduce the proportion of the population affected by reduced air quality? Does the option avoid the designation of new AQMA? Does the option significantly contribute towards a breach in National Air Quality Standards?
Emissions from Motorised Transport	<ul style="list-style-type: none"> Minimise the need to travel by private car and promote sustainable transport modes 	<ul style="list-style-type: none"> Does the option minimise the need to travel by private car? Does the option promote the use of sustainable transport modes?
Climatic Factors		
Greenhouse Gas Emissions	<ul style="list-style-type: none"> Reduce greenhouse gas emissions Promote renewable energy generation; 	<ul style="list-style-type: none"> Does the option promote the sustainable location of development? Does the option increase overall energy efficiency in the built environment? Does the option minimise the carbon footprint of new development? Does the option promote the generation of energy from renewable sources? Does the option safeguard against the increased use of fossil fuels?
Climate Change Adaptation	<ul style="list-style-type: none"> Improve Falkirk's resilience to climate change Reduce overall flood risk in a sustainable way 	<ul style="list-style-type: none"> Does the option increase Falkirk's resilience to climate change? Does the option reduce overall flood risk in a sustainable way?
Material Assets		
Quality of the Built Environment	<ul style="list-style-type: none"> Improve design quality within the built environment. 	<ul style="list-style-type: none"> Will the option improve design quality within the built environment?

Sub-Topic	Objectives	Questions
Transport Network	<ul style="list-style-type: none"> Reduce levels of traffic congestion within the Council area Slow down the rate of traffic growth on the road network. 	<ul style="list-style-type: none"> Will the option reduce levels of traffic congestion within the Council area? Will the option slow down the rate of traffic growth on the road network?
Active Travel Network	<ul style="list-style-type: none"> Protect against the destruction/obstruction of the core path network Improve the quality of the core path network 	<ul style="list-style-type: none"> Will the option protect against the destruction/ obstruction of the Core Path network? Will the option improve the quality of the Core Path network?
Recreation Facilities	<ul style="list-style-type: none"> Improve the provision and distribution of recreation facilities throughout the Council Area 	<ul style="list-style-type: none"> Will the option improve the provision and distribution of recreation facilities across the Council area?
Low and Zero Carbon Energy Generation Capacity	<ul style="list-style-type: none"> Enable the development of low carbon and renewable energy technologies within the Council area. Enable the development of low carbon heat networks within the Council area 	<ul style="list-style-type: none"> Will the option enable the development of low carbon and renewable energy technologies within the Council Area? Will the option enable the development of low carbon heat networks within the Council area?
Primary Resources	<ul style="list-style-type: none"> Safeguard valuable mineral deposits from sterilisation through inappropriate development. Reduce the use of primary resources within the construction process 	<ul style="list-style-type: none"> Will the option safeguard against the sterilisation of valuable mineral resources? Will the option reduce the use of primary resources within the construction process?
Water and Drainage Infrastructure	<ul style="list-style-type: none"> Avoid the need to increase capacity at existing waste water treatment plants Alleviate sewer network capacity constraints 	<ul style="list-style-type: none"> Will the option avoid the need to increase capacity at existing waste water treatment plants? Will the option contribute towards alleviate sewer network capacity constraints?
Cultural Heritage		
Conservation Areas	<ul style="list-style-type: none"> Promote the enhancement of Conservation Areas in line with the associated Conservation Area Management Plan Protect the historic character of Conservation Areas 	<ul style="list-style-type: none"> Will a Conservation Area be adversely impacted?
Listed Buildings	<ul style="list-style-type: none"> Protect the special interest and setting of listed buildings 	<ul style="list-style-type: none"> Will the special interest or setting of any listed building be adversely impacted?
Historic Gardens and Designed	<ul style="list-style-type: none"> Protect the character and setting of sites identified in the Inventory of Gardens and Designed 	<ul style="list-style-type: none"> Will an Inventory Garden and Designed Landscape or its setting be adversely impacted?

Sub-Topic	Objectives	Questions
Landscapes	Landscapes in Scotland <ul style="list-style-type: none"> Protect the historical significance, integrity and condition of other historic gardens and designed landscapes 	<ul style="list-style-type: none"> Will a non-Inventory Garden and Designed Landscape or its setting be adversely impacted?
World Heritage Sites	<ul style="list-style-type: none"> Retain, protect, preserve and enhance the Antonine Wall and its associated archaeology, character and setting. 	<ul style="list-style-type: none"> Does the option retain protect, preserve and enhance the Antonine Wall and its associated archaeology, character and setting?
Scheduled Ancient Monuments	<ul style="list-style-type: none"> Preserve scheduled ancient monuments and other identified nationally important archaeological resources in situ and protect the integrity of their setting 	<ul style="list-style-type: none"> Does the option preserve scheduled ancient monuments and other identified nationally important archaeological resources in situ and protect the integrity of their setting?
Historic Battlefields	<ul style="list-style-type: none"> Promote the sensitive management and interpretation of battlefield sites Preserve the integrity of sites listed on the Inventory of Historic Battlefields 	<ul style="list-style-type: none"> Does the option promote the sensitive management and interpretation of battlefield sites? Does the option preserve the integrity of sites listed on the Inventory of Historic Battlefields?
Landscape		
Green Belt	<ul style="list-style-type: none"> Ensure Green Belts continue to: maintain the separate identity and visual separation of settlements; protect the landscape setting of settlements; and protect and give access to greenspace for recreation. 	<ul style="list-style-type: none"> Does the option maintain the separate identity and visual separation of settlements? Does the option protect the landscape setting of settlements? Does the option protect the greenbelts recreational value and maintain access to it?
Greenfield Land	<ul style="list-style-type: none"> Reduce the proportion of new development which takes place on greenfield land 	<ul style="list-style-type: none"> Does the option involve the development of greenfield land?
Landscape Character and Quality	<ul style="list-style-type: none"> Protect and enhance the distinctive character of the landscape and ensure new development does not exceed the capacity of the landscape to accommodate it. Protect and enhance Special Landscape Areas 	<ul style="list-style-type: none"> Does the option protect and enhance the distinctive character of the landscape? Does the option ensure that new development does not exceed the capacity of the landscape to accommodate it? Does the option protect and enhance Special Landscape Areas?

Scoring

The following scoring system has been applied

Table 2: SEA scoring system

Effect	Annotation
Significant Negative Effect	--
Negative Effect	-
Neutral or negligible effect	N
Unknown effect	?
Positive effect	+
Significant Positive effect	++

Where both positive and negative environmental effects have been recoded for an environmental topic area both are presented within the appropriate column.

For each alternative, a commentary has been added to detail how the conclusions of the environmental assessment have been reached. The following table shows how the significance of environmental effects which have been identified under each topic area has been determined:

Table 3: Examples of environmental effects of different significance

Environmental Effect	--	-	+	++
Environmental Topic				
Biodiversity	<ul style="list-style-type: none"> Adverse impact on an internationally or nationally important nature conservation site (SPA, SAC, RAMSAR, SSSI) Significant degradation in quality of a habitat network Severing of an important habitat network Significant loss of habitat adverse impact on protected species Loss of ancient or semi natural woodland 	<ul style="list-style-type: none"> Loss of habitat Degradation in quality of a habitat network Adverse impact on a locally important nature conservation site (SINC or Wildlife Site) 	<ul style="list-style-type: none"> Creation of new habitat which reinforces existing networks Opportunity to connect up habitat networks Opportunity to enhance and restore existing habitat 	<ul style="list-style-type: none"> Opportunity to connect up significant habitat networks prevent a large scale pollution leak from the Grangemouth petrochemical complex in an extreme flooding event
Population and Human Health	<ul style="list-style-type: none"> a significant increase in population significant cumulative loss of open space significant cumulative increase road traffic noise decrease in the proportion of households with 	<ul style="list-style-type: none"> Loss of open space Increase in road traffic noise Noise/ orodus/dust impact from adjacent land uses. potential to compromise waste handling operations 	<ul style="list-style-type: none"> Enhancement of recreational opportunity Improvement to the quality and connectivity of the green network; creation of new open spaces which address existing deficiencies in access to open space 	<ul style="list-style-type: none"> A significant increase in population; significant enhancement of recreational opportunity; significant improvement to the quality and connectivity of the green network; creation of new

Environmental Effect	--	-	+	++
Environmental Topic				
	<ul style="list-style-type: none"> access to an open space containing a playspace within 400m; decrease in the proportion of households with access to an open space containing a sports area within 800m; reduction of the likely scale of compensation received for the loss of open space; reduction of the extent to which remaining open spaces can have their biodiversity and nature conservation value improved in compensation for the loss of open space; reduction of the extent to which remaining open spaces can have their design and aesthetic quality improved in compensation for the loss of open space; an increase in the population exposed to risk of injury from major hazards and major hazard pipelines. 	<ul style="list-style-type: none"> reducing recreational opportunity; 	<ul style="list-style-type: none"> improvement in the quality and fitness for purpose of existing open space; regeneration of vacant/ derelict land. 	<ul style="list-style-type: none"> open spaces which significantly address existing deficiencies in access to open space; significant improvement in the quality and fitness for purpose of existing open space; regeneration of significant amounts of vacant/ derelict land; increase in the proportion of households with access to public park or garden or amenity space of over 0.2ha within 400m; removal of a current hazardous substances consent and its associated consultation zones; and safeguarding against a large scale pollution leak from the Grangemouth petrochemical complex in an extreme flooding event.
Soil	<ul style="list-style-type: none"> Loss of prime quality agricultural land Loss of rare or nationally important carbon rich soils 	<ul style="list-style-type: none"> Loss of agricultural land Loss of carbon rich soil Adverse impact on a local geodiversity site 	<ul style="list-style-type: none"> Removal of contamination Removal of historic contamination Positive impact on a local geodiversity site 	<ul style="list-style-type: none"> Removal of significant contamination Making safe significant amounts of unstable ground
Water	<ul style="list-style-type: none"> Increase in the population at risk of fluvial or coastal flooding Alteration of coastal processes 	<ul style="list-style-type: none"> Increase in the population at risk of pluvial or canal related flooding Morphological alterations to the water environment Adverse impact on the water environment Culverting of watercourses 	<ul style="list-style-type: none"> River restoration Removal of existing culvert Mitigation of historic water contamination Connecting a private sewage treatment facility to the public sewerage network. Improving the 	<ul style="list-style-type: none"> Reduction of the population at risk of flooding Enhancement of natural flood storage capacity Restoration of natural coastal processes Significant restoration of watercourses

Environmental Effect	--	-	+	++
Environmental Topic				
		<ul style="list-style-type: none"> • Adverse impact on a wetland • Adverse impact on groundwater quality 	<ul style="list-style-type: none"> • water quality of runoff from the road network • improving the quality of effluent being discharged from existing WWTW 	
Air	<ul style="list-style-type: none"> • Significant increase in emissions from transport; • increase in the population exposed to reduced air quality; • increase in traffic and industrial related air pollution within an Air Quality Management Area. 	<ul style="list-style-type: none"> • Increase in emissions from transport 	<ul style="list-style-type: none"> • Decrease in emissions from transport 	
Climatic Factors	<ul style="list-style-type: none"> • Significant Increase in greenhouse gas emissions 	<ul style="list-style-type: none"> • Increase in greenhouse gas emissions 	<ul style="list-style-type: none"> • Decrease in greenhouse gas emissions • Creation of carbon sinks 	<ul style="list-style-type: none"> • Significant decrease in greenhouse gas emissions. • Creation of significant carbon sinks
Material Assets	<ul style="list-style-type: none"> • significantly increase in the use of primary resources in the construction process; • significant increase in traffic on the local and strategic road networks; • reduction of the extent to which active travel networks can be improved in compensation for the loss of open space; • adverse impacts on the local sewerage network; • adverse impacts on the local water supply network; • breaching of the capacity of the local road network; • breaching the capacity of waste water treatment works; • impact on a major 	<ul style="list-style-type: none"> • Degradation/ severing of the active travel network; • Increasing the use of primary resources in the construction process; • Adverse impact on townscape quality; • Increase in traffic on the local road network • Sterilisation of mineral deposits 	<ul style="list-style-type: none"> • Enabling the installation of low and zero carbon generating technology; • Increased capacity to generate energy from captured landfill gas; • Improving townscape quality • Improvement of the active travel network • Improving the capacity of the local sewerage network • Improving the capacity of the local road network • Decreasing traffic on the local road network • Reducing the use of primary resources • Preventing deterioration of townscape character; • minimising the demands on 	<ul style="list-style-type: none"> • significant improvement in the quality of the active travel network; • significant increase in the capacity to generate energy from renewable or low carbon sources; • significant increase in the capacity of the road network; • significant improvement of townscape quality

Environmental Effect	--	-	+	++
Environmental Topic				
	<ul style="list-style-type: none"> • hazard pipeline; • significant adverse impact on townscape quality. • Significant adverse impact on village character 		<ul style="list-style-type: none"> • primary resources needed to establish new waste management facilities 	
Cultural Heritage	<ul style="list-style-type: none"> • adverse impact on an inventory battlefield; • adverse impact on the Antonine Wall World Heritage Site or its setting; • adverse impact on an Inventory Designed Landscape or its setting; • adverse impact on a Scheduled Ancient Monument or its setting; • adverse impact on the setting of the category A listed building or its setting; 	<ul style="list-style-type: none"> • adverse impact on a non-inventory battlefield or its setting; • adverse impact on a non-inventory designed landscape or its setting; • adverse impact on a category B or C(S) listed building. • Adverse impact on a Conservation area or its setting • Adverse impact on an undesignated feature of historical interest or its setting. 	<ul style="list-style-type: none"> • Improving the range of opportunities to interpret the historic environment; • Improving the setting of a listed building. • Potential to restore a category B or C(S) listed building • Preventing deterioration of historic character 	<ul style="list-style-type: none"> • Encouraging development which enhances the quality of the historic environment
Landscape	<ul style="list-style-type: none"> • Significant impact on the landscape setting of a settlement; • Adverse landscape and visual impacts in an area of high sensitivity • Loss of ancient or semi natural woodland 	<ul style="list-style-type: none"> • Adverse landscape and visual impacts in an area of medium or low sensitivity. • Development of greenfield land • Loss of trees/ hedging/ woodland • Loss of landscape features 	<ul style="list-style-type: none"> • Positive change in the landscape 	<ul style="list-style-type: none"> • Significant positive change in the landscape

Alternative	Biodiversity Flora & Fauna	Population & Human Health	Soil	Water	Air	Climatic Factors	Material Assets	Cultural Heritage	Landscape	Assessment commentary	Enhancement/ Mitigation																																																																																																																																																																																																																																																																																																																																																																																																																																																			
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Alternative	Biodiversity Flora & Fauna	Population & Human Health	Soil	Water	Air	Climatic Factors	Material Assets		Cultural Heritage	Landscape	Assessment commentary	Enhancement/ Mitigation
resources											(through improving landscape quality)	
To protect, enhance and promote our historic environment	N	-	N	N	-	-	+	-	++	N	Significant positive effect on cultural heritage (through enhancing the historic environment) and material assets (through enhancing townscape quality). Promoting our historic environment will probably encourage visitors causing negative effects on population and human health, air, climatic factors and material assets (through increasing the number of trips on the road network and the resultant emissions of greenhouse gasses and airborne pollutants)	
MAIN ISSUE 1: MAKING BETTER PLACES – POLICY AND GUIDANCE												
Preferred Option: Consolidate existing design policies into a single placemaking policy based around the six qualities of successful places. Continue to promote the use of a variety of design tools as indicated in Figure**	N	N	N	N	N	N	N	N	N	N	Amalgamation of existing design policies alone is unlikely to have any environmental effect	
Alternative 1: Existing design policies could be continued.	N	N	N	N	N	N	N	N	N	N	Retaining design policies in a disaggregated format is unlikely to have any environmental effects	
MAIN ISSUE 1: MAKING BETTER PLACES - COMMUNITIES AND PLACE												
Preferred Option: Prepare 'place statements' for each settlement which would be adopted as supplementary guidance.	N	N	N	N	N	N	++	++	N	N	Preparing place statements should have a significant positive effect on material assets (through encouraging development which enhances townscape quality) and cultural heritage (through encouraging development which enhances the quality of the historic environment)	

Alternative	Biodiversity Flora & Fauna	Population & Human Health	Soil	Water	Air	Climatic Factors	Material Assets	Cultural Heritage	Landscape	Assessment commentary	Enhancement/ Mitigation
Alternative 1: Continue the current approach of promoting placemaking through topic based policies and guidance, and site-specific briefs and masterplans.	N	N	N	N	N	N	+	+	N	This will have similar environmental effects to those identified above, although they will be of a lesser magnitude.	
MAIN ISSUE 2: GREEN NETWORK – CENTRAL SCOTLAND GREEN NETWORK AND FALKIRK GREENSPACE											
Preferred Option: The CSGN/Falkirk Greenspace will continue to be spatially defined in terms of the components and corridors identified in LDP1. An updated set of specific green network opportunities will be promoted as highlighted in Figure 3.2.	+	++	++	+	-	-	+	-	+	The spatial definition of the green network doesn't have any specific environmental effects in itself. <ul style="list-style-type: none"> The effects of the suite of green network opportunities are as follows: Habitat enhancement opportunities (1-5, 9-12, 18, 20, 24 & 25) are all likely to lead to a significant positive effect on biodiversity (through enhancement, restoration and creation of habitat and enlargement and improvement of existing habitat networks) Landscape enhancement opportunities (1,2,4,6-10, 14,15,18,19,21, 25 & 26) could lead to a significant positive effect on biodiversity (through improve, extend and connect up existing habitat networks through introduction of new woodland planting) and landscape (through positive landscape change) and a positive effect on biodiversity (through new habitat creation) population and human health and material assets (through creation of new path networks) and climatic factors (through creation of new carbon sinks) The Bonnyfield expansion (20) opportunity could have significant positive effects on biodiversity (through expansion of the wetland habitat network in and around Parkfoot Marsh Wildlife Site) The John Muir Trail, River Carron Corridor Improvements, Black Loch Access and River Avon Corridor (1,5,13 & 18) opportunities have the potential for significant negative effects on biodiversity (through disturbance of the qualifying interests of the Firth of Forth and Slamannan Plateau SPA and River Teith SAC, increased risk of pollution feeding into the Firth of Forth SPA, loss of habitat at Black Loch Moss SAC) The Braes Wetland and Peatland Restoration (12) opportunity could have a significant negative effect on biodiversity (through disturbance of the qualifying features of the Slamannan Plateau SPA) The John Muir Trail and River Carron Corridor Improvements (1 & 5) opportunities could lead to significant negative effects on biodiversity (through adverse impact on the Howierig Muir, Carron Glen and Firth of Forth SSSI) and negative effects on biodiversity (through adverse impacts on the Forth and Clyde Canal, 	Proposed enhancement measures are as follows: <ul style="list-style-type: none"> Where possible opportunities to enlarge, improve and connect up existing habitat networks should be explored to ensure significant positive effects on biodiversity. Proposed mitigation measures are as follows: <ul style="list-style-type: none"> Appropriate assessment should be carried out at opportunities 1-3,5,12,13 & 18 to ensure that they do not have an adverse effect on the integrity of the Firth of Forth and Slamannan Plateau SPA or the River Teith and Black Loch Moss SAC to mitigate significant negative effects on biodiversity. Path creation/ upgrading proposals at opportunities 1 & 5 should be undertaken sensitively to avoid adverse impact on the Howierig Muir, Carron Glen and Firth of Forth SSSI; Forth and Clyde Canal, Callendar Wood, Westquarter Glen, Kinneil Estate, Bo'ness Foreshore, Carriden Wood, Camelon Riverside and Roughcaste Wildlife Sites; Kinneil Local Nature Reserve; and Union Canal, Hallglen Haven; Carron Meander and Bantaskine Estate SINC to mitigate significant and non - significant negative effects on biodiversity. Any new bridge over the Carron as part of opportunity 5 should take care not to modify the existing river bank to mitigate negative effects on water Upgrading of visitor facilities at Kinneil Estate should be undertaken sensitively to avoid negative effects on the setting of the Antonine Wall WHS and the non-inventory designed landscape and the listed buildings within it to mitigate significant negative effects on cultural heritage; Enhancement opportunities at Lionthorn Policy Bing should be undertaken sensitively to avoid negative effects on the Battle of Falkirk Battlefield Site to mitigate significant negative effects on

Alternative	Biodiversity Flora & Fauna	Population & Human Health	Soil	Water	Air	Climatic Factors	Material Assets	Cultural Heritage	Landscape	Assessment commentary	Enhancement/ Mitigation
										<p>Callendar Wood, Westquarter Glen, Kinneil Estate, Bo'ness Foreshore, Carriden Wood, Camelon Riverside and Roughcaste Wildlife Sites; Kinneil Local Nature Reserve; and Union Canal, Hallglen Haven; Carron Meander and Bantaskine Estate SINC)</p> <ul style="list-style-type: none"> The Kinneil Kerse and Bothkennar/Skinflats (2 & 3) opportunities could have a significant negative effect on biodiversity (through disturbance of the qualifying interests of the Firth of Forth SPA and River Teith SAC) but could also have a significant positive effect on water (through the restoration of natural coastal processes and reduction of coastal flood risk) The urban corridor proposals at Bo'ness, Polmont, Larbert and Portdownie/ Falkirk Canal Corridor (10,11,16 & 21) are likely to lead to a significant positive effect on biodiversity (through improvement to the ecological function of existing open space and through connecting up existing habitat networks) and population and human health (through improvement to the quality and fitness for purpose of existing open space) Access improvement opportunities (1,3,5-7,9-11,13-22 & 24-26), will lead to a significant positive effect on population and human health and material assets (through creation of new and improvement existing of path networks leading to enhanced recreational opportunity) The East Falkirk Open Space Corridor (7) opportunity is likely to lead to significant positive effects on population and human health (through creation of a substantial area of new open space which improves the connectivity of urban Falkirk to the Falkirk/Grangemouth component of the green network). Opportunities at the John Muir Trail; The Helix; Kinneil Estate; Torwood; Muiravonside; Zetland Park; Callendar Park and Wood and the Antonine Wall Trail (1,6,9,14,19 & 24-27) will involve the upgrading of visitor facilities to enhance the tourism potential of the sites, this could lead to a significant positive effect on material assets. However it may also lead to more people travelling to these recreational nodes from outwith the local area leading to a consequential increase in emissions from transportation leading to a negative effect on air, climatic factors and material assets. An improvement of facilities at these sites should encourage people to get involved in outdoor recreation leading to a positive effect on population and human health The Carse Peatland Restoration and Braes Wetland and Peatland Restoration (4 & 12) opportunities are likely to have a significant positive effect on soil and climatic factors (through creation of carbon rich soil and sequestration of carbon dioxide) and water (through enhancement of natural flood storage capacity) The River Carron Corridor (5) has the potential to have a negative effect on water (through morphological alterations to the River Carron caused by a new footbridge) The opportunities at the John Muir Trail and Lionthorn Policy Bing (1 & 8) could have a significant negative effect on cultural heritage (through causing an adverse impact on the Battle of Falkirk Battlefield Site) The opportunities at the John Muir Trail; Kinneil Estate; Callendar Park and Wood 	<p>cultural heritage</p> <ul style="list-style-type: none"> Path creation/upgrading proposals at opportunity 1 should be undertaken sensitively to avoid an adverse impact on the Antonine Wall WHS or its setting and the Battle of Falkirk Battlefield Site to mitigate significant negative effect on cultural heritage Path creation/upgrading proposals at opportunity 18 should be undertaken sensitively to avoid an adverse impact on the Antonine Wall WHS or its setting to mitigate significant negative effect on cultural heritage

Alternative	Biodiversity Flora & Fauna	Population & Human Health	Soil	Water	Air	Climatic Factors	Material Assets	Cultural Heritage	Landscape	Assessment commentary	Enhancement/ Mitigation
										<p>and the Antonine Wall trail (1,9, 25 & 26) could have a significant negative effect on cultural heritage (through causing an adverse impact on the setting of a Antonine Wall WHS) and but could also have a positive effect on cultural heritage (through improving the range of interpretation opportunities along the Antonine Wall)</p> <ul style="list-style-type: none"> The opportunities at the John Muir trail; Callendar Park and Wood and the Antonine Wall Trail (1,25 & 26) could have a significant negative effect on cultural heritage (through causing an adverse impact on the Inventory designed landscape and the listed buildings within it) The opportunities at the John Muir Tail; Kinneil Estate and the Antonine Wall Trail (1, 9 & 26) could have a negative effect on cultural heritage (through causing an adverse impact on the non-inventory designed landscape and the listed buildings within it) The River Avon Corridor (18) opportunity could have significant negative effects on cultural heritage (through causing an adverse impact on the Antonine Wall WHS and its setting) 	
<p>Alternative 1: A review of the spatial extent of the CSGN/Falkirk Greenspace could have been undertaken focussing only on the NPF3 priorities of derelict land; disadvantaged communities and active travel</p>	+	-	+?	+?	+	-	-	+	-	<p>Reviewing the spatial extent of Falkirk Greenspace in this way would be likely to mean that a number of the proposed habitat enhancement, landscape enhancement, climate change related and placemaking opportunities were not pursued.</p> <p>In general this would mean that the number and magnitude of significant positive and significant effects would reduce.</p>	
MAIN ISSUE 2: GREEN NETWORK - GREEN INFRASTRUCTURE AND NEW DEVELOPMENT											
<p>Preferred Option: Prepare consolidated supplementary guidance on incorporating green infrastructure into new development.</p>	N	N	N	N	N	N	N	N	N	<p>Consolidating current guidance into a green infrastructure SG unlikely to have any environmental effect</p>	

Alternative	Biodiversity Flora & Fauna	Population & Human Health	Soil	Water	Air	Climatic Factors	Material Assets	Cultural Heritage	Landscape	Assessment commentary	Enhancement/ Mitigation
Alternative 1: Continue to provide separate guidance on the different types of green infrastructure	N	N	N	N	N	N	N	N	N	Retaining separate guidance on different types of green infrastructure is unlikely to have any environmental effects	
MAIN ISSUE 2: GREEN NETWORK - OPEN SPACE											
Preferred Option: 1. Amend open space policies and supplementary guidance to reflect revised open space standards and other changes to the Open Space Strategy. 2. Review the policy and guidance on compensation payments for the loss of open space to achieve a more proportionate approach.	--	+ +	- -	N	N	N	N	--	N	<p>The revised open space standards in the Open Space Strategy which will need to be transposed into open space policies and supplementary guidance relate to:</p> <ol style="list-style-type: none"> An increased maximum walking distance threshold to an open space containing a playspace; An increased maximum walking distance threshold to an open space containing a sports area; Introducing a minimum sized threshold for parks and amenity space when assessing them against the accessibility standard; and Introducing a new minimum standard of equipment to be provided in new playspaces with an exemption for teen provision where residential amenity may be affected. <p>The environmental effects of these were assessed in the Environmental Report of the draft Open Space Strategy and can be summarised as follows:</p> <ol style="list-style-type: none"> cumulatively significant negative effects on population and human health (through decreasing the proportion of households with access to an open space containing a playspace within 400m) cumulatively significant negative effects on population and human health (through decreasing the proportion of households with access to an open space containing a sports area within 800m) cumulatively significant positive effects on population and human health (through increasing the proportion of households with access to public park or garden or amenity space of over 0.2ha within 400m) significant positive effects on population and human health (through increasing participation in outdoor recreation and improving the fitness for purpose of open spaces containing a playspace) <p>Reviewing the policy and guidance on compensation payments for the loss of open space is likely to have cumulatively significant negative effects on population and human health (through reducing the overall amount of open space and reducing the extent to which remaining open space can be improved in compensation for the loss of open space) biodiversity (through reducing the extent to which remaining open space can have its biodiversity and nature conservation value improved in compensation for the loss of open space) and material assets (through reducing the extent to which remaining open space can have its design and aesthetic quality improved and active</p>	<p>The revised open space standards have been set through the review of the Open Space Strategy. It is the LDP's role to transpose these into planning policy not to review their appropriateness. No mitigation of the significant environmental effects of them is therefore proposed.</p> <p>The cumulatively significant negative effects of reviewing the policy and guidance on compensation payments for the loss of open space can be mitigated by setting quite restrictive criteria for the circumstances where compensation for the loss of open space will not be sought thereby reducing the amount of open space and money for the improvement of other open space lost.</p> <p>The only way of avoiding the significant negative effects of reviewing this policy is not to review it in the first place.</p>

Alternative	Biodiversity Flora & Fauna	Population & Human Health	Soil	Water	Air	Climatic Factors	Material Assets	Cultural Heritage	Landscape	Assessment commentary	Enhancement/ Mitigation
										travel networks can be improved in compensation for the loss of open space)	
<p>Alternative 1: Change the policy on developer contributions so that the scale of contributions is dependent on the quality and accessibility of local open space, rather than being purely related to the scale of the residential development.</p>	-	-	N	N	N	N	-	N	N	<p>The current policy on developer contributions requires all new residential development of 4 units or more to contribute towards open space provision either through direct provision on site or through financial contributions to the provision or improvement of off-site open space.</p> <p>Making this policy more discretionary based on the relative quality and accessibility of local open space would be likely to have cumulatively significant negative effects on biodiversity (through reducing the extent to which existing open space can have its biodiversity and nature conservation value improved in lieu of provision of new open space) population and human health (through reducing the overall amount of new open space delivered through development and reducing the extent to which existing open spaces can be improved in lieu of provision of new open space) and material assets (through reducing the extent to which existing open space can have its design and aesthetic quality improved and active travel networks can be improved in lieu of provision of new open space)</p>	
MAIN ISSUE 2: GREEN NETWORK – FORESTRY AND WOODLAND											
<p>Preferred Option: Continue the existing policy on trees, woodland and hedgerows, but with appropriate reference to the Falkirk Forestry and Woodland Strategy as a key guidance on future woodland management and expansion in the area.</p>	-	N	N	N	N	N	N	N	N	<p>The trees woodland and hedgerow policy in LDP1 was policy GN04. This policy was predicted to safeguard against cumulatively significant negative effects on biodiversity and landscape (caused by the loss of trees woodland and hedgerows). Neutral effects on landscape were predicted (as trees or hedgerows of amenity value will be normally be replaced). Negative effects on biodiversity were predicted (as replacement planting is not insisted on where felling is detrimental to nature conservation interests)</p> <p>Including a reference to the Falkirk Forestry and Woodland Strategy as a key guidance on future woodland management and expansion in the area is unlikely to have any environmental effects in itself</p>	<p>The trees woodland and hedgerows policy could be altered to state that where development is permitted which will involve the loss of trees or hedgerows of landscape, amenity, nature conservation or recreational value, the Council will require replacement planting or the payment of a commuted sum to be used by the Council to provide replacement planting. This would safeguard against negative effects on biodiversity.</p> <p>The Falkirk Forestry and Woodland Strategy aims to support the delivery of 850ha of new woodland between 2015 and 2055. To deliver this would require a significant increase in the rate of new woodland planting. A more effective method of increasing the rate of new woodland planting would be to identify specific woodland planting related green network opportunities which new developments could then help to deliver.</p>

Alternative	Biodiversity Flora & Fauna	Population & Human Health	Soil	Water	Air	Climatic Factors	Material Assets	Cultural Heritage	Landscape	Assessment commentary	Enhancement/ Mitigation
Alternative 1: Maintain the existing policy on trees, woodland and hedgerows, with no reference to the Falkirk Forestry and Woodland Strategy.	-	N	N	N	N	N	N	N	N	Identical environmental effects to the preferred option above are predicted.	
MAIN ISSUE 2: GREEN NETWORK - PROTECTED HABITATS											
Preferred Option: 1. Review and update the list of locally designated sites (Wildlife Sites, Sites of Importance for Nature Conservation and Geodiversity Sites) through the LDP2 preparation process based on criteria already established in supplementary guidance	-	N	-	N	N	N	N	N	N	Reviewing and updating the list of locally designated sites should allow currently undesignated sites of significant ecological or geodiversity value to be protected, however, current policy on protected biodiversity and geodiversity sites still allows negative effects to occur on locally designated sites where they are clearly outweighed by social or economic benefits of substantial local importance so negative effects on biodiversity and soil could still occur	The policy on biodiversity and geodiversity in the Proposed Plan could be tightened to rule out significant negative effect on important species, habitats and geodiversity sites in any circumstances. Only proposals where mitigation can be designed to reduce the level of impact to an acceptable level (in consultation with the Council and SNH) will be supported.
Alternative 1: Review locally designated sites through the preparation of supplementary guidance, rather than the LDP itself.	N	N	N	N	N	N	N	N	N	Reviewing and updating the list of locally designated sites should allow currently undesignated sites of significant ecological or geodiversity value to be protected safeguarding against negative effects of biodiversity and soil . The effects will be the same whether these are reviewed the LDP2 or through subsequent supplementary guidance.	
MAIN ISSUE 3: HOUSING TARGETS AND REQUIREMENTS – HOW MANY HOMES?											

Alternative	Biodiversity Flora & Fauna	Population & Human Health	Soil	Water	Air	Climatic Factors	Material Assets	Cultural Heritage	Landscape	Assessment commentary	Enhancement/ Mitigation
Preferred Option – 480 Homes per annum with a 15% flexibility allowance	+ +	+ +	+ +	+ +	- -	+ +	+ +	+ +	+ +	This would involve a requirement to identify land for 5520 homes in the 2020-2030 period For the initial period of the plan, this would rely on existing regeneration initiatives and commitments, augmented by some modest settlement expansions, utilising smaller sites that make use of spare infrastructure capacity and are easier to deliver. More substantial releases are likely to be needed in the period 2024-2034. As detailed in the preferred vision above any growth strategy is likely to have a range of significant positive and negative effects in all environmental areas.	Sites for housing growth should be selected with the aim of avoiding or minimising significant negative effects and enhancing significant positive effects.
Alternative 1 – 480 Homes per annum with a 20% flexibility allowance	+ +	+ +	+ +	+ +	- -	+ +	+ +	+ +	+ +	Increasing the housing land supply by 240 homes is likely to increase the number and magnitude of environmental effects but specific environmental effects would depend on the sites selected to make up the increased housing land supply.	Additional housing sites selected should be the ones with the greatest environmental benefits and the least significant negative effects.
Alternative 2 – 480 Homes per annum with a 10% flexibility allowance	+ +	+ +	+ +	+ +	- -	+ +	+ +	+ +	+ +	Decreasing the housing land supply by 240 homes is likely to decrease the number magnitude of environmental effects but specific environmental effects would depend on the sites selected for deletion.	Sites selected for deletion should be those with the most significant negative environmental effects and the least significant positive environmental effects.
MAIN ISSUE 3: HOUSING TARGETS AND REQUIREMENTS – AFFORDABLE AND SPECIAL NEEDS HOUSING											
Preferred Option: The current policy of requiring private housing sites to contribute to affordable and special needs housing, based on a two tier quota system, would be continued.	N	-	N	N	+	+	+	N	N	Affordable housing need is assessed as 211 homes per year. The affordable housing policy in LDP1 was policy HSG02. The environmental effects of this policy were assessed as follows: Environmental effects are caused primarily by the location of housing rather than the tenure or type of housing. Provision of affordable housing means that, in theory, people will be able to live closer to where they want to live which should reduce the need to travel to a place of employment or to visit family and friends, as such positive effects are predicted on air, climatic factors and material assets (through reduction in traffic generation and consequential decrease in air pollution, greenhouse gas emissions and traffic congestion). Affordable housing is also more likely to comprise flatted development than open market housing. As flats are required to provide less open in association with new development than houses a negative effect on population and human health is predicted as the amount of new open space created in association with new development will be less	
Alternative 1: The affordable housing policy could be relaxed by raising the threshold above which it is applied.	N	-	N	N	+	+	+	N	N	This alternative would have the same positive and negative effects as above but of a slightly lesser magnitude	
Alternative 2: The affordable	N	-	N	N	+	+	+	N	N	This alternative would the same effect on air, climatic factors and material assets as the preferred alternative as people are not currently prevented from living in areas	

Alternative	Biodiversity Flora & Fauna	Population & Human Health	Soil	Water	Air	Climatic Factors	Material Assets	Cultural Heritage	Landscape	Assessment commentary	Enhancement/ Mitigation
housing policy could be relaxed by removing the requirement to contribute to affordable housing in communities where there is less of an affordability issue.										where there is less of an affordability issue. This alternative would have a slightly less negative effect on population and human health as slightly less flatted development would come forward under this alternative than the preferred option and therefore it could be expected that new housing would deliver slightly more new open space in areas where there was less of an affordability issue.	
MAIN ISSUE 4: EXISTING HOUSING LAND SUPPLY AND STALLED SITES											
Preferred Option: De-allocate Strategic Growth Areas at Bo'ness Foreshore and Slamannan, sites at East Bonnybridge and Kilsyth Road, Haggs, and selected sites in the Braes villages.	N	N	N	N	N	N	N	N	N	The de-allocation of sites won't have any environmental effects in itself however the positive and negative effects caused by the development of these sites will no longer occur.	
Alternative 1: Other sites which are not currently progressing and have high development costs, e.g. Portdownie and Whitecross, could be de-allocated, based on a more pessimistic view of their long term viability.	N	N	N	N	N	N	N	N	N	The de-allocation of sites won't have any environmental effects in itself however the positive and negative effects caused by the development of these sites will no longer occur.	
MAIN ISSUE 5: SUSTAINABLE COMMUNITY GROWTH – BO'NESS											

Alternative	Biodiversity Flora & Fauna	Population & Human Health	Soil	Water	Air	Climatic Factors	Material Assets	Cultural Heritage	Landscape	Assessment commentary	Enhancement/ Mitigation
<p>Preferred Option: Promote a new SGA through release of green belt at Crawfield Road (site 102), to replace the de-allocated Bo'ness Foreshore (site 63). Continue to focus on delivering the Bo'ness South East SGA (sites 1, 2, 3, 64) including increased housing content within Drum South (site 64) and a neighbourhood centre to serve the wider Drum development. Retain the Bo'ness Foreshore Strategic Growth Area as a long term aspiration</p>	+	+	+	+	-	-	+	+	-	<ul style="list-style-type: none"> Development of these sites could deliver approximately 1805 new houses. Between 2001 and 2014 each new house built in Bo'ness increased the population by 0.83 people. At those rates 1805 new houses could be expected to increase the population by 1498 people which would equate to a 10.3% population increase from mid 2014 population estimates (14,587). The average household size in the Council area is 2.26 people per household. At those rates 1805 new houses could be expected to increase the population by 4079 people which could equate to a 28.0% population increase. Development of the Drum Farm North, Kinglass Farm 1, Bo'ness Foreshore, Crawfield Road and Links Road (001,002, 063,102 & 198) sites could have a significant positive effect on biodiversity (due to potential to connect up fragmented habitat networks) Development of the Drum Farm South site (064) could have a positive effect on biodiversity (due to creation of new habitat) Development of the Drum Farm North site and the South Street/ Main Street (001 & 004) sites could have a significant negative effect on biodiversity (due to potential impact on legally protected species) Development of the Drum Farm North, Kinglass Farm 1, Bo'ness Foreshore, Crawfield Road and Links Road (001,002, 063,102 & 198) sites could have a negative effect on biodiversity (due to potential loss of mature woodland and hedgerow habitat) Development of the Bo'ness Foreshore and Links Road (063 & 198) sites could have negative effects on biodiversity (through severing the broadleaved woodland habitat network) Development at Bo'ness Foreshore (063) site could result in significant positive effect on population and human health and soil (through removal of contaminated silts in the harbour and remediation of contaminated land along the foreshore); and positive effects on cultural heritage (through enabling the reuse of the redundant category C listed harbour) However, development could also have significant negative effects on biodiversity (due to potential disturbance of qualifying species of the adjacent Firth of Forth SPA during operation and construction and the River Teith SAC during construction) biodiversity, population and human health and water (through the potential to disturb mobilised contaminants in harbour silt by dredging) and population and human health (through increasing the population at risk of injury from major hazards), and negative effects on biodiversity (through severing the broadleaved woodland habitat network) population and human health (through loss of open space) and cultural heritage (through adverse impact on the category C listed harbour) Development of the Crawfield Road (102) site could have positive effects on: population and human health (by providing a new sports area which addresses an existing deficiency in access to open space) soil (due to potential to remediate historical contamination) and water (due to potential to promote watercourse restoration and potential to reduce surface water flooding); a significant negative effect on biodiversity (due to a potential loss of Firth of Forth SPA supporting 	<ul style="list-style-type: none"> Development proposals at the Bo'ness Foreshore (063) site should be accompanied by an appropriate assessment which demonstrates that development can take place without having an adverse effect on the integrity of the Firth of Forth SPA or the River Teith SAC to mitigate significant negative effects on biodiversity Further survey work required at the Crawfield Road (102) site to determine whether or not the land acts as supporting habitat to the Firth of Forth SPA. If it does then a project based appropriate assessment will be required which demonstrates that the development of the site will not have an adverse effect on the integrity of the site. This should mitigate significant negative effects on biodiversity Development of the Crawfield Road (102) site should incorporate a substantial strip of habitat/greenspace between development and the SWT reserve to avoid significant negative effects on biodiversity Development of the Bo'ness Foreshore and Links Road (063 & 198) sites should avoid severing the broadleaved woodland habitat network to mitigate negative effects on biodiversity Protected species checks should be carried out at the Drum Farm North and South Street/ Main Street (1 & 4) sites to mitigate significant negative effects on biodiversity Development of the Drum Farm North, Kinglass Farm 1, Bo'ness Foreshore, Crawfield Road and Links Road (001,002, 063,102 & 198) sites should explore opportunities to link up fragmented habitat networks through on site habitat creation to ensure significant positive effects on biodiversity. Development of the Crawfield Road (102) site should include the creation of new open space containing sports area to ensure positive effects on population and human health. Development of the Kinglass Farm 2, South Street/Main Street, Cadzow Avenue, Union Street and Links Road (003 -006 & 198) sites provide financial contributions towards the improvement of existing open space to ensure positive effects on population and human health Development of the South Street/ Main Street, Union Street and Bo'ness Foreshore (004, 006 & 063) sites should avoid unacceptably increasing the population at risk of injury from major hazards to mitigate significant negative effects on population and human health Development of the Bo'ness Foreshore (063) site should investigate and safely remove sources of historic contamination to ensure significant positive effects on population and human

Alternative	Biodiversity Flora & Fauna	Population & Human Health	Soil	Water	Air	Climatic Factors	Material Assets	Cultural Heritage	Landscape	Assessment commentary	Enhancement/ Mitigation
										<p>habitat and potential adverse effect on SWT reserve at Bo'mains meadow which is a SSSI) and landscape (due to adverse landscape/ visual impact in an area of high landscape sensitivity and significant impact on the landscape setting of Bo'ness) and negative effects on water (due to potential to adversely impact on the water environment)</p> <ul style="list-style-type: none"> • Development of the Kinglass Farm 2, South Street/Main Street, Cadzow Avenue, Union Street and Links Road (003 -006 & 198) sites could have a positive effect on population and human health (due to improving the quality of existing open space) • Development of the Drum Farm North, Kinglass Farm 1, Bo'ness Foreshore, Drum Farm South and Crawfield Road (001,002,064 & 102) sites could have cumulatively significant positive effects on population and human health (due to creation of new open space and improving the connectivity of the green network) • Development of the Cadzow Avenue, Union Street and Links Road (005, 006 & 198) sites will have a positive effect on population and human health, soil and material assets (due to regeneration of vacant/derelict land, removal of historic contamination and improvement of townscape vale) • Development of the South Street/ Main Street, Union Street and Bo'ness Foreshore (004, 006 & 063) sites could have a significant negative effect on population and human health (through increasing the population at risk of injury from major hazards) • Development of the Drum Farm North site (001) could have positive effects on soil (through making safe unstable ground) • Development of the Drum Farm North, Kinglass Farm 1, Kinglass Farm 2, Drum Farm South and Crawfield Road (001-003,064 & 102) sites could have would have significant negative effects on soil (through loss of prime quality agricultural land) • Development of the Kinglass Farm 1, South Street/Main Street, Union Street, Bo'ness Foreshore, Drum Farm South and Crawfield Road (002, 004,006,063, 064 & 102) sites could have significant negative effects on water (due to potential for on-site flood risk) • Development of the Kinglass Farm 1 (002) site could have a negative effect on water (due to potential adverse impact on the water environment caused by culverting of small on site watercourses) • Development of the South Street/ Main Street, Union Street , Bo'ness Foreshore and Links Road (004,006, 063 & 198) sites could have a significant positive effect on cultural heritage (due to significant improvement to the townscape within conservation area) Development of the Links Road (198) site could have a negative effect on cultural heritage (due to adversely impacting on the setting of the category B listed Ballantine Bo'ness Iron Company Warehouse and Pattern Shop and the Bo'ness Town Centre Conservation Area) • Development of the Drum Farm North, Kinglass Farm 1, Kinglass Farm 2, South Street/Main Street, Cadzow Avenue, Union Street, Bo'ness Foreshore, Drum Farm South, Crawfield Road and Links Road (001-006, 063, 064, 102 & 198) sites could have a positive effect on material assets (by increasing the amount of LZCGT) 	<p>health and soil and mitigate significant negative effects on biodiversity, population and human health and water</p> <ul style="list-style-type: none"> • Development of the Cadzow Avenue, Union Street, Crawfield Road and Links Road (005, 006, 102 & 198) sites should investigate and remediate potential sources of historic contamination to ensure positive effects on soil. • Development of the Drum Farm North (001) site should investigate potentially unstable ground and make it safe to ensure positive effects on soil • Flood Risk assessments should be carried out at the Kinglass Farm 1, Bo'ness Foreshore, Drum Farm South and Crawfield Road (002, 063,064 & 102) sites and areas subject to flooding should not be built on to mitigate significant negative effects on water. • Development of the Crawfield Road (102) site should explore opportunities for watercourse restoration to ensure positive effects on water. • Development of the Crawfield Road (102) site should be accompanied by a drainage strategy and should investigate opportunities to reduce existing flood risk on Crawfield Road to ensure positive effects and mitigate negative effects on water. • Development of the Drum Farm North, Bo'ness Foreshore, Drum Farm South and Crawfield Road (001, 063, 064 & 198) sites should ensure that heat demand is met through district heating networks (subject to the outcomes of a feasibility statement) to mitigate negative effects on climatic factors; • Development of the Drum Farm North, Kinglass Farm 1, Kinglass Farm 2, South Street/Main Street, Cadzow Avenue, Union Street, Bo'ness Foreshore, Drum Farm South, Crawfield Road and Links Road (001-006, 063, 064, 102 & 198) sites should incorporate on site LZCGT to ensure positive effects on material assets. • Development of the Drum Farm North, Kinglass Farm 1, South Street/Main Street, Union Street Bo'ness Foreshore, Drum Farm South, Crawfield Road & Links Road (001,002,004, 006, 063, 064,102 & 198) sites should improve the quality of the active travel network to ensure positive effects on material assets. • Development of the South Street/ Main Street, Union Street , Bo'ness Foreshore and Links Road (004,006, 063 & 198) sites should be undertaken sensitively to avoid adversely impacting on the setting of the Bo'ness Town Centre Conservation area to mitigate negative effects on cultural heritage • Development at the Bo'ness Foreshore site should secure the re-use and avoid adversely impacting on the redundant category C listed harbour to ensure positive effects and mitigate negative

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										<p>negative effect on population and human health (due to marginally increased traffic noise impact) air (due to increase in emissions from transport) climatic factors (due to increased release of greenhouse gasses) material assets (due to increased use of primary resources in the construction process and increased traffic on the local road network)</p> <ul style="list-style-type: none"> Development of the Drum Farm North, Kinglass Farm 1, South Street/Main Street, Union Street Bo'ness Foreshore, Drum Farm South, Crawfield Road & Links Road (001,002,004, 006, 063, 064,102 & 198) sites could have cumulatively significant positive effects on material assets (due to improvement of the active travel network) Development of the Drum Farm North , Kinlass Farm 1, Kinglass Farm 2 and Drum Farm South (001-004) sites could have a negative effect on landscape (due to the development of greenfield land) Development of the SouthStreet/ Main Street (004) site could have a negative effect on landscape (due to loss of street trees and a hedge) 	<p>effects on cultural heritage.</p> <ul style="list-style-type: none"> Development of the Links Road site should be undertaken sensitively to avoid adversely impacting on the setting of the category B listed Ballantine Bo'ness Iron Company Warehouse and Pattern Shop to mitigate negative effects on cultural heritage. Significant negative effects on landscape at the Crawfield Road site can be partially mitigated by: retaining all existing structure shelterbelt planting and existing boundary trees / hedgerows; and establishing substantial screen / structure planting around full boundary of area and internally in advance of any development as part of an approved master plan. The highest, most elevated part of the site in the south east is not appropriate for development.
<p>Alternative 1: Extend the Bo'ness South East SGA to include land at North Bank Farm (site 103), involving green belt release</p>	+	-	+	-	+	-	+	-	N	<ul style="list-style-type: none"> Development of this site could deliver an additional 200 houses. At a rate of 0.83new people per house this could increase the population of Bo'ness by 166 people. Development of the North Bank Farm (103) site would have a positive effect on biodiversity (due to opportunity to improve the function and connectivity of the habitat network) population and human health (due to improvement and expansion of the green network) soil (due to potential to remediate historical contamination and make safe unstable ground) water (due to potential to promote watercourse restoration and to reduce surface water flooding) and material assets (due to an increase in the amount of LZCGT); a significant negative effect on biodiversity (due to potential for adverse impact on legally protected species and potential loss of Firth of Forth SPA supporting habitat) soil (due to loss of prime quality agricultural land) water (due to potential for flood risk) and landscape (due to adverse landscape/ visual impact in an area of high landscape sensitivity and significant impact on the landscape setting of Bo'ness) and a negative effect on population and human health (due to marginally increased traffic noise and possible odours from agricultural buildings) water (due to potential to adversely impact on the water environment) air (due to increase in emissions from transport) climatic factors (due to increased release of greenhouse gases) and material assets (due to increased use of primary resources in the construction process and increased traffic on the local road network) 	<ul style="list-style-type: none"> Protected species checks should be carried to mitigate significant negative effects on biodiversity. Development of the site should explore opportunities to link up fragmented habitat networks through on site habitat creation to ensure positive effects on biodiversity. A flood risk assessment should be carried out and areas subject to flooding should not be built on to mitigate significant negative effects on water. Existing boundary hedgerows should be retained; robust native broadleaf buffer planting should be provided to delineate the limit of urban development / rural area, along full S and full E boundary; internal structure planting that provides habitat linkage to existing woodland to N and additional access opportunities should be provided. The southern part of the development site is not appropriate for development due to its elevated skyline character. No development should take place above the existing upper contour of the adjacent Kinglass Farm site. This should partially mitigate significant negative effects on landscape.
<p>Alternative 2: New SGA to the east of the town at Carriden/ Muirhouses (sites 104,105)</p>	+	-	+	-	+	-	+	-	--	<ul style="list-style-type: none"> Development of these sites could deliver an additional 450 houses. At a rate of 0.83 new people per house this could increase the population of Bo'ness by 374 people. Development of the Carriden Brae North and East Muirhouses (104 & 105) sites could have a positive effect on biodiversity (due to potential to improve the quality and function of the habitat network) soil (due to potential to remediate historical contamination and make safe unstable ground) water (due to potential open up a culverted watercourse and promote watercourse restoration) material assets (due to an increase in the amount of LZCGT) a significant negative effect on biodiversity 	<ul style="list-style-type: none"> Protected species checks should be carried out at both sites to mitigate significant negative effects on biodiversity. Further survey work required at the both sites to determine whether or not the land acts as supporting habitat to the Firth of Forth SPA. If it does than a project based appropriate assessment will be required which demonstrates that the development of the site will not have an adverse effect on the integrity of the site. This should mitigate significant negative

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										<p>(due to potential adverse impact on legally protected species and through loss of potential Firth of Forth SPA supporting habitat) population and human health (due to noise/vibration effects on Muirhouses residents) soil (due to loss of prime quality agricultural land) water (due to potential flood risk) and landscape (due to adverse landscape/ visual impact in an area of high landscape sensitivity) and a negative effect on biodiversity (due to potential adverse impact on Carriden Woods Wildlife Site and degradation of the quality and function of the habitat network) population and human health (due to potential adverse impacts on green network) air (due to an increase in emissions from transport) climatic factors (due to increased release of greenhouse gases) material assets (due to an increased use of primary resources in the construction process and increased traffic on the local road network) cultural heritage (due to impact on setting of designed landscape and adjacent listed buildings and structures)</p> <ul style="list-style-type: none"> • Development of the Carriden Brae North (104) site could have a positive effect on population and human health (due to the creation of new open space) and a significant negative effect on biodiversity (through loss of ancient and semi natural woodland) and cultural heritage (due to potential adverse impact on an important archaeological feature) • Development of the East Muirhouses (105) site could have a positive effect on population and human health (due to the improvement of existing open space) and a negative effect on water (due to potential to adversely impact on the water environment) 	<p>effects on biodiversity.</p> <ul style="list-style-type: none"> • A significant habitat buffer zone should be created between development at the Carriden Brae North (104) site and Carriden Woods wildlife site to mitigate negative effects on biodiversity • Areas of semi-natural and ancient woodland within the Carriden Brae North site should be excluded from development to mitigate significant negative effects on biodiversity • Appropriate protection measures should be incorporated in the north east corner of the East Muirhouses site to guard against potential impacts of the Carriden Woods Wildlife Site and mitigate negative effects on biodiversity • Suitable planting and greenspace should be provided at both sites to reinforce existing woodland habitat networks and ensure positive effects on biodiversity • Opportunities to open up culverted watercourses and to carry out watercourse restoration should be explored at both sites to ensure positive effects on water • A flood risk assessments should be carried out at both sites and areas subject to flooding should not be built on to mitigate significant negative effects on water. • Archaeological assessment required at an early stage on both sites to clarify whether development is likely to impact on the Antonine Wall WHS to mitigate significant negative effects on cultural heritage • Sensitive design required on both sites to avoid adverse impacts on the Carriden Estate non inventory designed landscape and the listed buildings within it and mitigate negative effects on cultural heritage • Significant negative effects on landscape cannot be mitigated on either site.
<p>Alternative 3: Consolidation, focusing on the delivery of the existing Bo'ness South East SGA, with no new allocations</p>	+	-	+	-	+	-	-	+	-	<ul style="list-style-type: none"> • Development of these sites could deliver approximately 655 new houses. At a rate of 0.83 new people per house this could increase the population of Bo'ness by 544 people which would equate to a 3.7% population increase from mid- 2013 population estimates (14,587) • Development of the Drum Farm North, Kinglass Farm 1 (001,002) sites could have a positive effect on biodiversity (due to potential to connect up fragmented habitat networks) and a negative effect on biodiversity(due to potential loss of mature woodland and hedgerow habitat) • Development of the Drum Farm South site (064) could have a positive effect on biodiversity (due to creation of new habitat) • Development of the Drum Farm North site and the South Street/ Main Street (001 & 004) sites could have a significant negative effect on biodiversity (due to potential impact on legally protected species) 	<ul style="list-style-type: none"> • Protected species checks should be carried out at the Drum Farm North and South Street/ Main Street (1 & 4) sites to mitigate significant negative effects on biodiversity • Development of the Drum Farm North and Kinglass Farm 1 (1& 2) sites should explore opportunities to link up fragmented habitat networks through on site habitat creation to ensure significant positive effects on biodiversity. • Flood risk assessments should be carried out at the Kinglass Farm 1 and Drum Farm South (2 & 64) sites and areas subject to flooding should not be built on to mitigate significant negative effects on water.

Alternative	Biodiversity Flora & Fauna	Population & Human Health	Soil	Water	Air	Climatic Factors	Material Assets	Cultural Heritage	Landscape	Assessment commentary	Enhancement/ Mitigation	
										<ul style="list-style-type: none"> Development of the Kinglass Farm 2, South Street/Main Street, Cadzow Avenue and Union Street (003 -006) sites could have a positive effect on population and human health (due to improving the quality of existing open space) Development of the Drum Farm North, Kinglass Farm 1, Kinglass Farm 2, South Street/Main Street, Cadzow Avenue, Union Street and Drum Farm South (001-006, 064 & 102) sites could have a positive effect on material assets (by increasing the amount of LZCGT) negative effect on population and human health (due to marginally increased traffic noise impact) air (due to increase in emissions from transport) climatic factors (due to increased release of greenhouse gasses) material assets (due to increased use of primary resources in the construction process and increased traffic on the local road network) Development of the Drum Farm North, Kinglass Farm 1 and Drum Farm South (001,002 & 064) sites could have a positive effect on population and human health (due to creation of new open space and improving the connectivity of the green network); and material assets (due to improvement of the path network) Development of the Cadzow Avenue and Union Street (005 & 006) sites will have a positive effect on soil (due to regeneration of vacant/derelict land) Development of the Drum Farm North site (001) could have positive effects on soil (through making safe unstable ground) Development of the Drum Farm North, Kinglass Farm 1, Kinglass Farm 2, Drum Farm South and Crawfield Road (001-003 & 064) sites could have would have significant negative effects on soil (through loss of prime quality agricultural land) Development of the Kinglass Farm 1, South Street/Main Street, Union Street and Drum Farm South (002, 004,006 & 064) sites could have significant negative effects on water (due to potential for on-site flood risk) Development of the Kinglass Farm 1 (002) site could have a negative effect on water (due to potential adverse impact on the water environment caused by culverting of small on site watercourses) Development of the Drum Farm North , Cadzow Avenue and Union Street (001,005 & 006) sites could have positive effects on material assets (through improving townscape quality) Development of the South Street/ Main Street and Union Street (004 & 006) sites could have a significant positive effect on cultural heritage (due to significant improvement to the townscape within conservation area) and a positive effect on material assets (due to improvement of the path network) Development of the Drum Farm North , Kinlass Farm 1, Kinglass farm 2 and Drum Farm South (001-004) sites could have a negative effect on landscape (due to the development of greenfield land) Development of the SouthStreet/ Main Street (004) site could have a negative effect on landscape (due to loss of street trees and a hedge) 		
MAIN ISSUE 5: SUSTAINABLE COMMUNITY GROWTH – BONNYBRIDGE AND BANKNOCK												
Preferred Option:	+	-	+	-	+	-	+	-	+	-	<ul style="list-style-type: none"> Development of these sites could deliver approximately 1372 new houses. Between 2001 and 2014 each new house built in Bonnybridge and Banknock increased the population by 2.06 people. At those rates 1372 new houses could be expected to 	<ul style="list-style-type: none"> Approved masterplans are in place for the Dennyloanhead and Banknock North (008 & 065) sites, these will act to ensure the significant positive effects and mitigate the significant negative
Focus on	+	-	+	-	+	-	+	-	+	-		

Alternative	Biodiversity Flora & Fauna	Population & Human Health	Soil	Water	Air	Climatic Factors	Material Assets	Cultural Heritage	Landscape	Assessment commentary	Enhancement/ Mitigation
<p>delivering the Banknock and Dennyloanhead SGAs (sites 007, 008, 065). The sites at East Bonnybridge (site 77) and Kilsyth Road (site 9) are de-allocated.</p>										<p>increase the population by 2826 people which would equate to a 22.6% population increase from mid-2014 population estimates (12,525) The average household size in the Council area is 2.26 people per household. At those rates 1372 new houses could be expected to increase the population by 3101 people which could equate to a 24.8% population increase.</p> <ul style="list-style-type: none"> • Development of the Dennyloanhead, Seabegs Road and Garngrew Road (008,011 & 061) sites could have a significant positive effect on biodiversity (due to potential to link significant fragmented habitat networks) and a positive effect on climatic factors (due to potential to link fragmented habitat networks to aid species migration caused by climate change) • Development of the Banknock North (065) site could have a positive effect on biodiversity (due to the creation of great crested newt friendly habitat) and a negative effect on population and human health (due to the loss of public open space) material assets (due to the potential to sever the core path network) and landscape (due to the potential to lose important landscape features) • Development of the Banknock South (007) could have a significant negative effect on biodiversity (due to potential for an adverse impact on a legally protected species) and a negative effect on biodiversity (due to potential loss of broadleaved woodland habitat and adverse impact on riparian habitat) population and human health (due to potential for noise impact during construction caused by foundation piling) soil (due to loss of agricultural land) material assets (due to potential to sever the core path network) • Development of the Dennyloanhead , Banknock North and Bonnybridge Town Centre (008,065 & 066) sites could have a negative effect on biodiversity (due to potential loss of standing water, broadleaved woodland and brownfield mosaic habitat respectively) • Development of the Banknock South , Dennyloanhead , Seabegs Road, Garngrew Road, Banknock North and Bonnybridge Town Centre (007, 008, 011, 061,065 & 066) sites could have a significant positive effect on population and human health (due to potential to significantly enhance the quality and connectivity of the green network) and a negative effect on population and human health (from marginally increased traffic noise impact) • Development of the Broomhill Road 1, Banknock North and Bonnybridge Town Centre (010, 065 & 066) sites could have a positive effect on population and human health (through improving the quality of existing open space) • Development of the Banknock South, Dennyloanhead, Seabegs Road, Garngrew Road and Banknock North (007,008,011,061 & 065) sites could have a positive effect on population and human health (through creation of new open space which helps to address existing deficiencies in access to open space) • Development of the Dennyloanhead, Broomhill Road 1, Seabegs Road and Garngrew Road (008, 010, 011 & 061) sites could have a negative effect on population and human health (due to potential for noise impact from adjacent land uses) • Development of the Dennyloanhead and Banknock North (008 & 065) sites could 	<p>effects caused by the development of these sites.</p> <ul style="list-style-type: none"> • The Banknock and Hagsgs Development Framework was approved in 2008 and updated in 2015. This will act to: ensure the significant positive effects on population and human health; ensure the positive effects on soil and material assets; mitigate significant negative effects on water and cultural heritage and mitigate the negative effects on biodiversity, material assets and landscape caused by the Banknock South site; and mitigate significant negative effects on material assets caused by the Banknock South, Dennyloanhead, Garngrew Road and Banknock North (007,008, 061 & 065) sites; • Development at the Seabegs Road and Garngrew Road (011 & 061) sites should incorporate new broadleaved woodland planting to connect up fragmented parts of the habitat network and ensure positive effects on biodiversity and climatic factors. • Development at the Garngrew Road (061) site should incorporate an undeveloped riparian buffer to ensure no negative impacts on ecology of the burn or functioning of the riparian corridor and mitigate negative effects on biodiversity • Development at the Broomhill Road 1 and Garngrew Road (010 & 061) sites should investigate potential for deculverting and watercourse restoration to ensure positive effects on water • Development proposals at Broomhill Road 1, Garngrew Road and Bonnybridge Town Centre (010, 061 & 066) sites should be accompanied by a flood risk assessment and areas at risk of flooding should not be developed to mitigate significant negative effects on water • Development at the Garngrew Road (061) site should incorporate 2 level surface water treatment with high quality SUDS to mitigate negative effects on water • Development at Garngrew Road (061) may have to incorporate the retrofitting of existing surface water drainage and attenuation in on site SUDS to mitigate significant negative effects on material assets • Development at Bonnybridge Town Centre (066) should be undertaken sensitively to avoid adverse impact on the Forth and Clyde Canal to mitigate negative effects on material assets and significant negative effects on cultural heritage • Development at Seabegs Road (011) should be designed to sensitively interpret the Antonine Wall WHS to ensure positive effects on cultural heritage • Development at Seabegs Road and Garngrew Road (011 &

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										<p>have a significant positive effect on soil (due to potential to remove existing contamination and make safe unstable land)</p> <ul style="list-style-type: none"> Development of the Banknock South, Broomhill Road 1 and Seabegs Road (007, 010 & 011) site could have positive effects on soil (due to potential to remove existing contamination) Development of the Garngrew Road (061) site could have a significant negative effect on soil (due to loss of prime quality agricultural land) and a negative effect on biodiversity (due to potential loss of trees and impact on riparian ecology) and landscape (through loss of greenfield land) Development of the Broomhill Road 1, Garngrew Road, Banknock North and Bonnybridge Town Centre (010, 061, 065 & 066) sites could have a positive effect on water (due to potential for de-culverting and watercourse restoration) Development of the Banknock South, Broomhill Road 1, Garngrew Road, Banknock North and Bonnybridge Town Centre (007, 010, 061, 065 & 066) sites could have a significant negative effect on water (due to potential flood risk) Development of the Garngrew Road and Banknock North (061 & 065) site could have a negative effect on water (due to discharge to a sensitive watercourse) Development of the Dennyloanhead (008) site could have a negative effect on water (due to adverse impact on nearby wetland) Development of the Banknock South, Garngrew Road and Banknock North (007, 061 & 065) sites could have a significant negative effect on air (due to potential for an increase in the population exposed to reduced air quality) and material assets (due to potential for adverse impacts on the local sewerage and water supply network) Development of the Banknock South, Seabegs Road, Garngrew Road, Banknock North (007, 011, 061 & 065) sites could have a positive effect on material assets (due to potential to improve townscape quality along Kilsyth Road, Wyndford Road, the Forth and Clyde Canal, Garngrew Road, Braeface Road and Bridge Street) or a negative effect on material assets (due to potential to degrade townscape quality along Kilsyth Road, Wyndford Road, the Forth and Clyde Canal, Garngrew Road, Braeface Road and Bridge Street) Development of the Banknock South, Dennyloanhead, Broomhill Road 1, Seabegs Road, Garngrew Road, Banknock North and Bonnybridge Town Centre (007, 008, 010, 011, 061, 065 & 066) sites could have a positive effect on material assets (due to an increase in the amount of LZCGT) a negative effect on air (due to increased emissions from motorised transport) climatic factors (due to increased release of greenhouse gases) and material assets (due to the increased use of primary resources in the construction process) Development of the Banknock South, Dennyloanhead, Garngrew Road and Banknock North (007, 008, 061 & 065) sites could have a significant negative effect on material assets (due to the potential to breach capacity of the local road network) Development of the Broomhill Road 1, Seabegs Road and Bonnybridge Town Centre (010, 011 & 066) sites could have a negative effect on material assets (through increasing traffic on the local road network) 	<p>061) should be undertaken sensitively to avoid adverse impact on the setting of the Antonine Wall WHS to mitigate significant negative effects on cultural heritage</p>

Alternative	Biodiversity Flora & Fauna	Population & Human Health	Soil	Water	Air	Climatic Factors	Material Assets	Cultural Heritage	Landscape	Assessment commentary	Enhancement/ Mitigation
										<ul style="list-style-type: none"> Development of the Bonnybridge Town Centre (066) site could have a negative effect on material assets (due to potential impact on the integrity of the Forth and Clyde Canal embankment) and a significant negative effect on cultural heritage (due to the potential to impact on the Forth and Clyde Canal SAM) Development of the Seabegs Road and Banknock North (011 & 065) sites could have a positive effect on cultural heritage (due to potential to sensitively interpret the Antonine Wall WHS and the potential to incorporate local interpretation of past uses of the site) Development of the Banknock South, Seabegs Road and Garngrew Road (007, 011 & 061) could have a significant negative effect on cultural heritage (due to potential for adverse effect on the setting of the WHS) Development of the Banknock South, Dennyloanhead, Broomfield Road 1, Seabegs Road and Banknock North (007,008,010, 011, 065 & 066) sites could have a significant positive effect on population and human health and material assets (through improving townscape quality by regenerating significant amounts of vacant/ derelict land) Development of the Banknock South and Dennyloanhead (007 & 008) sites could have negative effect on landscape (due to loss of greenfield land a mature woodland) 	
Alternative 1: New SGA at High Bonnybridge incorporating large greenfield sites at Broomhill Road (sites 110, 112) and/or Reilly Road (113)	+	-	+	-	+	-	-	+	-	<ul style="list-style-type: none"> Development of these sites could deliver an additional 500 houses. At a rate of 2.06 new people per house this could increase the population of Bonnybridge and Banknock by 1020 people. Development at the Broomhill Road 2, Bonnyside Road and Reilly Road (110, 112 & 113) sites could have a positive effect on biodiversity(due to potential to reinforce the woodland habitat network) soil (due to remediation of potential contamination) water (due to potential for watercourse restoration) and a negative effect on soil (due to loss of agricultural land) Development at the Broomhill Road 2, Bonnyside Road and Reilly Road (110, 112, 113) sites could have a positive effect on population and human health (due to potential to address an existing deficiency in access to good quality, reasonably sized open space and sports areas in High Bonnybridge) a significant negative effect on biodiversity (due to potential adverse impact on legally protected species) water (due to unknown flood risk) material assets (due to the potential to breach the capacity of the local road network) and cultural heritage (due to the potential to have an adverse effect on the setting of the Antonine Wall WHS) and a negative effect on air (due to increased emissions from motorised transport) climatic factors (due to increased release of greenhouse gases) material assets (due to increased use of primary resources in the construction process) and landscape (due to adverse landscape and visual impact in an area of low to medium sensitivity) Development at the Broomhill Road 2, Bonnyside Road (110 & 112) sites could have a negative effect on population and human health (due to potential to compromise waste handling operations and potential to be affected by nuisance noise and dust) 	<ul style="list-style-type: none"> Development at the Broomhill Road 2, Bonnyside Road and Reilly Road (110, 112 & 113) sites should include new woodland planting to ensure positive effects on biodiversity Development proposals at the Broomhill Road 2, Bonnyside Road and Reilly Road (110,112,113) sites should be accompanied by protected species surveys and suitable mitigation measures undertaken to avoid significant negative effects on biodiversity Development of the Broomhill Road 2, Bonnyside Road and Reilly Road (110,112 & 113) sites should incorporate new open space to address existing local deficiencies in access and ensure positive effects on population and human health Development of the Reilly Road and Milnquarter Farm (113 & 178) sites should be suitably designed to minimise noise impact from the adjacent railway line to mitigate negative effects on population and human health. Development at the Broomhill Road 2, Bonnyside Road and Reilly Road (110, 112 & 113) sites should investigate opportunities for watercourse restoration to ensure positive effects on water Development proposals at the Broomhill Road 2, Bonnyside Road and Reilly Road (110,112 &113) sites should be accompanied by a flood risk assessment and areas at risk of flooding should be excluded from development to mitigate

Alternative	Biodiversity Flora & Fauna	Population & Human Health	Soil	Water	Air	Climatic Factors	Material Assets	Cultural Heritage	Landscape	Assessment commentary	Enhancement/ Mitigation
										<ul style="list-style-type: none"> Development at the Reilly Road (113) site could have a positive effect on water (due to potential to mitigate historic water contamination) and a negative effect on population and human health (due to the potential for noise impact from an adjacent land use) Development of the Broomhill Road 2 and Reilly Road (110 & 113) sites could have a positive effect on material assets (through improving townscape quality along Broomhill Road, Reilly Road and Greenfield Road) or a negative effect on material assets (through degrading townscape quality along Broomhill Road), Reilly Road and Greenhill Road) 	<p>significant negative effects on water</p> <ul style="list-style-type: none"> Development of the Reilly Road (113) site should incorporate a treatment facility to address the impact of ferruginous inputs to the on-site watercourse to ensure positive effects on water Development proposals at the Broomhill Road 2, Bonnyside Road and Reilly Road (110,112 & 113) sites should be accompanied by a transportation assessment which identifies off site junction improvement works necessary to avoid breaching the capacity of the local road network to mitigate significant negative effects on material assets Development of the Broomhill Road 2 and Reilly Road (110 & 113) sites should incorporate high quality frontage design along Broomhill Road, Reilly road and Greenhill Road to ensure positive effects on material assets Development proposals at the Broomhill Road 2, Bonnyside Road and Reilly Road (110,112 & 113) sites should be accompanied by cultural heritage assessments which assess the impact of the development of these sites on the outstanding universal value of the Antonine Wall WHS to mitigate significant negative effects on cultural heritage.
<p>Alternative 2: Minor settlement extensions at Longcroft Holdings (site 114) and/or Hillview Road, High Bonnybridge (site 111).</p>	+	-	+	-	-	-	+	-	+	<ul style="list-style-type: none"> Development of these sites could deliver an additional 30 houses. At a rate of 2.06 new people per house this could increase the population of Bonnybridge and Banknock by 62 people. Development of the Hillview Road (111) site could have a positive effect on biodiversity (due to potential to reinforce existing woodland habitat corridors) population and human health (due to creation of new open space) soil (due to remediation of potential contamination and potentially unstable ground) material assets (due to the potential to improve townscape quality along Hillview Road) and landscape (through regeneration of brownfield land) and a negative effect on biodiversity (due to potential loss of open mosaic habitat) population and human health (due to potential to compromise waste handling operations and potential to be affected by nuisance noise and dust) and material assets (due to increasing traffic on the local road network) Development of the Cumbernauld Road (114) site could have a positive effect on population and human health (due to potential to contribute towards the improvement in quality of nearby open space) a significant negative effect on material assets (due to the potential to breach capacity of the local road network) and cultural heritage (due to the potential to have an adverse impact on the setting of the Antonine Wall WHS) and a negative effect on soil (due to loss of agricultural land) Development of the Hillview Road and Cumbernauld Road (111 & 114) sites could have a positive effect on material assets (due to potential to increase the amount of LZCGT); a significant negative effect on biodiversity (due to potential adverse impact on legally protected species) and a negative effect on water (due to potential 	<ul style="list-style-type: none"> Additional planting should be provided at the Hillview Road (111) site to reinforce existing woodland corridors to the north and east of the site to ensure positive effects on biodiversity Development proposals at the Hillview Road and Cumbernauld Road (111 & 114) sites should be accompanied by protected species surveys and suitable mitigation measures undertaken to avoid significant negative effects on biodiversity Development at the Hillview Road (111) site should incorporate the creation of a new park or amenity space of 0.2ha or greater to ensure positive effects on population and human health Development at the Cumbernauld Road (114) site should contribute towards the improvement of existing open space to ensure positive effects on population and human health Development of the Hillview Road (111) site should incorporate noise mitigation measures to mitigate negative effects on population and human health Development at the Cumbernauld Road (114) site should be set back from the road and ensure high quality frontage treatment to Cumbernauld Road to mitigate negative effects and ensure positive effects on material assets. Development proposals at the Cumbernauld Road (114) site should be accompanied by a cultural heritage assessment which includes a thorough assessment of impacts on the Antonine Wall WHS to mitigate significant negative effects on

Alternative	Biodiversity Flora & Fauna	Population & Human Health	Soil	Water	Air	Climatic Factors	Material Assets	Cultural Heritage	Landscape	Assessment commentary	Enhancement/ Mitigation
										<p>surface water flood risk) air (due to increased emissions from motorised transport) climatic factors (due to increased release of greenhouse gases) material assets (due to increased use of primary resources in the construction process and the degrading of townscape quality along Hillview Road and Cumbernauld Road respectively) and landscape (due to causing an adverse landscape and visual impact in an area of low landscape sensitivity)</p>	<p>cultural heritage</p> <ul style="list-style-type: none"> Development at the Hillview Road (111) site should incorporate new well-designed structure planting to road and railway frontage; retain boundary tree cover to the railway frontage and elsewhere where condition, quality and composition is appropriate to mitigate negative effects on landscape Development at the Cumbernauld Road (114) site should incorporate new structure planning around the western southern and eastern boundaries to mitigate negative effects on landscape
MAIN ISSUE 6: SUSTAINABLE COMMUNITY GROWTH – BRAES AND RURAL SOUTH – MADDISTON AND RUMFORD											
<p>Preferred Option: Extend the East Maddiston Strategic Growth Area (033-037) through additional greenfield release to the north at Parkhall North (East) (142), exclusively for amenity/community care housing and a care home.</p>	+	-	+	-	+	-	-	+	-	<ul style="list-style-type: none"> Development of these sites could deliver approximately 350 new houses. Between 2001 and 2014 each new house built in the Urban Braes area increased the population by 2.10 people. At those rates 350 new houses could be expected to increase the population of Maddiston and Rumford by 735 people which would equate to a 16.6% population increase from mid-2014 population estimates (4,422) The average household size in the Council area is 2.26 people per household. At those rates 350 new houses could be expected to increase the population by 791 people which could equate to a 17.9% population increase. Development of the Parkhall Farm 2,3 & 4, the Haining & Parkhall North East (033-036 & 142) sites could have a positive effect on biodiversity (due to potential to reinforce the broadleaved woodland habitat network) Development of the Parkhall Farm 3 (034) sites could have a positive effect on biodiversity (through connecting up fragmented parts of the broadleaved woodland habitat network) soil (due to regeneration of vacant/derelict land and removal of historic contamination) material assets (through improving townscape value through regenerating brownfield land) and a negative effect on population and human health (through potential adverse impact on the green network) Development of the Haining, Toravon Farm and Parkhall North East (036, 037 & 142) sites could have a significant negative effect on biodiversity (due to potential adverse impact on ancient or semi natural woodland) and landscape (due to adverse landscape impact caused by the loss of ancient or semi natural woodland) Development of the Parkhall North East (142) site could have a significant negative effect on biodiversity due to potential to sever significant broadleaved woodland habitat networks) cultural heritage (through potential adverse impact on the setting of the Union Canal SAM) and landscape (due to adverse landscape and visual impacts in an area of high sensitivity) and a negative effect on population and human health (through exposure from nuisance odour from nearby landfill site and through the potential to compromise waste handling operations) and water (due to potential surface water flood risk) Development of the Haining, Toravon Farm and Parkhall North East (036, 037 & 142) sites could have a significant negative effect on biodiversity (due to potential adverse impact on legally protected species) 	<ul style="list-style-type: none"> Development of the Parkhall Farm 2,3 & 4, the Haining and Parkhall North East (033-036 & 142) sites should incorporate new broadleaved woodland planting to reinforce the broadleaved woodland network and ensure positive effects on biodiversity Development proposals at the Haining, Toravon Farm and Parkhall North East (036, 037 &142) sites should be accompanied by protected species surveys and appropriate mitigation employed to avoid significant negative effects on biodiversity Development at the Haining and Parkhall North East (036 & 142) sites should avoid severing the broadleaved woodland habitat network to mitigate significant negative effects on biodiversity. Development of the Parkhall 2, 3 & 4 (33-35) sites should be accompanied by ecological assessments which identify habitats of ecological value and be designed to retain these area to mitigate negative effects on biodiversity; Development of the Parkhall Farm 2,3 & 4 (033-035) sites should be undertaken sensitively to avoid adversely impacting on the Maddiston SINC to mitigate negative effects on biodiversity Development of the Haining, Toravon Farm and Parkhall North East (036, 037 & 142) sites should incorporate appropriately sized undeveloped buffer zones around areas of ancient and semi natural woodland to mitigate significant negative effects on biodiversity and landscape Development at the Parkhall Farm 2,3 & 4 (033-035) sites should contribute towards the implementation of the Manuel Burn corridor green network opportunity to ensure positive effects on population and human health; Development at the Parkhall Farm 2 & 4 and Toravon Farm

Alternative	Biodiversity Flora & Fauna	Population & Human Health	Soil	Water	Air	Climatic Factors	Material Assets	Cultural Heritage	Landscape	Assessment commentary	Enhancement/ Mitigation
										<ul style="list-style-type: none"> Development of the Parkhall 2, 3 & 4 (33-35) sites could have a negative effect on biodiversity (due to loss of field boundary trees and a potential adverse impact on the Maddiston SINC) Development of the Parkhall Farm 2,3 & 4, the Haining, Toravon Farm and Parkhall North East(033-037 & 142) sites could have a positive effect on population and human health (due to potential to improve the quality and connectivity of the green network) and material assets (due to potential to increase the amount of LZCGT and to improve the quality of the active travel network) and a negative effect on population and human health (due to an increase in noise from road traffic) air (due to increased emissions from motorised transport) climatic factors (due to increased emissions of greenhouse gases) and material assets (due to increased traffic on the local road network, increased use of primary resources in the construction process and adverse impact on the water supply network) Development of the the Parkhall Farm 2,3 & 4, the Haining, Toravon Farm and Parkhall Farm North (033-037 & 142) sites could have significant negative effect on soil (due to loss of prime quality agricultural land) and a negative effect on landscape (due to loss of greenfield land with a potential adverse landscape and visual impact) Development at the Parkhall Farm 2 & 4 and Toravon Farm (033, 035, 037) sites could have a positive effect on population and human health (due to potential to improve the quality of existing open space) Development of the Parkhall Farm 3, the Haining and Parkhall North East (034, 036 & 142) sites could have a positive effect on population and human health (through creation of new open space) Development of the Parkhall 3, Toravon Farm and Parkhall North East (034, 037 & 142) sites could have a negative effect on population and human health (through nuisance noise from the nearby A801) Development of the Parkhall 2, 3 & 4 and Toravon Farm (33-35 & 037) sites could have a significant negative effect on water (due to potential fluvial flood risk) Development of the Parkhall Farm 3 & 4, the Haining, Toravon Farm and Parkhall North East (034-037 & 142) sites could have a negative effect on material assets (due to potential to sever the core path network) Development of the Haining (036) site could have a positive effect on cultural heritage (due to potential to improve the setting of the category B listed Haining) and a negative effect on biodiversity (due to potential to sever the broadleaved woodland habitat network) Development of the Haining and Parkhall North East (036 & 142) sites could have a negative effect on cultural heritage (due to potential adverse impact on the category C listed Haining and its settling which is also a non-inventory designed landscape.) 	<p>(033, 035 & 037) sites should provide financial contributions towards the improvement of existing open space to ensure positive effects on population and human health;</p> <ul style="list-style-type: none"> Development of the Parkhall Farm 3, the Haining and Parkhall North East (034, 036 & 142) sites should involve the creation of new open space to ensure residents are within an appropriate walking distance of all types of open spaces to ensure positive effects on population and human health; Development of the Parkhall Farm 3, the Haining , Toravon Farm and Parkhall North East (034,036, 037 & 142) sites should contribute towards the establishment of an accessible woodland buffer between the eastern extents of the site and the A801 to ensure positive effects on population and human health; Development of the Parkhall Farm 3 (034) site should ensure that it doesn't sever the connectivity of the Manuel Burn green corridor to mitigate negative effects on population and human health Development of the Parkhall 3, Toravon Farm and Parkhall North East (034, 037 & 142) sites should incorporate suitable noise mitigation measures to mitigate negative effects on population and human health; Development of the Parkhall Farm 3 and Maddiston Fire Station (035 & 140) sites should investigate and remediate potential sources of historic contamination to ensure positive effects on soil; Development proposals at the Parkhall 2, 3 & 4 and Toravon Farm (33-35 & 037) should be accompanied by a flood risk assessment and areas at risk of flooding should be excluded from development to mitigate significant negative effects on water; Development proposals at the Parkhall North East (142) site should be accompanied by a drainage strategy to mitigate negative effects on water; Development of all sites should ensure that heat demand is met through district heating networks (subject to the outcomes of a feasibility statement) to mitigate negative effects on climatic factors; Development of all sites should contribute towards the improvement of the active travel network to ensure positive effects on material assets A Water Supply Impact Assessment will be required to determine capacity at Polmont's service reservoir which may need upgraded dependant on the cumulative scale of housing growth within its catchment to mitigate negative effects on

Alternative	Biodiversity Flora & Fauna	Population & Human Health	Soil	Water	Air	Climatic Factors	Material Assets	Cultural Heritage	Landscape	Assessment commentary	Enhancement/ Mitigation
											<p>material assets</p> <ul style="list-style-type: none"> Development at the Parkhall Farm 3 & 4, the Haining, Toravon Farm and Parkhall North East (034-037 & 142) sites should avoid severing the active travel network to mitigate negative effects on material assets Development at the Haining and Parkhall North East (036 & 142) sites should be undertaken sensitively to avoid adversely impacting on the category C listed Haining and its setting and to mitigate negative effects on cultural heritage Development at the Parkhall Farm North East (142) site should be undertaken sensitively to avoid adversely impacting on the setting of the Union Canal SAM to mitigate significant negative effects on cultural heritage; Development proposals at the Parkhall Farm 2 & 3 (033 & 034) sites should incorporate boundary treatment, buffer planting, internal planting/open space and integrate the site into the surrounding landscape to mitigate negative effects on landscape. Development proposals at the Parkhall Farm 4 (035) site should include a buffer to the SINC using native species, appropriate boundary treatments and retain the hedge and stone wall to mitigate negative effects on landscape. Development proposals at the Toravon Farm (037) site should give detailed consideration to the massing of development on the southern elevated part of the site and be integrated sensitively into the landscape to mitigate negative effects on landscape. Development at the Parkhall Farm North East (142) site should: ensure no tree removal other than any essential for the access point; provide only high quality, low density housing that would be in keeping with landscape character of the designed landscape; retain woodland / parkland character with substantial open space, parkland tree planting and additional woodland incorporated into any design in order to respect the local character of the area and the designed landscape; accommodate and provide linkages to the core path on western and northern boundary to mitigate significant negative effects on landscape;
<p>Alternative 1: Focus on delivering the Maddiston East Strategic Growth Area,</p>	+	+	+	+	-	-	+	+	-	<ul style="list-style-type: none"> The environmental effects of developing the Parkhall Farm 2-4, The Haining and Toravon Farm (033-037) sites are outlined above. The cumulative environmental effect of developing these sites together with the Maddiston Fire Station (140) site is presented in the assessment matrix to the left. Development of the Maddiston Fire Station (140) site could have a positive effect 	<ul style="list-style-type: none"> Measures to ensure the positive effects and mitigate the negative effects of the Parkhall Farm 2-4, The Haining and Toravon Farm (033-037) sites are outlined above. Additional measures for the Maddiston Fire Station Site are identified below:

Alternative	Biodiversity Flora & Fauna	Population & Human Health	Soil	Water	Air	Climatic Factors	Material Assets	Cultural Heritage	Landscape	Assessment commentary	Enhancement/ Mitigation			
together with additional housing as part of the Maddiston Fire Station Site										<p>on biodiversity (through connecting up fragmented parts of the broadleaved woodland habitat network) population and human health (due to potential to improve the quality and connectivity of the green network and potential to improve the quality of existing open space) soil (due to regeneration of vacant/derelict land and removal of historic contamination and through making safe unstable ground) water (due to potential for watercourse restoration) material assets (through improving townscape value through regenerating brownfield land, due to potential to increase the amount of LZCGT and potential to improve the quality of the active travel network)</p> <ul style="list-style-type: none"> Development of the Maddiston Fire Station (140) site could have a significant negative effect on biodiversity (due to potential adverse impact on legally protected species) and water (due to potential fluvial flood risk) Development of the Maddiston Fire Station (140) site could have a negative effect on biodiversity (through potential adverse impact on the Maddiston West Wildlife Site and through potential loss of scrubland and broadleaved woodland habitat) population and human health (through potential adverse impact on the green network, loss of open space and due to an increase in noise from road traffic) air (due to increased emissions from motorised transport) climatic factors (due to increased emissions of greenhouse gases) material assets (due to increased traffic on the local road network, increased use of primary resources in the construction process, adverse impact on the water supply network and potential to sever the core path network) and landscape (due to adverse landscape and visual impacts in area of low to medium landscape sensitivity) 	<ul style="list-style-type: none"> Development should connect up fragmented parts of the broadleaved woodland habitat network to ensure positive effects on biodiversity. Development proposals should be accompanied by protected species surveys and appropriate mitigation employed to avoid significant negative effects on biodiversity Development proposals should incorporate a significant and robust habitat buffer between the wildlife site and any development to mitigate negative effects on biodiversity. Development proposals should be accompanied by ecological assessments which identify habitats of ecological value and be designed to retain these area to mitigate negative effects on biodiversity; Development proposals should avoid severing the Manuel Burn green corridor to mitigate negative effects on population and human health; Development should provide financial contributions towards improving the quality of existing open space to ensure positive effects on population and human health Development should investigate and remediate potential sources of historic contamination to ensure positive effects on soil Opportunities for watercourse restoration should be investigated to ensure positive effects on water Development proposals should be accompanied by a flood risk assessment and development in areas of flood risk should be avoided to mitigate significant negative effects on water Development should ensure that heat demand is met through district heating networks (subject to the outcomes of a feasibility statement) to mitigate negative effects on climatic factors; Development should incorporate on site LZCGT to ensure positive effects on material assets; Development should improve the quality of the active travel network to ensure positive effects on material assets; Development should avoid obstructing or severing the active travel network to mitigate negative effects on material assets; Development should retain an open space strip with path and tree and shrub cover along Southern boundary; retain all other boundary trees (subject to a tree survey and condition) and integrate them into any development; and provide a high quality frontage design / landscape treatment to Maddiston Main Street to mitigate negative effects on landscape. 			
Alternative 2: Extend the	+	-	+	-	--	--	-	-	+	-	N	--	<ul style="list-style-type: none"> Development could have a positive effect on biodiversity (through reinforcing existing habitat networks) population and human health (through creation of new 	<ul style="list-style-type: none"> Development should incorporate new broadleaved woodland planting to reinforce existing habitat networks and ensure

Alternative	Biodiversity Flora & Fauna	Population & Human Health	Soil	Water	Air	Climatic Factors	Material Assets	Cultural Heritage	Landscape	Assessment commentary	Enhancement/ Mitigation
Maddiston East Strategic Growth Area involving additional greenfield release to the north west (189)										<p>open space) and material assets (due to potential to improve the active travel network and increase the amount of LZCGT)</p> <ul style="list-style-type: none"> Development could have a significant negative effect on biodiversity (due to potential adverse impact on ancient or semi natural woodland; and potential adverse impacts on legally protected species) soil (through loss of prime quality agricultural land) water (due to potential fluvial flood risk) and landscape (due to adverse landscape and visual impacts in an area of high landscape sensitivity and loss of ancient/ semi natural woodland) Development could have a negative effect on biodiversity (through adversely impacting on the Rumford East SINC) population and human health (through an increase in noise from road traffic) water (due to potential surface water flood risk) air (due to increased emissions from motorised transport) climatic factors (due to increased emissions of greenhouse gases) material assets (due to increased traffic on the local road network, increased use of primary resources in the construction process and impact on the water supply network) 	<p>positive effects on biodiversity;</p> <ul style="list-style-type: none"> Development should ensure the retention of areas of ancient and semi natural woodland to mitigate significant negative effects on biodiversity and landscape; Development should incorporate habitat buffers around the Rumford East SINC to mitigate negative effects on biodiversity; Development should involve the creation of new open space to ensure residents are within an appropriate walking distance of all types of open spaces to ensure positive effects on population and human health; Development proposals should be accompanied by a flood risk assessment and areas at risk of flooding should be excluded from development to mitigate significant negative effects on water; Development should be accompanied by a drainage strategy to mitigate negative effects on water; Development should ensure that heat demand is met through district heating networks (subject to the outcomes of a feasibility statement) to mitigate negative effects on climatic factors; A Water Supply Impact Assessment will be required to determine capacity at Polmont's service reservoir which may need upgraded dependant on the cumulative scale of housing growth within its catchment to mitigate negative effects on material assets Development should avoid building on the top of the ridge and on north facing slopes to mitigate significant negative effects on landscape;
Alternative 3: New Rumford East Strategic Growth Area, involving large scale greenfield release for mixed use extending north to the Union Canal site (141)	+	-	+	-	+	-	+	-	-	<ul style="list-style-type: none"> Development could have a positive effect on biodiversity (due to the potential to reinforce the habitat network) population and human health (due to the potential to improve the quality and connectivity of the green network and to create new open space) soil (due to potential to remediate historic contamination) water (due to potential for watercourse restoration) material assets (due to an increase in LZCGT and potential to improve the quality of the active travel network) Development could have a significant negative effect on biodiversity (due to potential loss of long established woodland of plantation origin, potential adverse impacts on legally protected species and potential to sever significant parts of the broadleaved woodland habitat network) soil (due to loss of prime quality agricultural land) water (due to potential fluvial flood risk) material assets (due significantly increased traffic on the local road network) cultural heritage (due to potential adverse impact on the Union Canal SAM and its setting) and landscape (due to adverse landscape and visual impacts on area of high landscape sensitivity and loss of LEWPO) 	<ul style="list-style-type: none"> Development should incorporate new broadleaved woodland planting to reinforce the existing habitat network and ensure positive effects on biodiversity; Areas of long established woodland of plantation origin should be retained and protected to mitigate significant negative effects on biodiversity and landscape; Development proposals should be accompanied by protected species surveys and appropriate mitigation employed to avoid significant negative effects on biodiversity; Development should not sever the broadleaved woodland habitat network to mitigate significant negative effects on biodiversity; Development should create new habitat buffers around the Rumford East and Union Canal SINC to mitigate negative effects on biodiversity; Development should contribute towards: the establishment of

Alternative	Biodiversity Flora & Fauna	Population & Human Health	Soil	Water	Air	Climatic Factors	Material Assets	Cultural Heritage	Landscape	Assessment commentary	Enhancement/ Mitigation
										<ul style="list-style-type: none"> Development could have a negative effect on biodiversity (due to potential adverse impacts on the Rumford East, Union Canal and Maddiston SINC) population and human health (due to potential for nuisance odour from nearby landfill and potential to compromise waste handling operations) water (due to potential adverse impact on the riparian environment of the Gardrum Burn) air (due to increased emissions from motorised transport) climatic factors (due to increased emissions of greenhouse gases), increased use of primary resources in the construction process and impact on the water supply network) material assets (due to increased use of primary resources in the construction process and potential to sever the active travel network) cultural heritage (due to potential adverse impact on the setting of the Parkhall/Haining non inventory designed landscape and the B-listed Haining and its setting) 	<p>an accessible woodland buffer between the eastern extents of the site and the A801; and improving accessibility alongside the Union Canal to ensure positive effects on population and human health;</p> <ul style="list-style-type: none"> Sources of historic contamination should be investigated and remediated to ensure positive effects on soil; Development should investigate opportunities for watercourse restoration to ensure positive effects on water; A substantial buffer strip should be retained between development and the Gardrum Burn corridor to mitigate negative effects on water; Development proposals should be accompanied by a flood risk assessment and areas at risk of flooding should be excluded from development to mitigate significant negative effects on water; Development should ensure that heat demand is met through district heating networks (subject to the outcomes of a feasibility statement) to mitigate negative effects on climatic factors; Development should incorporate on site LZCGT to ensure positive effects on material assets; Development proposals should incorporate a new road link to the A801 to mitigate significant negative effects on material assets; Development should aim to improve the quality of and avoid severing the active travel network to ensure positive effects and mitigate negative effects on material assets; A Water Supply Impact Assessment will be required to determine capacity at Polmont's service reservoir which may need upgraded dependant on the cumulative scale of housing growth within its catchment to mitigate negative effects on material assets; Development should be undertaken sensitively to avoid an adverse impact on the Union Canal SAM and its setting to mitigate significant negative effects on cultural heritage; Development should be undertaken sensitively to avoid adversely impacting on the Parkhall/Haining non inventory designed landscape and the setting of the category B listed Haining to mitigate negative effects on cultural heritage; Development proposals should: be accompanied by an assessment of their effect on the designed landscape around 'The Haining'; avoid loss of remnant features of the designed landscape and other landscape features, and specifically avoid tree loss (some woodland areas are ancient woodland that is Long Established of Plantation Origin); ensure that the

Alternative	Biodiversity Flora & Fauna	Population & Human Health	Soil	Water	Air	Climatic Factors	Material Assets	Cultural Heritage	Landscape	Assessment commentary	Enhancement/ Mitigation
											development is low density with associated high quality landscape treatment with woodland / parkland planting that is in keeping with the character of the designed landscape; incorporate management of existing woodland and parkland tree cover into development proposals; incorporate strong boundary structure planting for screening, buffering to adjacent land uses and for enhancement of the habitat network in the area between the canal and railway and in the SW corner of the area to the south of Nicholton Road; avoid encroaching on the area to the north of Nicholton Road and to the south of Nicholton Road on the top of the ridge and on north facing to mitigate significant negative effects on landscape .
Alternative 4: Moderate settlement expansion to the west of Maddiston at Greenwells Farm (138 & 139)	+	-	+	-	+	-	-	-	-	<ul style="list-style-type: none"> Development of the Greenwells Farm North and South (138 & 139) sites could have a positive effect on biodiversity (through reinforcing the broadleaved woodland habitat network) material assets (due to increasing the amount of LZCGT) a significant negative effect on biodiversity (through potential adverse impacts on legally protected species) water (due to potential fluvial food risk) and landscape (due to adverse landscape and visual effect in an area of high landscape sensitivity) and a negative effect on population and human health (through increased road traffic noise) soil (due to loss of agricultural land) water (due to potential surface water flood risk) air (due to increased emissions from motorised transport) climatic factors (due to increased emissions of greenhouse gases) and material assets (due to increased use of primary resources in the construction process, impact on the water supply network and increased traffic on the local road network); Development of the Greenwells Farm North (138) site could have a positive effect on population and human health (through creating new open space which addresses a deficiency in access to open space in the local area) and soil (through making safe unstable ground); Development of the Greenwells Farm South (139) site could have a positive effect on population and human health (through improving the quality and connectivity of the green network) material assets (through improving the quality of the active travel network) and a negative effect on biodiversity (due to potential adverse impact on Maddiston West Wildlife Site) 	<ul style="list-style-type: none"> Development of both sites should incorporate new broadleaved woodland planting to reinforce the existing habitat network and ensure positive effects on biodiversity; Development proposals at both sites should be accompanied by protected species surveys and appropriate mitigation employed to avoid significant negative effects on biodiversity; Development of the Greenwells Farm South site should create new habitat buffers around the Maddiston West Wildlife Site to mitigate negative effects on biodiversity; Development at the Greenwells Farm North (138) site should incorporate a new park or amenity space of 0.2ha or greater to meet an existing deficiency in access to open space in the local area and ensure positive effects on population and human health; Development at the Greenwells Farm South (139) site should contribute towards the implementation of the Manuel Burn corridor green network opportunity to ensure positive effects on population and human health; Development at the Greenwells Farm North site should investigate potentially unstable ground and make it safe to ensure positive effects on soil; Development proposals at both sites should be accompanied by a flood risk assessment and areas at risk of flooding should be excluded from development to mitigate significant negative effects on water; Development proposals at both sites should be accompanied by a drainage strategy to mitigate negative effects on water; Development at both sites should ensure that heat demand is met through district heating networks (subject to the outcomes of a feasibility statement) to mitigate negative effects on climatic factors; Development should incorporate on site LZCGT to ensure

Alternative	Biodiversity Flora & Fauna	Population & Human Health	Soil	Water	Air	Climatic Factors	Material Assets	Cultural Heritage	Landscape	Assessment commentary	Enhancement/ Mitigation
											<ul style="list-style-type: none"> positive effects on material assets; Development of the Greenwells Farm South site should improve the quality of the active travel network to ensure positive effects on material assets; A Water Supply Impact Assessment will be required to determine capacity at Polmont's service reservoir which may need upgraded dependant on the cumulative scale of housing growth within its catchment to mitigate negative effects on material assets Development proposals at the Greenwell Farm North (138) site should: be accompanied by a Landscape and Visual Impact Assessment to determine the exact upper line of development and mitigation details; provide strong native woodland theme structure planting to Southern boundary to delineate open countryside and provide backdrop to development with higher land behind, plus similar structure planting to West to define urban / countryside boundary; retain any existing hedgerow trees (where / if appropriate) and integrating them into the layout; and avoid development on upper 50 -60 % of site (south part) to mitigate significant negative effects on landscape.
Alternative 5: New Maddiston South Strategic Growth Area, involving greenfield release at Gillandersland (144)	+	-	+	-	+	-	-	+	-	<ul style="list-style-type: none"> Development could have positive effects on biodiversity (due to potential to reinforce the broadleaved woodland habitat network) population and human health (through improving the quality and connectivity of the green network and creating new open space which addresses an existing deficiency in access to open space in the local area) soil (through making safe potentially unstable ground) water (due to potential for watercourse restoration)) material assets (due to increasing the amount of LZCGT and improving the quality of the active travel network) Development could have significant negative effects on biodiversity (due to potential adverse impacts on legally protected species) soil (due to loss of prime quality agricultural land) water (due to potential fluvial flood risk) Development could have negative effects on population and human health (due to an increase in noise from road traffic) water (due to potential surface water flood risk) air (due to increased emissions from motorised transport) climatic factors (due to increased emissions of greenhouse gases); material assets (due to increased use of primary resources in the construction process, impact on the water supply network and increased traffic on the local road network) and landscape (due to adverse landscape and visual impacts in an area of medium landscape sensitivity) 	<ul style="list-style-type: none"> Development should incorporate new broadleaved woodland planting to reinforce the existing habitat network and ensure positive effects on biodiversity; Development proposals should be accompanied by protected species surveys and appropriate mitigation employed to avoid significant negative effects on biodiversity; Development should contribute towards the establishment of an accessible woodland buffer wrapping around the countryside edge of the site to ensure positive effects on population and human health; Development should incorporate a new park or amenity space of 0.2ha or greater to meet an existing deficiency in access to open space in the local area and ensure positive effects on population and human health; Development should investigate potentially unstable ground and make it safe to ensure positive effects on soil; Opportunities for watercourse restoration should be investigated to ensure positive effects on water; Development proposals should be accompanied by a flood risk assessment and areas at risk of flooding should be excluded from development to mitigate significant negative effects on water; Development proposals should be accompanied by a drainage

Alternative	Biodiversity Flora & Fauna	Population & Human Health	Soil	Water	Air	Climatic Factors	Material Assets	Cultural Heritage	Landscape	Assessment commentary	Enhancement/ Mitigation				
											<p>strategy to mitigate negative effects on water;</p> <ul style="list-style-type: none"> Development should ensure that heat demand is met through district heating networks (subject to the outcomes of a feasibility statement) to mitigate negative effects on climatic factors; A Water Supply Impact Assessment will be required to determine capacity at Polmont's service reservoir which may need upgraded dependant on the cumulative scale of housing growth within its catchment to mitigate negative effects on material assets. 				
MAIN ISSUE 6: SUSTAINABLE COMMUNITY GROWTH – BRAES AND RURAL SOUTH – POLMONT, LAURIESTON AND WESTQUARTER															
<p>Preferred Option – No further housing development beyond currently allocated sites (029, 038), other than infill and redevelopment opportunities which may arise within the urban area</p>	+	-	+	-	--	N	-	-	+	-	+	-	--	<ul style="list-style-type: none"> Development of these sites could deliver approximately 83 new houses. Between 2001 and 2014 each new house built in the Urban Braes area increased the population by 2.10 people. At those rates 83 new houses could be expected to increase the population of Polmont, Laurieston and Westquarter by 174 people which would equate to a 1.9% population increase from mid-2014 population estimates (9,002) The average household size in the Council area is 2.26 people per household. At those rates 83 new houses could be expected to increase the population by 188 people which could equate to a 2.1% population increase. Development at the Lathallan House (029) site could have a positive effect on population and human health (through creation of new open space) cultural heritage (due to potential to restore the category B listed Lathallan House) a significant negative effect on biodiversity (through potential adverse impacts on legally protected species) soil (through loss of prime quality agricultural land) and landscape (through adverse landscape and visual effect in an area of high landscape sensitivity) and a negative effect on population and human health (through increased exposure to nuisance odour from a nearby landfill site and potential to compromise waste handling operations) and cultural heritage (due to potential adverse impact on the category B listed Lathallan House and its setting which is also a non-inventory designed landscape) Development at the Whyteside Hotel (038) site could have a positive effect on population and human health (through improving the quality of existing open space) population and human health and material assets (by improving townscape quality through regeneration of vacant/derelict land) and a negative effect on biodiversity (due to potential adverse impacts on the Polmont South SINC) material assets (due to potential adverse impact on the water supply network) Development at both (029 & 038) sites could have a positive effect on biodiversity (through connecting up fragmented parts of the habitat network) material assets (through improving the quality of the active travel network and increasing the amount of LZCGT) and a negative effect on population and human health (through increased noise from road traffic) air (due to increased emissions from motorised transport) climatic factors (due to increased emissions of greenhouse gases); material assets (due to increased use of primary resources in the construction process and increased traffic on the local road network) 	<ul style="list-style-type: none"> Development of both sites should incorporate new broadleaved woodland planting to connect up fragmented parts of the habitat network to ensure positive effects on biodiversity; Development at the Lathallan House (029) site should be accompanied by protected species surveys and appropriate mitigation employed to avoid significant negative effects on biodiversity; Development proposals at the Whyteside Hotel site should incorporate habitat buffers to the Polmont South SINC to mitigate negative effects on biodiversity; Development at Lathallan House (029) site should involve the creation of new open space to ensure positive effects on population and human health Development at the Whyteside Hotel site should provide financial contributions towards the improvement of existing open space to ensure positive effects on population and human health; A Water Supply Impact Assessment will be required to determine capacity at Polmont's service reservoir which may need upgraded dependant on the cumulative scale of housing growth within its catchment to mitigate negative effects on material assets. Development of both sites should improve the quality of the active travel network to ensure positive effects on material assets. Development of both sites should incorporate on site LZCGT to ensure positive effects on material assets; Development proposals at the Lathallan House (029) site should involve the restoration of Lathallan House and ensure no adverse impact on its setting to ensure positive effects and mitigate negative effects on cultural heritage The scale of enabling development at the Lathallan House site should be minimised to mitigate significant negative effects on landscape;

Alternative	Biodiversity Flora & Fauna	Population & Human Health	Soil	Water	Air	Climatic Factors	Material Assets	Cultural Heritage	Landscape	Assessment commentary	Enhancement/ Mitigation
<p>Alternative 1 – New Gilston Strategic Growth Area, with residential use introduced as part of the mix of uses within the current business site (95)</p>	<p>+</p>	<p>+</p>	<p>-</p>	<p>-</p>	<p>-</p>	<p>-</p>	<p>+</p>	<p>-</p>	<p>-</p>	<ul style="list-style-type: none"> • Development could have a significant positive effect on biodiversity (through connecting up significant fragmented habitats) • Development could have a positive effect on population and human health (through improving the quality and connectivity of the green network and creation of new open space which addresses an existing deficiency in access to open space in the local area) material assets (due to improving the quality of the active travel network and increasing the amount of LZCGT) • Development could have a significant negative effect on biodiversity (due to potential adverse impacts on legally protected species) soil (due to loss of prime quality agricultural land) water (due to potential fluvial flood risk) • Development could have a negative effect on biodiversity (through adverse impact on riparian habitat) population and human health (due to increased road traffic noise, increased exposure to nuisance odour from the nearby landfill and the potential to compromise waste handling operations) air (due to increased emissions from motorised transport) climatic factors (due to increased emissions of greenhouse gases); material assets (due to increased use of primary resources in the construction process, increased traffic on the local road network and potential adverse impact on the water supply network) cultural heritage (due to potential adverse impact on an early house and doocot at Nicholton Farm) and landscape (due to adverse landscape and visual impact in an area of medium sensitivity to landscape change) 	<ul style="list-style-type: none"> • Development should incorporate a new broadleaved woodland corridor alongside the Gilston Burn to connect up fragmented habitats to ensure a significant positive effect on biodiversity; • Development proposals should be accompanied by protected species surveys and appropriate mitigation employed to avoid significant negative effects on biodiversity; • Development should avoid adversely impacting on the Gilston Burn riparian corridor to mitigate negative effects on biodiversity; • Development should contribute towards: the establishment of an accessible woodland buffer between the eastern extents of the site and the A801; and establish an accessible green network corridor along the Gilston Burn to ensure positive effects on population and human health; • Development should incorporate a new sports area to ensure positive effects on population and human health; • Development proposals should be accompanied by a flood risk assessment and areas at risk of flooding should be excluded from development to mitigate significant negative effects on water; • Development should ensure that heat demand is met through district heating networks (subject to the outcomes of a feasibility statement) to mitigate negative effects on climatic factors; • Development should improve the quality of the active travel network to ensure positive effects on material assets; • Development should incorporate on site LZCGT to ensure positive effects on material assets; • A Water Supply Impact Assessment will be required to determine capacity at Polmont's service reservoir which may need upgraded dependant on the cumulative scale of housing growth within its catchment to mitigate negative effects on material assets. • Archaeological investigation should be carried out at the early house and doocot at Nicholton Farm to mitigate negative effects on cultural heritage; • Development should: retaining tree / hedgerow cover along watercourses, minor road (Nicholton Road) to the East and internally along former field boundaries; retain boundary tree cover and trees along the Eastern boundary to the A801 and on elevated land with woodland area in SE corner of site; ensure additional planting in areas of retained tree / hedgerow cover to enhance habitat network; retain distinct local rural landscape character of elevated wooded area in the South East corner of site and hedgerows / mature trees on the Southern section of

Alternative	Biodiversity Flora & Fauna	Population & Human Health	Soil	Water	Air	Climatic Factors	Material Assets	Cultural Heritage	Landscape	Assessment commentary	Enhancement/ Mitigation
											Nicolton Road; ensure strong landscape treatment along the Northern boundary to A803 and to the West fronting Gilston Crescent and Gilston farm; and provide strong native species woodland buffer / screen planting around the proposed industrial/ business area to screen from existing and proposed housing and wider area to mitigate negative effects on landscape .
Alternative 2 – Moderate settlement extension to Polmont, involving greenfield release at Station Road (136)	+ -	+ -	+ -	--	-	-	+ -	--	-	<ul style="list-style-type: none"> Development could have a positive effect on biodiversity (due to potential to connect up fragmented parts of the broadleaved woodland habitat network) population and human health (due to potential to improve the quality and connectivity of the green network and to improve the quality of existing open space) soil (due to remediation of historic contamination) material assets (due to potential to improve the quality of the active travel network and increase the amount of LZCGT) Development could have a significant negative effect on biodiversity (due to potential for adverse impact on legally protected species) water (due to potential fluvial flood risk) cultural heritage (due to potential adverse impact on the Union Canal SAM and its setting) Development could have a negative effect on biodiversity (due to potential impact on Union Canal SINC and potential to sever an important habitat corridor) population and human health (due to increased road traffic noise and nuisance noise impact from adjacent railway line) soil (due to loss of agricultural land) water (due to potential surface water and canal related flood risk) air (due to increased emissions from motorised transport) climatic factors (due to increased emissions of greenhouse gases); material assets (due to increased use of primary resources in the construction process, increased traffic on the local road network, potential adverse impact on the water supply network and potential to sever the active travel network) and landscape (due to adverse landscape and visual impacts in an area of low landscape sensitivity) 	<ul style="list-style-type: none"> Development should incorporate new broadleaved woodland planting to connect up fragmented habitat networks and ensure positive effects on biodiversity; Development proposals should be accompanied by protected species surveys and appropriate mitigation employed to avoid significant negative effects on biodiversity; Development proposals should be accompanied by an ecological assessment which identifies habitats of ecological value and be designed to retain these area to mitigate negative effects on biodiversity; Development should incorporate a habitat buffer on the southern edge of the site to avoid adverse impact on the Union Canal SINC and mitigate negative effects on biodiversity; Development should contribute towards the improvement of the quality and connectivity of the Union Canal and Polmont Burn corridors to ensure positive effects on population and human health; Development should provide financial contributions towards the improvement of existing open space to ensure positive effects on population and human health; Development should incorporate suitably designed noise mitigation measures to mitigate negative effects on population and human health; Development should investigate potential sources of historic contamination and remediate it to ensure positive effects on soil; Development proposals should be accompanied by a flood risk assessment and areas at risk of flooding should be excluded from development to mitigate significant negative effects on water; Development proposals should be accompanied by a drainage strategy to mitigate negative effects on water; Scottish Canals should be contacted to establish the potential risk and mitigation details from the canal to mitigate negative effects on water; Development should ensure that heat demand is met through district heating networks (subject to the outcomes of a feasibility

Alternative	Biodiversity Flora & Fauna	Population & Human Health	Soil	Water	Air	Climatic Factors	Material Assets	Cultural Heritage	Landscape	Assessment commentary	Enhancement/ Mitigation
											<p>statement) to mitigate negative effects on climatic factors;</p> <ul style="list-style-type: none"> • Development should incorporate on site LZCGT to ensure positive effects on material assets; • Development should improve the quality of and avoid severing the active travel network to ensure positive effects and mitigate negative effects on material assets; • A Water Supply Impact Assessment will be required to determine capacity at Polmont's service reservoir which may need upgraded dependant on the cumulative scale of housing growth within its catchment to mitigate negative effects on material assets. • Development should be undertaken sensitively to avoid adverse impact on the Union Canal SAM or its setting to mitigate significant negative effects on cultural heritage; • Development should provide screen / buffer planting to railway along [lower] Northern boundary; allow for a permeable pedestrian access through site; and ensure buffer planting to the burn and other semi natural woodland areas to mitigate negative effects on landscape.
<p>Alternative 3 – Moderate settlement extension to Polmont, involving green belt release at Polmont Park (195)</p>	<p>+ +</p>	<p>- +</p>	<p>- -</p>	<p>N</p>	<p>--</p>	<p>-</p>	<p>-</p>	<p>+ -</p>	<p>-- --</p>	<ul style="list-style-type: none"> • Development could have a significant positive effect on biodiversity (due to the potential to connect up significant fragmented broadleaved woodland habitat networks) • Development could have a positive effect on population and human health (due to potential to improve the quality and connectivity of the green network and to improve the quality of existing open space) material assets (due to potential to improve the quality of the active travel network and to increase the amount of LZCGT) • Development could have a significant negative effect on water (due to potential fluvial flood risk) cultural heritage (due to potential adverse impact on the setting of the Antonine Wall WHS) landscape (due to a loss of greenbelt land which adversely impacts on the landscape setting of Polmont) • Development could have a negative effect on biodiversity (due to potential adverse impact on the Polmont Park SINC and mature woodland to the west of the site) population and human health (due to increased road traffic noise) air (due to increased emissions from motorised transport) climatic factors (due to increased emissions of greenhouse gases); material assets (due to increased use of primary resources in the construction process, increased traffic on the local road network, potential adverse impact on the water supply network) 	<ul style="list-style-type: none"> • Development should incorporate new broadleaved woodland planting to connect up fragmented habitat networks and ensure significant positive effects on biodiversity; • Buffer planting should be created around the western boundary of the site to protect adjacent woodland and mature trees and woodland/scrub in the south eastern corner of the site should be retained to mitigate negative effects on biodiversity; • Development should contribute towards the improvement in the quality and connectivity of the Polmont Burn Corridor to ensure positive effects on population and human health and material assets; • Development proposals should be accompanied by a flood risk assessment and areas at risk of flooding should be excluded from development to mitigate significant negative effects on water; • Development should ensure that heat demand is met through district heating networks (subject to the outcomes of a feasibility statement) to mitigate negative effects on climatic factors; • Development should incorporate on site LZCGT to ensure positive effects on material assets; • A Water Supply Impact Assessment will be required to determine capacity at Polmont's service reservoir which may need upgraded dependant on the cumulative scale of housing growth within its catchment to mitigate negative effects on material assets.

Alternative	Biodiversity Flora & Fauna	Population & Human Health	Soil	Water	Air	Climatic Factors	Material Assets	Cultural Heritage	Landscape	Assessment commentary	Enhancement/ Mitigation
											<ul style="list-style-type: none"> Development proposals should be accompanied by a cultural heritage assessment which outlines the development's impact on the outstanding universal value of the Antonine Wall WHS and identifies suitable mitigation measures to mitigate significant negative effects on cultural heritage; Development should include boundary treatments and buffer/protection of existing trees, within & outwith site; retain stone walls and incorporate new woodland planting within along the site's northern boundary to ensure future screening of development and mitigate significant negative effects on landscape.
MAIN ISSUE 6: SUSTAINABLE COMMUNITY GROWTH – BRAES AND RURAL SOUTH – WALLACESTONE, REDDING AND REDDINGMUIRHEAD											
<p>Preferred Option – No further housing development beyond existing commitments at Redding Park and Hillcrest (sites 031 & 056), other than infill and redevelopment opportunities which may arise within the urban area.</p>	--	+	-	--	-	-	+	+	-	<ul style="list-style-type: none"> Development of these sites could deliver approximately 55 new houses. Between 2001 and 2014 each new house built in the Urban Braes area increased the population by 2.10 people. At those rates 55 new houses could be expected to increase the population of Wallacestone, Redding and Reddingmuirhead by 115 people which would equate to a 2.0% population increase from mid-2014 population estimates (5,736) The average household size in the Council area is 2.26 people per household. At those rates 55 new houses could be expected to increase the population by 124 people which could equate to a 2.2% population increase. Development of the Redding Park (031) site could have positive effect on population and human health and material assets (through regeneration of a vacant site and improvement of townscape value) and cultural heritage (through improving the setting of the Union Canal SAM) development could also have a significant negative effect on cultural heritage (through adverse impact on the Union Canal SAM) Development of the Hillcrest (056) site could have a positive effect on population and human health (through creation of new open space in an area of deficiency and potential to improve the quality and connectivity of the green network) material assets (due to improving the townscape value of the Hillcrest Square development) a significant negative effect on biodiversity (due to potential adverse impact on legally protected species) water (due to potential fluvial flood risk) and landscape (due to adverse landscape and visual impacts in a prominent ridgeline location) and a negative effect on soil (due to loss of agricultural land) Development of both sites (031 & 056) could have a positive effect on material assets (due to increasing the amount of LZCGT a negative effect on biodiversity (due to potential adverse impact on the Union Canal SINC and the potential SINC at Belmont Avenue respectively) population and human health (due to increased noise from road traffic) air (due to increased emissions from motorised transport) climatic factors (due to increased emissions of greenhouse gases) material assets (due to increased use of primary resources in the construction process, improving the quality of the active travel network and increased traffic on the local road network) 	<ul style="list-style-type: none"> Development proposals at the Hillcrest (056) site should be accompanied by protected species surveys and appropriate mitigation employed to avoid significant negative effects on biodiversity; Development of the Redding Park and Hillcrest (031 & 056) sites should be developed sensitively to avoid adversely impacting on the Union Canal SINC and the potential SINC at Belmont Avenue respectively to mitigate negative effects on biodiversity; Development at the Hillcrest (056) site should incorporate new open space to meet local deficiencies in access to open space to ensure positive effects on population and human health; Development of the Hillcrest (056) site should contribute towards the creation of an accessible woodland edge to the urban area to ensure positive effects on population and human health; Development proposals at the Hillcrest (056) site should be accompanied by a flood risk assessment and areas at risk of flooding should be excluded from development to mitigate significant negative effects on water; Development at the Redding Park and Hillcrest (031 & 056) sites should incorporate on site LZCGT to ensure positive effects on material assets; Development at the Redding Park and Hillcrest (031 & 056) sites should improve the quality of the active travel network to ensure positive effects on material assets; Development of the Redding Park (031) site should be undertaken sensitively to avoid adversely impacting on the Union Canal SAM or its setting to mitigate significant negative effects on cultural heritage; Development of the Hillcrest (056) site should employ careful siting, design and landscaping to mitigate significant negative

Alternative	Biodiversity Flora & Fauna	Population & Human Health	Soil	Water	Air	Climatic Factors	Material Assets	Cultural Heritage	Landscape	Assessment commentary	Enhancement/ Mitigation
											effects on landscape ;
Alternative 1 – New Wallacestone Strategic Growth Area involving greenfield expansion at Standrigg Road (147)	+ -	+ -	+	+ -	-	-	+ -	N	--	<ul style="list-style-type: none"> Development could have positive effects on biodiversity (due to potential to reinforce the habitat network) population and human health (due to creation of new open space which meets existing deficiencies in access to open space and improving the quality and connectivity of the green network) soil (through remediation of historic contamination) water (due to potential for watercourse restoration) material assets (due to potential to improve the quality of the active travel network and increase the amount of LZCGT) Development could have significant negative effects on biodiversity (due to potential adverse impact on legally protected species and potential to sever significant habitat networks) water (due to potential fluvial flood risk) and landscape (due to adverse landscape and visual impacts in an area of moderate to high landscape sensitivity) Development could have negative effects on biodiversity (due to potential adverse impact on the Rumford West Wildlife Ste and the Wallacestone SINC) population and human health (due to increased noise from road traffic) water (due to potential surface water flood risk)) air (due to increased emissions from motorised transport) climatic factors (due to increased emissions of greenhouse gases); and material assets (due to increased use of primary resources in the construction process, increased traffic on the local road network, potential adverse impact on the water supply network and potential to sever the active travel network) 	<ul style="list-style-type: none"> Development should incorporate the creation of new broadleaved woodland to ensure positive effects on biodiversity; Development should avoid severing the broadleaved woodland habitat network to mitigate significant negative effects on biodiversity; Development proposals should be accompanied by protected species surveys and appropriate mitigation employed to avoid significant negative effects on biodiversity; A habitat buffer should be retained between development and the Rumford West Wildlife Site and the Wallacestone SINC to mitigate negative effects on biodiversity; Development should incorporate a new park or amenity space of 0.2ha or greater to address a local deficiency in access to open space and ensure positive effects on population and human health; Development should contribute towards the establishment of an accessible woodland edge to the urban Braes area to ensure positive effects on population and human health; Development should investigate and remediate potential sources of historic contamination to ensure positive effects on soil; Development should investigate and implement opportunities for watercourse restoration to ensure positive effects on water; Development proposals should be accompanied by a flood risk assessment and areas at risk of flooding should be excluded from development to mitigate significant negative effects on water; Development proposals should be accompanied by a drainage strategy to mitigate negative effects on water; Development should ensure that heat demand is met through district heating networks (subject to the outcomes of a feasibility statement) to mitigate negative effects on climatic factors; Development should improve the quality of and avoid severing the active travel network to ensure positive effects and mitigate negative effects on material assets; Development should incorporate on site LZCGT to ensure positive effects on material assets; A Water Supply Impact Assessment will be required to determine capacity at Polmont's service reservoir which may need upgraded dependant on the cumulative scale of housing growth within its catchment to mitigate negative effects on

Alternative	Biodiversity Flora & Fauna	Population & Human Health	Soil	Water	Air	Climatic Factors	Material Assets	Cultural Heritage	Landscape	Assessment commentary	Enhancement/ Mitigation
											<p>material assets.</p> <ul style="list-style-type: none"> Development should: incorporate strong structure planting around its boundaries; and avoid encroaching on the upper part of the north western block to mitigate significant negative effects on landscape;
<p>Alternative 2 – Minor settlement extension at Redding Park North (145)</p>	-	+	-	+	-	-	+	-	-	<ul style="list-style-type: none"> Development could have a positive effect on population and human health (due to creation of new open space and improving the quality and connectivity of the green network) soil (due to remediation of historic contamination) water (due to potential for watercourse restoration) material assets (due to potential to improve the quality of the active travel network and to increase the amount of LZCGT) Development could have a significant negative effect on biodiversity (due to potential adverse impact on legally protected species) water (due to potential fluvial flood risk) cultural heritage (due to potential adverse impact on the Union Canal SAM) and landscape (due to averse landscape and visual effect in an area of high sensitivity to landscape change) Development could have a negative effect on biodiversity (due to potential adverse impact on Westquarter Burn Wildlife Site and potential to sever the broadleaved woodland habitat network) population and human health (due to increased road traffic noise, increased exposure to nuisance noise and odour from nearby recycling centre and potential to compromise waste handling operations) water (due to potential surface water and canal related flood risk) air (due to increased emissions from motorised transport) climatic factors (due to increased emissions of greenhouse gases); and material assets (due to increased use of primary resources in the construction process, increased traffic on the local road network and potential adverse impact on the water supply network) 	<ul style="list-style-type: none"> Development proposals should be accompanied by protected species surveys and appropriate mitigation employed to avoid significant negative effects on biodiversity; An undeveloped habitat buffer should be retained alongside the Westquarter Burn Wildlife Site to mitigate negative effects on biodiversity; A broadleaved woodland habitat corridor should be retained through the site to mitigate negative effects on biodiversity; Development should incorporate the creation of a new park or amenity space of 0.2ha or greater to ensure positive effects on population and human health; Development should contribute towards landscape and access improvements along the John Muir Way and at Westquarter Glen to ensure positive effects on population and human health; Development should investigate and remediate sources of historic contamination to ensure positive effects on soil; Development should investigate and implement opportunities for watercourse restoration to ensure positive effects on water; Development proposals should be accompanied by a flood risk assessment and areas at risk of flooding should be excluded from development to mitigate significant negative effects on water; Development proposals should be accompanied by a drainage strategy to mitigate negative effects on water; Scottish Canals should be contacted to establish the potential risk and mitigation details from the canal to mitigate negative effects on water; Development should improve the quality of the active travel network to ensure positive effects on material assets; Development should incorporate on site LZCGT to ensure positive effects on material assets; A Water Supply Impact Assessment will be required to determine capacity at Polmont's service reservoir which may need upgraded dependant on the cumulative scale of housing growth within its catchment to mitigate negative effects on material assets. Development should be undertaken sensitively to avoid adversely impacting on the Union Canal SAM or its setting to

Alternative	Biodiversity Flora & Fauna	Population & Human Health	Soil	Water	Air	Climatic Factors	Material Assets	Cultural Heritage	Landscape	Assessment commentary	Enhancement/ Mitigation
Alternative 3 – Allocation of greenfield site for residential use at Redding Road (146)	+ -	+ -	N	-	-	-	-	N	-	<ul style="list-style-type: none"> Development could have a positive effect on biodiversity (due to potential to link up fragmented parts of the broadleaved woodland habitat network) population and human health (through improving the quality of existing open space and improving the quality and connectivity of the green network) Development could have a significant negative effect on biodiversity (due to potential adverse impact on legally protected species) Development could have a negative effect on biodiversity (due to potential adverse impact on Redding Grasslands SINC and reduced habitat connectivity between Westquarter Glen and the railway corridor) population and human health (due to the loss of open space, increased road traffic noise and increased exposure to nuisance noise from the adjacent railway line) water (due to potential surface water flood risk) air (due to increased emissions from motorised transport) climatic factors (due to increased emissions of greenhouse gases) material assets (due to increased use of primary resources in the construction process, increased traffic on the local road network and potential adverse impact on the water supply network) and landscape (due to adverse landscape and visual impacts in an area of medium sensitivity to landscape change) 	mitigate significant negative effects on cultural heritage ; <ul style="list-style-type: none"> Development should include new broadleaved woodland planting to connect up fragmented habitat networks and ensure positive effects on biodiversity; Development proposals should be accompanied by protected species surveys and appropriate mitigation employed to avoid significant negative effects on biodiversity; Development proposals should be accompanied by an ecological assessment which identifies habitats of ecological value and be designed to retain these area to mitigate negative effects on biodiversity; Development should provide financial contributions towards the improvement of existing open space to ensure positive effects on population and human health; Development should contribute towards landscape and access improvements at Westquarter Glen to ensure positive effects on population and human health; Development proposals should be accompanied by a drainage strategy to mitigate negative effects on water; Development should ensure that heat demand is met through district heating networks (subject to the outcomes of a feasibility statement) to mitigate negative effects on climatic factors; A Water Supply Impact Assessment will be required to determine capacity at Polmont's service reservoir which may need upgraded dependant on the cumulative scale of housing growth within its catchment to mitigate negative effects on material assets; Development should: keep housing density low; avoid substantial retaining structures; ensure structure planting for screening and to form visual linkage with woodland to the North West and with railway woodland boundary; and avoid encroaching on the highest part of site to mitigate negative effects on landscape
MAIN ISSUE 5: SUSTAINABLE COMMUNITY GROWTH – BRAES AND RURAL SOUTH - RURAL SOUTH VILLAGES											
Preferred Option: Rationalise existing allocated housing sites, with some sites de-allocated to better reflect low market demand,	+ -	+ -	+ -	- -	-	-	+ -	- -	- -	<ul style="list-style-type: none"> Development of these sites could deliver approximately 1786 new houses. Between 2001 and 2014 each new house built in the Rural South Villages area increased the population by 0.43 people. At those rates 1786 new houses could be expected to increase the population of the Rural South Villages by 768 people which would equate to an 8.8% population increase from mid-2014 population estimates (8,758) The average household size in the Council area is 2.26 people per household. At those rates 1786 new houses could be expected to increase the population by 4036people which could equate to a 46.1% population increase. Development of the Avonbridge Road and Main Street (058 & 205) sites could have a positive effect on biodiversity (through connecting up fragmented parts of the 	<ul style="list-style-type: none"> Development of the Avonbridge Road site should incorporate new broadleaved woodland plating to connect up fragmented parts of the broadleaved woodland habitat network and ensure positive effects on biodiversity; Development of the Bridgend Road, Stein's Brickworks and Whitecross (049, 075 & 076) sites should incorporate new broadleaved woodland planting to reinforce existing habitat networks and ensure positive effects on biodiversity; Development proposals at the Bridgend Road, Church Road 2, Standburn West and Whitecross (049, 052, 060 & 076) sites

Alternative	Biodiversity Flora & Fauna	Population & Human Health	Soil	Water	Air	Climatic Factors	Material Assets	Cultural Heritage	Landscape	Assessment commentary	Enhancement/ Mitigation
<p>but with the Whitecross SGA (site 76) retained along with selected sites in other villages. (049, 050,052, 054, 058, 060 075,076 & 205)</p>										<p>broadleaved woodland habitat network)</p> <ul style="list-style-type: none"> • Development of the Bridgend Road, Stein’s Brickworks and Whitecross (049, 075 & 076) sites could have a positive effect on biodiversity (through reinforcing the broadleaved woodland habitat network) • Development of the Bridgend Road, Church Road 2 Standburn West and Whitecross (049, 052 ,056,060 & 076) sites could have a significant negative effect on biodiversity (due to potential adverse impact on legally protected species) • Development of the Slamannan Road 2 (054) site could have a negative effect on biodiversity (due to potential adverse impact on riparian habitat) • Development of the Church Road 2 and Main Street (052 & 205) sites could have and a negative effect on biodiversity (due to loss of mature trees) • Development of the Standburn West (060) site could have a negative effect on biodiversity (due to a potential adverse impact on the Drumbowie Park Wildlife Site and potentially severing the broadleaved woodland habitat network) • Development of the Slamannan Road 2, Standburn West, Stein’s Brickworks and Whitecross (054, 060, 075 & 076) sites could have a cumulatively significant positive effect on population and human health and material assets (by improving townscape value through regeneration of a vacant/derelict brownfield site) and soil (due to potential remediation of historic contamination) • Development of the Bridgend Road, Cockmalane, Standburn West, Stein’s Brickworks and Whitecross (049, 050, 060, 075 & 076) sites could have a positive effect on population and human health (through creation of new open space in an area of deficiency) • Development of the Church Road 2, Slamannan Road 2, Avonbridge Road and Main Street (052 , 054, 058 & 205) sites could have a positive effect on population and human health (due to improving the quality of existing open space) • Development of the Bridgend Road and Church Road 2 (049 & 052) sites could have a positive effect on population and human health (due to potential to improve the quality and connectivity of the green network) • Development of the Main Street (205) site could have a negative effect on population and human health (due to loss of open space) • Development of the Whitecross (076) site could have a positive effect on soil (through making safe unstable ground) a significant negative effect on biodiversity and landscape (due to potential loss of long established woodland of plantation origin) population and human health (due to exposure to risk from major hazard pipelines) and landscape (due to potentially significant adverse landscape impacts) and a negative effect on biodiversity (due to adverse impact on the Haining Wood Wildlife Site and the Union Canal SINC and the potential to sever parts of the broadleaved woodland habitat network) and population and human health (due to increased exposure to nuisance odour from a nearby landfill site and the potential to compromise waste handling operations) • Development of the Standburn West (060) site could have a positive effect on soil (to the potential to make safe unstable ground) • Development of the Bridgend Road and Whitecross (049 & 076) sites could have a 	<p>should be accompanied by protected species surveys and appropriate mitigation employed to avoid significant negative effects on biodiversity;</p> <ul style="list-style-type: none"> • Development proposals at the Slamannan Road 2, Church Road 2 and Main Street (052, 054 & 205) sites should be accompanied by an ecological assessment which identifies habitats of ecological value and be designed to retain these area to mitigate negative effects on biodiversity; • Development at the Whitecross (076) site should retain areas of long established woodland of plantation origin and provide appropriately sized habitat buffers to mitigate significant negative effects on biodiversity and landscape; • Development at the Standburn West and Whitecross (060 & 076) site should incorporate appropriately sized undeveloped habitat buffers adjacent to the Haining Wood Wildlife Site, the Union Canal SINC and Drumbowie Wildlife Site and avoid severing the broadleaved woodland habitat network to mitigate negative effects on biodiversity; • Development at the Bridgend Road, Cockmalane, Standburn West, Stein’s Brickworks and Whitecross (049, 050, 060, 075 & 076) sites should incorporate new open space to meet local deficiencies in access to open space to ensure positive effects on population and human health; • Development at the Church Road 2, Slamannan Road 2, Avonbridge Road and Main Street (052 , 054, 058 & 205) sites should provide financial contributions towards the improvement of off-site open space to ensure positive effects on population and human health • Development of the Bridgend Road (049) site should secure public access to the Linn Mill Burn to ensure positive effects on population and human health • Development of the Church Road 2 (052) site should contribute towards the creation of an accessible woodland edge to the urban area to ensure positive effects on population and human health; • Sensitive land uses should be excluded from major hazard pipeline zones on the Whitecross (076) site to mitigate significant negative effects on population and human health • Development proposals at the Standburn West and Main Street (060 & 205) site should be accompanied by a peat management plan to mitigate negative effects on soil; • Development at the Standburn West and Whitecross (060 & 076) sites should make safe unstable ground to ensure positive effects on soil;

Alternative	Biodiversity Flora & Fauna	Population & Human Health	Soil	Water	Air	Climatic Factors	Material Assets	Cultural Heritage	Landscape	Assessment commentary	Enhancement/ Mitigation
										<p>significant negative effect on soil (due to loss of prime quality agricultural land)</p> <ul style="list-style-type: none"> Development of the Cockmalane, Hillcrest, Avonbridge Road and Main Street (050, 056, 058 & 205) sites could have a negative effect on soil (due to loss of agricultural land) Development of the Standburn West and Main Street (060 & 205) sites could have a negative effect on soil (due to the loss of carbon rich soil) Development of the Bridgend Road, Slamannan Road 2, Avonbridge Road, Stein's Brickworks, Whitecross and Main Street (049, 054, 058, 075, 076 & 205) sites could have a significant negative effect on water (due to potential fluvial flood risk) Development of the Bridgend Road, Cockmalane, Church Road 2, Slamannan Road 2, Avonbridge Road, Standburn West, Stein's Brickworks, Whitecross and Main Street (049, 050, 052, 054, 058, 060, 075, 076 & 205) sites could have a positive effect on material assets (due to increasing the amount of LZCGT) and a negative effect on population and human health (due to increased noise from road traffic) air (due to increased emissions from motorised transport) climatic factors (due to increased emissions of greenhouse gases) material assets (due to increased use of primary resources in the construction process and increased traffic on the local road network) Development of the Bridgend Road, Church Road 2, Standburn West, Stein's Brickworks and Whitecross (049, 052, 060, 075 & 076) sites could have a positive effect on material assets (due to improving the quality of the active travel network) Development of the Bridgend Road, Church Road 2, Standburn West and Whitecross (049, 052, 060 & 076) sites could have and a negative effect on material assets (due to potential to sever the active travel network) Development of the Church Road 2, Standburn West and Whitecross (052, 060 & 076) sites could have and a negative effect on material assets (due to potential to sterilize shallow coal workings) Development of the Slamannan Road 2 and Whitecross (054 & 076) sites could have a negative effect on material assets (through adversely affecting village character) Development of the Avonbridge Road (058) site could have a negative effect on material assets (due to potential to degrade townscape quality at the eastern entrance to Slamannan). Development of the Stein's Brickworks (075) site could have a significant negative effect on cultural heritage (due to a potential adverse impact on the setting of the Antonine Wall WHS) and a negative effect on biodiversity (due to potential adverse impact on regenerating brownfield and woodland habitat) and population and human health (through exposure to nuisance noise from adjacent railway and stone mason's yard) Development of the Church Road 2 (052) site could have a significant negative effect on landscape (due to adverse landscape and visual impacts in a prominent ridgeline location) Development of the Bridgend Road, Cockmalane, Slamannan Road 2, Avonbridge Road, Standburn West, Stein's Brickworks and Main Street (050, 054, 058, 060, 075 	<ul style="list-style-type: none"> Development at the Slamannan Road 2, Standburn West, Stein's Brickworks and Whitecross (054, 060, 075 & 076) sites should investigate and remediate historic contamination to ensure cumulatively significant positive effects on soil; Development proposals at the Bridgend Road, Slamannan Road 2, Avonbridge Road, Stein's Brickworks, Whitecross and Main Street (049, 054, 058, 075, 076 & 205) sites should be accompanied by a flood risk assessment and areas at risk of flooding should be excluded from development to mitigate significant negative effects on water; Developments at the Slamannan Road 2, Stein's Brickworks, Whitecross and Main Street sites (054, 075, 076 & 205) should ensure that heat demand is met through district heating networks (subject to the outcomes of a feasibility statement) to mitigate negative effects on climatic factors; Development at the Bridgend Road, Cockmalane, Church Road 2, Slamannan Road 2, Avonbridge Road, Standburn West, Stein's Brickworks, Whitecross and Main Street (049, 050, 052, 054, 058, 060, 075, 076 & 205) sites should incorporate on site LZCGT to ensure positive effects on material assets; Development at the Bridgend Road, Church Road 2, Standburn West, Stein's Brickworks and Whitecross (049, 052, 060, 075 & 076) sites should improve the quality of the active travel network to ensure positive effects on material assets; Development of the Bridgend Road, Church Road 2, Standburn West and Whitecross (049, 052, 060 & 076) should avoid severing the active travel network to mitigate negative effects on material assets; Development of the Church Road 2, Standburn West and Whitecross (052, 060 & 076) sites should investigate and if feasible extract reserves of shallow coal before commencing development to mitigate negative effects on material assets; Development of the Avonbridge Road site should ensure high quality frontage development to Avonbridge Road to ensure positive effects and mitigate negative effects on material assets; Development at the Stein's Brickworks (075) site should be undertaken sensitively to avoid adversely impacting on the setting of the Antonine Wall WHS to mitigate significant negative effects on cultural heritage; Development at the Whitecross (076) site should retain existing woodland and hedgerows; and provide a comprehensive landscape framework to integrate the new development into its surroundings to mitigate significant negative effects on

Alternative	Biodiversity Flora & Fauna	Population & Human Health	Soil	Water	Air	Climatic Factors	Material Assets	Cultural Heritage	Landscape	Assessment commentary	Enhancement/ Mitigation
										<p>& 205) sites could have a negative effect on landscape (due to potential adverse landscape impact)</p>	<p>landscape;</p> <ul style="list-style-type: none"> • Development at the Bridgend Road (049) site should incorporate structure planting along the countryside boundary to delineate settlement and screen from more distant viewpoints to the East to mitigate negative effects on landscape; • Development at the Cockmalane (050) site should retain and reinforce the woodland belt along the northern boundary to mitigate negative effects on landscape; • Development at the Slamannan Road 2 (052) site should incorporate screen planting along its northern boundary to mitigate negative effects on landscape; • Development at the Stein's Brickworks (075) site should retain and enhance all boundary tree cover and provide long term management for screening to mitigate negative effects on landscape; • Development of the Church Road 2 (052) site should incorporate screen planting along the northern boundary of the site to mitigate significant negative effects on landscape; • Development at the Standburn West (060) site should: focus on the lower parts of the site; establish structure planting on the upper southern boundary; be set back from the core path alongside Bowhouse Burn to the north east, with structure planting established along this boundary to act as a buffer to the burn and valley as well as for screening to mitigate negative effects on landscape.
<p>Alternative 1: Retention of all existing sites (045-048, 051, 053, 055, 057,059)</p>	+	+	+	+	-	-	+	N	--	<ul style="list-style-type: none"> • Retention of all sites could deliver approximately 2501 new houses. Between 2001 and 2014 each new house built in the Rural South Villages area increased the population by 0.43 people. At those rates 2501 new houses could be expected to increase the population of the Rural South Villages by 1075 people which would equate to an 12.3% population increase from mid-2014 population estimates (8,758) • The environmental effects of the development of sites 049, 050,052, 054. 056,058 075,076 & 205 are detailed above the additional environmental effects of the development of sites 045-048, 051, 053, 055, 057,059 & 060 are detailed below. The cumulative environmental effects of retaining all sites is summarised in the matrix to the left. • Development of the Slamannan Road 1 (Avonbridge) and the Rumlie (046 & 059) sites could have a positive effect on biodiversity (due to potential to reinforce the broadleaved woodland habitat network) • Development of the Bridgehill and Slamannan Road 1 (Limerigg) (048, 053) sites could have a positive effect on biodiversity (due to potential to connect up fragmented parts of the broadleaved woodland habitat network) • Development of the Slamannan Road 1 (Limerigg) (053) site could have a positive effect on biodiversity (due to potential to reinforce the wetland habitat network) a significant negative effect on material assets (through significantly adversely 	<ul style="list-style-type: none"> • Development at the Slamannan Road 1 (Avonbridge), Bridgehill, Slamannan Road 1 (Limerigg) and the Rumlie (046, 048, 053 & 059) sites should incorporate new broadleaved woodland planting to reinforce the existing habitat network and connect up fragmented parts of the broadleaved woodland habitat network to ensure positive effects on biodiversity; • Development at the Slamannan Road 1 (Limerigg) (053) site should incorporate new wetland habitat to reinforce existing networks to ensure positive effects on biodiversity; • Development proposals at the Main Street/Slamannan Road, Slamannan Road 2 (Avonbridge) , Bridgehill, Slamannan Road 1 (Limerigg) and Reddingmuirhead Road (045, 047, 048, 053 &055) sites should be accompanied by protected species surveys and appropriate mitigation employed to avoid significant negative effects on biodiversity; • Development proposals at the Hillend Farm (057) site should incorporate a new woodland buffer to the south of Mosscastle Road and should be accompanied by an appropriate assessment which demonstrates that development can be

Alternative	Biodiversity Flora & Fauna	Population & Human Health	Soil	Water	Air	Climatic Factors	Material Assets	Cultural Heritage	Landscape	Assessment commentary	Enhancement/ Mitigation
										<p>affecting village character)</p> <ul style="list-style-type: none"> Development of the Main Street/Slamannan Road, Slamannan Road 2 (Avonbridge) , Bridgehill, Slamannan Road 1 (Limerigg) and Reddingmuirhead Road (045, 047, 048, 053 & 055) sites could have a significant negative effect on biodiversity (due to potential adverse impact on legally protected species) Development of the Hillend Farm (057) site could have a significant negative effect on biodiversity (due to a likely significant effect on the Slamannan Plateau SPA) and landscape (due to adverse landscape and visual impact on a visually prominent site) and a negative effect on biodiversity (due to potential adverse impact on Rashiehill More Wildlife Site) and material assets (due to breaching the capacity of the Slamannan Waste Water Treatment Works) Development of the Reddingmuirhead Road (055) site could have a significant negative effect on biodiversity (through severing the connectivity of significant habitat networks) Development of the Main Street/Slamannan Road, Reddingmuirhead Road and Standburn West (045, 055 & 060) sites could have a negative effect on biodiversity (due to potential loss of broadleaved woodland habitat) Development of the Slamannan Road 1 (Avonbridge) (046) site could have a negative effect on biodiversity (due to potential adverse impact on the Craighbank Quarry Wildlife Site) Development of the Main Street/Slamannan Road, Slamannan Road 2 (Avonbridge) and Bridgehill (045, 047 & 048) sites could have a negative effect on biodiversity (due to potential adverse impact on riparian habitat) Development of the Rumlie (059) site could have a negative effect on biodiversity (due to loss of habitat of some ecological value) Development of the Main Street/Slamannan Road, the Rumlie & Standburn West (045, 059 & 060) sites could have a positive effect on population and human health (due to potential to regenerate a vacant/derelict site) and material assets (due to improving townscape quality through regenerating a brownfield site) Development of the Slamannan Road 1 (Limerigg) and Hillend Farm (053 & 060) sites could have a positive effect on population and human health (due to creation of new open space) and a negative effect on soil (due to the loss of carbon rich soil) Development of the Church Road 1 (051) site could have a positive effect on population and human health (due to creation of new open space which addresses an existing deficiency in access to open space in the local area) and water (due to potential for watercourse restoration through de-culverting) and a negative effect on biodiversity (due to loss of neutral grassland habitat) Development of the Main Street/Slamannan Road, Slamannan Road 1 & 2 (Avonbridge), Bridgehill, Reddingmuirhead Road and the Rumlie (045,046-048, 055 & 059) sites could have a positive effect on population and human health (due to potential to improve the quality of existing open space) Development of the Main Street/Slamannan Road, Slamannan Road 1 & 2 (Avonbridge), Bridgehill Church Road 1, Slamannan Road 1 (Limerigg) (045,046-048, 051, 053) sites could have a positive effect on population and human health 	<p>implemented without adversely affecting the integrity of the Slamannan Plateau SPA either alone or in combination with other plans and projects to mitigate significant negative effects on biodiversity</p> <ul style="list-style-type: none"> Development at the Hillend Farm (057) site should incorporate mitigating planting to mitigate significant negative effects on landscape; Development at the, Slamannan Road 1 (Avonbridge), Hillend Farm and Standburn West (046, 057 & 060) sites should incorporate an undeveloped habitat buffer alongside the Craighbank Quarry, Rashiehill Mire Wildlife Sites respectively to mitigate negative effects on biodiversity; The Slamannan Waste Water Treatment Works should be expanded to accommodate increased foul water flows from the Hillend Farm site to mitigate negative effects on material assets; Development at the Main Street/Slamannan Road and Reddingmuirhead Road (045 & 055) sites should avoid the loss of areas of broadleaved woodland to mitigate significant and non-significant effects on biodiversity; Development proposals at the Main Street/Slamannan Road, Slamannan Road 2 (Avonbridge), Bridgehill, Church Road 1 and the Rumlie (045, 047, 048, 051 & 059) sites should be accompanied by an ecological assessment which identifies habitats of ecological value and be designed to retain these area to mitigate negative effects on biodiversity; Potential sources of historic contamination should be investigated and remediated at the Main Street/Slamannan Road (045) site to ensure positive effects on soil; Development at the Church Road 1, Slamannan Road 1 (Limerigg), Hillend Farm (051, 053 & 057) sites should involve the creation of new open space to ensure positive effects on population and human health; Development at the Main Street/Slamannan Road, Slamannan Road 1 & 2 (Avonbridge), Bridgehill, Reddingmuirhead Road and the Rumlie (045,046-048, 055 & 059) sites should provide financial contributions towards the improvement of off-site open space to ensure positive effects on population and human health; Development of the Main Street/Slamannan Road, Slamannan Road 2 and Bridgehill (045, 047 & 048) sites should contribute towards the improvement of the River Avon walkway upstream from Avonbridge to ensure positive effects on population and human health

Alternative	Biodiversity Flora & Fauna	Population & Human Health	Soil	Water	Air	Climatic Factors	Material Assets	Cultural Heritage	Landscape	Assessment commentary	Enhancement/ Mitigation
										<p>(due to potential to improve the quality and connectivity of the green network)</p> <ul style="list-style-type: none"> Development of the Main Street/Slamannan Road, Slamannan Road 2 (Avonbridge) and Bridgehill (045,047 & 048) sites could have a significant negative effect on population and human health (due to increased exposure to risk from major hazards) Development of the Main Street/Slamannan Road (045) site could have a positive effect on soil (due to potential to remediate historic contamination) Development of the Slamannan Road 1 (Limerigg) and Reddingmuirhead Road (053 & 055) sites could have a positive effect on soil (due to potential to make safe unstable ground) Development of the Slamannan Road 2 (Avonbridge) and Bridgehill (047 & 048) sites could have a significant negative effect on soil (due to loss of prime quality agricultural land) Development of the Slamannan Road 1(Avonbridge), Church Road 1, Slamannan Road 1 (Limerigg) and Reddingmuirhead Road (046, 051, 053 & 055) sites could have a negative effect on soil (due to loss of agricultural land) Development of the Main Street/Slamannan Road, Slamannan Road 1 & 2 (Avonbridge), Bridgehill, Slamannan Road 1 (Limerigg), Hillend Farm and the Rumlie (045,046-048, 053, 057, 059 & 060) sites could have a significant negative effect on water (due to potential fluvial flood risk) Development of the Main Street/Slamannan Road, Slamannan Road 1 & 2 (Avonbridge), Bridgehill, Church Road 1, Slamannan Road 1 (Limerigg), Reddingmuirhead Road, Hillend Farm & the Rumlie (045,046-048, 051, 053, 055, 057, 059) sites could have a positive effect on material assets (due to increasing the amount of LZCGT) and a negative effect on population and human health (due to an increase in noise from road traffic) air (due to increased emissions from motorised transport) climatic factors (due to increased emissions of greenhouse gases) material assets (due to increased use of primary resources in the construction process and increased traffic on the local road network) Development of the Main Street/Slamannan Road, Slamannan Road 2 (Avonbridge), Bridgehill, Church Road 1, Slamannan Road 1 (Limerigg) and Hillend Farm (045, 047, 048, 051, 053, 057 & 060) sites could have a positive effect on material assets (due to improving the quality of the active travel network) Development of the Slamannan Road 2 (Avonbridge), Bridgehill, Church Road 1 and Hillend Farm (047-048, 051 & 057) sites could have a negative effect on material assets (due to potential to sever the active travel network) Development of the Slamannan Road 1 & 2 (Avonbridge), Bridgehill, Church Road 1, Reddingmuirhead Road, Hillend Farm and the Rumlie (046-048, 051, 055, 057 & 059) sites could have a negative effect on material assets (due to potential to degrade townscape quality) Development of the Slamannan Road 1 (Limerigg) (060) site could have a negative effect on material assets (through potentially sterilising deposits of shallow coal) Development of the Slamannan Road 1 & 2 (Avonbridge), Bridgehill, Church Road 1 and Slamannan Road 1 (Limerigg), Reddingmuirhead Road and the Rumlie (046- 	<ul style="list-style-type: none"> Development at the Slamannan Road 1 (Avonbridge) (046) site should improve public access to the Craighbank Quarry wildlife site to ensure positive effects on population and human health Development of the Church Road 1 and Slamannan Road 1 (Limerigg) (051 & 053) sites should contribute towards landscape and access improvements to the Lower Braes Southern Fringe and Upper Braes green network opportunities to ensure positive effects on population and human health; Development at the Slamannan Road 1 (Limerigg) and Hillend Farm (053 & 057) sites should be accompanied by a peat management plan to mitigate negative effects on soil; Development at the Slamannan Road 1 (Limerigg) and Reddingmuirhead Road (053 & 055) sites should investigate potentially unstable ground and make it safe to ensure positive effects on soil; Development at the Church Road 1 (051) site should investigate opportunities for watercourse restoration to ensure positive effects on water Development proposals at the Main Street/Slamannan Road, Slamannan Road 1 & 2 (Avonbridge), Bridgehill, Slamannan Road (Limerigg), Hillend Farm and the Rumlie (045,046-048, 053, 057, 059 & 060) sites should be accompanied by a flood risk assessment and areas at risk of flooding should be excluded from development to mitigate significant negative effects on water; Development of the Main Street/Slamannan Road, Slamannan Road 1 & 2 (Avonbridge), Bridgehill Church Road 1, Slamannan Road 1 (Limerigg), Reddingmuirhead Road, Hillend Farm & the Rumlie (045,046-048, 051, 053, 055, 057, 059) sites should incorporate on site LZCGT to ensure positive effects on material assets; Development at the Church Road 1, Slamannan Road 1 (Avonbridge), Slamannan Road 1 (Limerigg) and Hillend Farm (046, 054 & 057) sites should ensure that heat demand is met through district heating networks (subject to the outcomes of a feasibility statement) to mitigate negative effects on climatic factors; Development of the Main Street/Slamannan Road, Slamannan Road 2 (Avonbridge), Bridgehill, Church Road 1, Slamannan Road 1 (Limerigg) and Hillend Farm (045, 047, 048, 051, 053 & 057) sites should improve the quality of the active travel network to ensure positive effects on material assets; Development of the Slamannan Road 1 & 2 (Avonbridge),

Alternative	Biodiversity Flora & Fauna	Population & Human Health	Soil	Water	Air	Climatic Factors	Material Assets	Cultural Heritage	Landscape	Assessment commentary	Enhancement/ Mitigation
										048, 051, 053, 055 & 059) sites could have a negative effect on landscape (due to potential adverse landscape impact)	<p>Bridgehill, Church Road 1, Hillend Farm and Standburn West (046-048, 051, 057) sites should avoid severing the active travel network to mitigate negative effects on material assets;</p> <ul style="list-style-type: none"> • Development of the Slamannan Road 1 & 2 (Avonbridge), Bridgehill, Church Road 1, Reddingmuirhead Road, Hillend Farm and the Rumlie (046-048, 051, 055, 057 & 059) sites should incorporate high quality design with active frontages to public roads, rights of way and open spaces to mitigate negative effects of material assets • Development of the Slamannan Road 1 (Limerigg) (053) site should investigate and if feasible extract reserves of shallow coal before commencing development to mitigate negative effects on material assets; • Development of the Slamannan Road 1 & 2 and Bridgehill (Avonbridge) (046-048) site should incorporate an appropriate landscape treatment at the western countryside edge to mitigate negative effects on landscape; • Development of the Church Road 1 (051) site should incorporate structure planting on its eastern boundary to mitigate negative effects on landscape; • Development at the Reddingmuirhead Road (055) site should retain mature trees and provide hedging to the rear of new houses to soften the countryside edge and mitigate negative effects on landscape;
<p>Alternative 2: Extend the Whitecross SGA, through the allocation of additional land to the south of the B825 (site 157) as part of the masterplanned new settlement</p>	+	-	+	-	--	-	-	+	-	<ul style="list-style-type: none"> • Development could have a positive effect on biodiversity (due to potential to connect up fragmented parts of the broadleaved woodland habitat network) population and human health (due to potential to create new open space and to improve the quality and connectivity of the green network) material assets (due to potential to improve the quality of the core path network and to increase the amount of LZCGT) • Development could have a significant negative effect on biodiversity (due to potential adverse impact on legally protected species) soil (due to loss of prime quality agricultural land) cultural heritage (due to potential adverse impact on the Linlithgow Bridge Inventory Battlefield site) and landscape (due to development within a special landscape area and adverse landscape and visual impacts in an area of high visual sensitivity) • Development could have a negative effect on biodiversity (due to potential loss of habitat of ecological value) population and human health (due to increased road traffic noise) water (due to potential surface water flood risk) air (due to increase in emissions for transport) climatic factors (due to increase release of greenhouse gases) material assets (due to potential to degrade townscape quality, increase traffic on the local road network and increase the use of primary resources in the construction process) 	<ul style="list-style-type: none"> • Development should incorporate new broadleaved woodland planting to connect up existing habitat networks to ensure positive effects on biodiversity • Development proposals should be accompanied by protected species surveys and appropriate mitigation employed to avoid significant negative effects on biodiversity; • Development proposals should be accompanied by an ecological assessment which identifies habitats of ecological value and be designed to retain these area to mitigate negative effects on biodiversity; • Development should involve the creation of a new park or amenity space of 0.2ha or above to ensure positive effects on population and human health; • Development should contribute towards improving the quality and connectivity of the River Avon corridor to ensure positive effects on population and human health; • Development proposals should be accompanied by a drainage strategy to mitigate negative effects on water; • Development should ensure that heat demand is met through district heating networks (subject to the outcomes of a feasibility

Alternative	Biodiversity Flora & Fauna	Population & Human Health	Soil	Water	Air	Climatic Factors	Material Assets	Cultural Heritage	Landscape	Assessment commentary	Enhancement/ Mitigation
											<p>statement) to mitigate negative effects on climatic factors;</p> <ul style="list-style-type: none"> Development should improve the quality of the active travel network to ensure positive effects on material assets; Development proposals should incorporate high quality frontage treatment along the B825 and along the path running to the south of the site to mitigate negative effects on material assets; Development should incorporate on site LZCGT to ensure positive effects on material assets; and Development should be undertaken sensitively to avoid adversely impacting on the Linlithgow Bridge Inventory Battlefield Site to mitigate significant negative effects on cultural heritage.
MAIN ISSUE 5: SUSTAINABLE COMMUNITY GROWTH – DENNY AND DUNIPACE											
<p>Preferred Option: Focus on delivering the existing Denny South East SGA Strategic Growth Area (sites 012, 013, 014, 067). Sites at Carrongrove Mill Stirling Street and Rosebank (015-017) are also carried forward.</p>	+	-	+	-	+	-	-	+	-	<ul style="list-style-type: none"> Development of these sites could deliver approximately 1305 new houses. Between 2001 and 2014 each new house built in Denny and Dunipace increased the population by 0.57 people. At those rates 1305 new houses could be expected to increase the population by 744 people which would equate to a 5.5% population increase from mid-2014 population estimates (13,563) The average household size in the Council area is 2.26 people per household. At those rates 1305 new houses could be expected to increase the population by 2949 people which could equate to a 21.7% population increase. Development of the Mydub 1 & 2 and Rosebank (013,014 & 17) sites will have a significant positive effect on biodiversity and a positive effect on climatic factors (through connecting significant isolated broadleaved woodland habitat networks and creating a carbon sink) and a negative effect on biodiversity (through loss of farmland habitat) Development at the Former Denny High School (012) site could have a positive effect on biodiversity and climatic factors (through reinforcing the broadleaved woodland habitat network and creating a carbon sink) population and human health (through improving the quality of existing open space) and a negative effect on biodiversity (due to loss of scrubland habitat) Development at the Former Denny High School and Carrongrove Mill (012 & 015) sites could have a significant negative effect on biodiversity (due to potentially severing a significant broadleaved woodland habitat corridor) Development of the Mydub 2, Carrongrove Mill, Stirling Street, Rosebank and Broad Street 1 (014-017 & 067) sites could have a significant negative effect on biodiversity (due to potential adverse impact on legally protected species) Development of the Former Denny High School, Mydub 2, Carrongrove Mill, Stirling Street and Broad Street (012, 014-016 & 067) sites could have a negative impact on biodiversity (through adverse impact on riparian habitat) Development of the Mydub 1 & 2, Carrongrove Mill, Rosebank and Broad Street (13-15,17 & 67) sites will have a positive effect on population and human health (through creation of new open space) 	<ul style="list-style-type: none"> Development at the Mydub 1& 2 and Rosebank (013,014 & 017) sites should incorporate new broadleaved woodland planting connecting fragmented habitat networks to ensure significant positive effects on biodiversity and positive effects on climatic factors Development at the Former Denny High School (012) site should incorporate new broadleaved woodland planting to reinforce existing habitat networks and ensure positive effects on biodiversity and climatic factors Development at the Former Denny High School and Carrongrove Mill (012 & 015) sites should retain and protect existing broadleaved woodland habitat to avoid significant negative effects on biodiversity Development proposals at the Mydub 2, Carrongrove Mill, Stirling Street, Rosebank and Broad Street (014-017 & 067) sites should be accompanied by protected species surveys and appropriate mitigation employed to avoid significant negative effects on biodiversity Development at the Carrongrove Mill (105) site should be undertaken sensitively to avoid adversely impacting on the Carron Glen SSSI and mitigate significant negative effects on biodiversity Development of the Former Denny High School, Mydub 2, Carrongrove Mill Stirling Street and Broad Street (012, 014-016 & 067) sites should incorporate undeveloped riparian buffers to ensure no negative impacts on ecology of the burn or functioning of the riparian corridor and mitigate negative effects on biodiversity Development of the Mydub 1 & 2, Rosebank and Broad Street (13, 14,15,17 & 67) sites should incorporate new open space to

Alternative	Biodiversity Flora & Fauna	Population & Human Health	Soil	Water	Air	Climatic Factors	Material Assets	Cultural Heritage	Landscape	Assessment commentary	Enhancement/ Mitigation
										<ul style="list-style-type: none"> • Development of the Carrongrove Mill (15) site will have a positive effect on population and human health (through addressing an existing deficiency in access to reasonably sized park or amenity space) soil (through remediation of historic contamination) and cultural heritage (due to potential to restore the b-listed Carron Glen House) a significant negative effect on biodiversity (through potential for adverse impact on Carron Glen SSSI) and a negative effect on biodiversity (due to potential loss of rough grassland and woodland habitat) cultural heritage (due to the potential to adversely impact on the category B-listed Carron Glen House and its setting) and landscape (due to moderate to low landscape impact) • Development of the Stirling Street (16) site could have a positive effect on population and human health (through improving the quality of existing open space) and a negative effect on cultural heritage (due to the potential to adversely affect the setting of a locally significant historic building) • Development of the Broad Street (067) site will have a negative effect on population and human health (due to increasing the population exposed to nuisance odour) • Development of the Mydub 1 & 2, Rosebank and Broad Street (13,14,17 & 67) sites will have a significant negative effect on soil (through loss of prime quality agricultural land) • Development of the Mydub 2, Carrongrove Mill and Broad Street (014,015 & 067) sites could have a positive effect on water (due to potential for water body restoration) • Development of the Broad Street (067) site could have a positive effect on water (due to the potential to enable connection of the adjacent caravan site to the Denny WWTW which should improve water quality within the River Carron) • Development of the Denny High School, Mydub 2, Carrongrove Mill, Rosebank and Broad Street (012,014,015,017 & 067) sites could have a significant negative effect on water (due to risk of flooding) • Development of the Denny High School, Mydub 2, Carrongrove Mill and Broad Street (012,014,015 & 067) sites could have negative effect on water (due to potential morphological impact on a watercourse) • Development of the Former Denny High School, Carrongrove Mill and Stirling Street (012,015 & 016) sites will have a cumulatively significant positive effect on material assets and landscape (through improving townscape quality as a result of regenerating a vacant/derelict brownfield site) • Development of the Mydub 1 and Mydub 2 (013 & 014) sites could have a significant positive effect on material assets (through enabling the delivery of the DEAR and significantly improving the capacity of the local road network) • Development of the Former Denny High School, Mydub 1 & 2, Carrongrove Mill, Stirling Street and Broad Street (12-17 & 67) sites will have a positive effect on material assets (due to the potential to increase the amount of LZCGT) a significant negative effect on material assets (due to increased traffic on the local road network impacting on Denny Cross which is currently operating over capacity and breaching the capacity of the local waste water treatment works) negative 	<p>ensure positive effects on population and human health</p> <ul style="list-style-type: none"> • Development of the Carrongrove Mill site should incorporate a new reasonably sized park or amenity space to address an existing deficiency in access in the local area and ensure positive effects on population and human health • Development at the Carrongrove Mill site should investigate and remediate potential sources of contamination to ensure positive effects on population and human health • Development of the Mydub 2, Carrongrove Mill and Broad Street (014,015 & 067) should investigate opportunities for watercourse restoration to ensure positive effects on water • Development at the Broad Street (067) site should investigate opportunities to allow for sewage from the caravan site adjacent to the east to connect to Denny WWTW to ensure positive effects on water. • Development proposals at the Denny High School, Mydub 2, Carrongrove Mill, Rosebank and Broad Street (012,014,015,017 & 067) sites should be accompanied by a flood risk assessment and areas at risk of flooding should be excluded from development to mitigate significant negative effects on water • Development at the Denny High School, Mydub 2, Carrongrove Mill and Broad Street (012,014,015 & 067) sites should avoid unnecessary engineering operations in the water environment to avoid negative effects on water • Development at the Former Denny High School, Mydub 1 & 2, Carrongrove Mill, Stirling Street and Broad Street (12-17 & 67) sites should provide proportionate financial contributions towards the construction of the Denny Eastern Access Road to mitigate significant negative effects on material assets • Denny waste water treatment works should be expanded to accommodate increased foul water flows from the cumulative scale of development proposed in this option and mitigate significant negative effects on material assets • Development at the Former Denny High School, Mydub 1 & 2, Carrongrove Mill, Stirling Street and Broad Street (12-17 & 67) sites should incorporate on site LZCGT to ensure positive effects on material assets • Development of the Mydub 2 and Rosebank (014 & 017) sites should avoid severing and improve the quality of the core path network to mitigate negative effects and ensure positive effects on material assets • Development at the Rosebank and Broad Street (017 & 067) sites should incorporate an appropriately high quality design treatment at these important settlement gateways to ensure

Alternative	Biodiversity Flora & Fauna	Population & Human Health	Soil	Water	Air	Climatic Factors	Material Assets	Cultural Heritage	Landscape	Assessment commentary	Enhancement/ Mitigation
										<p>effect on population and human health (due to marginally increased traffic noise impact) air (due to due to increased emissions from motorised transport) climatic factors (due to increased release of greenhouse gases) and material assets (due to the increased use of primary resources in the construction process)</p> <ul style="list-style-type: none"> Development of the Mydub 2 and Rosebank (014 & 017) sites could have a positive effect on material assets (through improving the quality and connectivity of the core path network) and a negative effect on material assets (through severing the core path network) Development at the Rosebank and Broad Street (017 & 067) sites could have a positive effect on material assets (due to potential to improve townscape quality at gateway to Dunipace and Denny) and a negative effect on material assets (due to potential to degrade townscape quality at the gateway to Dunipace and Denny) Development of the Rosebank (017) site could have a negative effect on landscape (due to adverse landscape/visual impact in an area of medium landscape sensitivity) and a negative effect on biodiversity (through potential adverse impact on mature woodland) Development of the Mydub 1 & 2 and Broad Street (013,014 & 067) sites could have a negative effect on landscape (through loss of greenfield land) 	<p>positive effects and mitigate negative effects on material assets</p> <ul style="list-style-type: none"> Development at the Carrongrove Mill (015) site should incorporate the restoration of the b listed Carron Glen house and have a sensitive development layout to ensure positive effects and mitigate negative effects on cultural heritage Development at the Stirling Street (016) site should be undertaken sensitively to avoid adversely impacting on the setting of the Royal Oak Hotel to mitigate negative effects on cultural heritage Development at the Mydub 1 (013) site should retain boundary tree cover, and provide additional structure planting to the south to act as buffer to open countryside and to complement existing tree cover to mitigate negative effects on landscape Development at the Mydub 2 (014) site should retain tree cover, tree groups and provide additional structure planting to N, E & S to act as buffer to open countryside and to complement existing tree cover to mitigate negative effects on landscape Development at the Carrongrove Mill (015) site should retain boundary tree cover and ensure an appropriate buffer to the River Carron valley to mitigate negative effects on landscape Development at the Rosebank (017) site should avoid development on the eastern part of the site, incorporate significant structure planting along the northern, eastern and southern boundaries and have an appropriate road frontage treatment to mitigate negative effects on landscape Development at the Broad Street (067) site should incorporate structure planting along the North, East & West side, and tree and shrub retention particularly along the road frontage to retain rural character and mitigate negative effects on landscape.
<p>Alternative 1: Extension to the existing site at Rosebank, Dunipace (site 116).</p>	+	-	+	-	-	+	-	+	-	<ul style="list-style-type: none"> Development of this site could deliver an additional 100 houses. At a rate of 0.57 new people per house this could increase the population of Denny and Dunipace by 57 people. Development of this site could have a positive effect on biodiversity and climatic factors (due to opportunity to reinforce the broadleaved woodland habitat network and create a carbon sink) population and human health (due to potential to improve the quality of existing open space) water (due to potential for watercourse restoration) and material assets (due to potential to improve the core path network, incorporate LZCGT and improve the townscape quality at the gateway to Dunipace) Development of this site could have a significant negative effect on biodiversity (due to potential for adverse impact on legally protected species) population and human health (due to a potential increase in the population exposed to risk of accidents due to proximity to major hazard pipelines) soil (due to loss of prime 	<ul style="list-style-type: none"> Development at this site should incorporate new broadleaved woodland planting to ensure positive effects on biodiversity and climatic factors Development proposals should be accompanied by protected species surveys and appropriate mitigation employed to avoid significant negative effects on biodiversity Development at this site should contribute towards the improvement of nearby open space to ensure positive effects on population and human health Development should explore opportunities for watercourse restoration to ensure positive effects on water Development proposals should be accompanied by a flood risk assessment and areas at risk of flooding should be excluded

Alternative	Biodiversity Flora & Fauna	Population & Human Health	Soil	Water	Air	Climatic Factors	Material Assets	Cultural Heritage	Landscape	Assessment commentary	Enhancement/ Mitigation
										<p>quality agricultural land) water (due to potential flood risk) material assets (due to increased traffic on the local road network impacting on Denny Cross which is currently operating over capacity and breaching the capacity of the local waste water treatment works)</p> <ul style="list-style-type: none"> Development of this site could have a negative effect on population and human health (due to marginally increased traffic noise impact and impact of noise from the nearby M80) air (due to due to increased emissions from motorised transport) climatic factors (due to increased release of greenhouse gases) material assets (due to the increased use of primary resources in the construction process and due to the potential to degrade townscape quality at the gateway to Dunipace) and landscape (due to adverse landscape/visual impact in an area of medium landscape sensitivity) 	<p>from development to mitigate significant negative effects on water</p> <ul style="list-style-type: none"> Development should seek to improve the quality of the core path network to ensure positive effects on material assets Development should incorporate on site LZCGT to ensure positive effects on material assets Development should provide proportionate financial contributions towards the construction of the Denny Eastern Access Road to mitigate significant negative effects on material assets Denny waste water treatment works should be expanded to accommodate increased foul water flows from the cumulative scale of development proposed in this option and mitigate significant negative effects on material assets Development should be designed to incorporate noise mitigation measures to mitigate negative effects on population and human health Development should incorporate an appropriately high quality design treatment at this important settlement gateway to ensure positive effects and mitigate negative effects on material assets Development should incorporate strong native broadleaf structure / screen planting on northern boundary of western sloping and flat areas, which would screen from main road and form 'gateway' to Dunipace, delineating urban / rural boundary; similar native woodland planting on upper E part (50% of area) of west sloping area to retain upper visual edge to settlement and ensure housing not too high up slope; integrating with pedestrian access from any development to woodland planting and wider countryside; and retaining all stone boundary walls to mitigate negative effects on landscape
<p>Alternative 2: New, much larger SGA at Dunipace incorporating Bankend Farm (site 164), as well as Rosebank (site 116).</p>	+	-	-	+	-	+	+	N	-	<ul style="list-style-type: none"> Development of these sites could deliver an additional 450 houses. At a rate of 0.57 new people per house this could increase the population of Denny and Dunipace by 257 people. The environmental effects of developing the Rosebank North (116) site are outlined above. The environmental effects of developing the Bankhead Farm site are noted below. A summary of the cumulative effects of developing both sites are presented in the matrix to the left. Development of the Bankend Farm (164) could have a positive effect on biodiversity and climatic factors (due to potential to extend and reinforce woodland habitat networks and create a carbon sink) population and human health (due to creation of new open space) water (due to potential to promote watercourse restoration and potential to enable connection of the adjacent at Bankend Farm and Denovan Cottages to the Denny WWTW which should improve 	<ul style="list-style-type: none"> North-south habitat corridors through the site should be maintained and improved to link to the habitat corridor along the River Avon with the wider countryside to the north to ensure positive effects on biodiversity and climatic factors. Development proposals should be accompanied by protected species surveys and appropriate mitigation employed to avoid significant negative effects on biodiversity Boundary trees, hedges, small woodland blocks and any wetland areas of value should be retained to avoid negative effects on biodiversity Development of the site should include the creation of a new reasonably sized park to ensure positive effects on population and human health

Alternative	Biodiversity Flora & Fauna	Population & Human Health	Soil	Water	Air	Climatic Factors	Material Assets	Cultural Heritage	Landscape	Assessment commentary	Enhancement/ Mitigation
										<p>water quality within the River Carron) material assets (due to potential to improve the core path network, incorporate LZCGT and improve the townscape quality at the gateway to Dunipace)</p> <ul style="list-style-type: none"> Development of the Bankend Farm (164) site could have a significant negative effect on biodiversity (due to potential adverse impact on legally protected species) soil (through loss of prime quality agricultural land) water (due to potential flood risk) material assets (due to increased traffic on the local road network impacting on Denny Cross which is currently operating over capacity and breaching the capacity of the local waste water treatment works) Development of the Bankend Farm (164) site could have a negative effect on biodiversity (due to potential loss of woodland and wetland habitat) population and human health (due to marginally increased traffic noise impact) air (due to due to increased emissions from motorised transport) climatic factors (due to increased release of greenhouse gases) material assets (due to: the increased use of primary resources in the construction process; the potential to degrade townscape quality at the gateway to Dunipace and the potential to sever the core path network) and landscape (due to adverse landscape/visual impact in an area of medium landscape sensitivity) 	<ul style="list-style-type: none"> Development should explore opportunities for watercourse restoration to ensure positive effects on water Development should investigate opportunities to allow for sewage from the adjacent Bankhead Farm and Denovan Cottages to connect to Denny WWTW to ensure positive effects on water. Development proposals should be accompanied by a flood risk assessment and areas at risk of flooding should be excluded from development to mitigate significant negative effects on water Core path on the western boundary of the site should be retained and enhanced to ensure positive effects and mitigate negative effects on material assets On site LZCGT should be provided to ensure positive effects on material assets Development should provide proportionate financial contributions towards the construction of the Denny Eastern Access Road to mitigate significant negative effects on material assets Development should incorporate an appropriately high quality design treatment at this important settlement gateway to ensure positive effects and mitigate negative effects on material assets Denny waste water treatment works should be expanded to accommodate increased foul water flows from the cumulative scale of development proposed in this option and mitigate significant negative effects on material assets Robust native tree structure / screen planting should be introduced along N and E boundary of site to delineate limits of settlement / buffer to open countryside; upper woodland planting should be integrated into wider green network, with possible access; stone wall frontage to the road should be retained to retail rural edge character; development density should be kept lower on higher ground and tree planting / open space should be integrated within the development to mitigate negative effects on landscape
Alternative 3: Minor settlement extension at Head of Muir, (site 115) involving green	+	-	+	-	--	-	-	+	-	<ul style="list-style-type: none"> Development of this site could deliver an additional 25 houses. At a rate of 0.57 new people per house this could increase the population of Denny and Dunipace by 14 people. Development could have a positive effect on biodiversity (through enabling the removal of Japanese Knotweed and reinforcing the broadleaved woodland habitat network) population and human health (through improving the quality of existing 	<ul style="list-style-type: none"> Development proposals should be accompanied be protected species surveys and appropriate mitigation employed to avoid significant negative effects on biodiversity Development of the site should include the removal of on-site Japanese knotweed to ensure positive effects on biodiversity Development of the site should retain the woodland edge to

Alternative	Biodiversity Flora & Fauna	Population & Human Health	Soil	Water	Air	Climatic Factors	Material Assets	Cultural Heritage	Landscape	Assessment commentary	Enhancement/ Mitigation
belt release										<p>open space) material assets (due to potential to incorporate LZCGT and to improve the quality of the core path network)</p> <ul style="list-style-type: none"> Development could have a significant negative effect on biodiversity (due to an adverse effect on legally protected species) soil (through loss of prime quality agricultural land) material assets (due to increased traffic on the local road network impacting on Denny Cross which is currently operating over capacity and breaching the capacity of the local waste water treatment works) Development could have a negative effect on biodiversity (through loss of broadleaved woodland habitat) population and human health (due to marginally increased traffic noise impact) water (due to potential surface water flood risk) air (due to due to increased emissions from motorised transport) climatic factors (due to increased release of greenhouse gases) material assets (due to the increased use of primary resources in the construction process) landscape (due to adverse landscape/visual impact in an area of low landscape value and due to development within the greenbelt) 	<p>north and enhance with appropriate new broadleaved planting to ensure positive effects on biodiversity</p> <ul style="list-style-type: none"> Development should provide contributions towards improving existing open space to ensure positive effects on population and human health Development proposals should be accompanied by a drainage strategy which demonstrates that existing surface water flooding can be adequately managed through on site drainage systems to mitigate negative effects on water Development should incorporate on site LZCGT to ensure positive effects on material assets Development should link into the nearby core path and enhance its quality to ensure positive effects on material assets Development should provide proportionate financial contributions towards the construction of the Denny Eastern Access Road to mitigate significant negative effects on material assets Denny waste water treatment works should be expanded to accommodate increased foul water flows from the cumulative scale of development proposed in this option and mitigate significant negative effects on material assets Development should incorporate strong structure planting to east boundary; retain stone wall frontage; and set back the development line from the Drove Loan frontage to retain semi-rural character of area and mitigate negative effects on landscape
MAIN ISSUE 5: SUSTAINABLE COMMUNITY GROWTH - FALKIRK											
<p>Preferred Option: Promote a new SGA at the Falkirk Gateway (site 80), with residential use introduced as part of the mix of uses, together with a moderate greenfield expansion at Hallglen (Woodend Farm) (site 160). Additionally</p>	+	-	+	-	+	-	+	-	-	<ul style="list-style-type: none"> Development of these sites could deliver approximately 1867 new houses. Between 2001 and 2014 each new house built in Falkirk increased the population by 1.52 people. At those rates 1673 new houses could be expected to increase the population by 2838 people which would equate to a 7.3% population increase from mid-2014 population estimates (39,011) The average household size in the Council area is 2.26 people per household. At those rates 1867 new houses could be expected to increase the population by 4219 people which could equate to a 10.8% population increase. Development of the Gowan Avenue and Etna Road 1 and 2, Portdownie and Falkirk Gateway (018 – 020 068 & 080) sites could have a positive effect on biodiversity (due to the potential to enhance the riparian environment) and population and human health (through improving the quality and connectivity of the green network) Development of the Portdownie, Falkirk Gateway, Carron Road, Woodend Farm 1 & 2, Victoria Buildings, Firs Park, Glen Village Bowling Club (068, 080, 122,123, 160, 167-169) sites could have a significant negative effect on biodiversity (due to potential adverse impact on legally protected species) Development of the Carrick Place and Portdownie (024 & 068) sites could have a 	<ul style="list-style-type: none"> Development at the Gowan Avenue, Etna Road 1 & 2, Portdownie and Falkirk Gateway (018 – 020 068 & 080) sites should investigate opportunities to enhance the riparian environment and recreational amenity of the Forth and Clyde Canal to ensure positive effects on biodiversity and population and human health; Development proposals at the Portdownie, Falkirk Gateway, Carron Road, Woodend Farm 1 & 2, Victoria Buildings, Firs Park, Glen Village Bowling Club (068, 080, 122,123, 160, 167-169) sites should be accompanied by protected species surveys and appropriate mitigation employed to avoid significant negative effects on biodiversity; Development at the Gowan Avenue, Etna Road 1 & 2, Portdownie and Falkirk Gateway (018 – 020, 068 & 080) sites should be undertaken sensitively to avoid adversely impacting on the Forth and Clyde Canal Wildlife Site and mitigate negative effects on biodiversity;

Alternative	Biodiversity Flora & Fauna	Population & Human Health	Soil	Water	Air	Climatic Factors	Material Assets	Cultural Heritage	Landscape	Assessment commentary	Enhancement/ Mitigation
<p>there would be a focus on increased residential use on development opportunities in the Town Centre and other brownfield infill sites. Sites 018-025, 068-073, 080, 122-123, 160, 167-169 &186</p>										<p>negative effect on biodiversity (due to loss of open mosaic habitat)</p> <ul style="list-style-type: none"> Development of the Cauldhame Farm 2, Grangemouth Road, Westburn Avenue, Carron Road, Victoria Buildings (022,025, 069 &122, 167) sites could have a negative effect on biodiversity and landscape (due to potential loss of mature trees) Development of the Gowan Avenue, Etna Road 1 & 2, Portdownie and Falkirk Gateway (018 – 020, 068 & 080) sites could have a negative effect on biodiversity (due to potential adverse impact on the Forth and Clyde Canal wildlife site) Development of the Grangemouth Road, Falkirk Gateway, Woodend Farm 1 and Firs Park (025, 080, 123, 168) sites could have a negative effect on biodiversity (due to loss of scrub habitat) Development of the Grangemouth Road and Falkirk Gateway (025 & 080) sites could have a significant positive effect on population and human health (through enabling the creation of a significant new green corridor) Development of the Etna Road 2 (020) site could have a significant positive effect on population and human health (due to the removal of a current hazardous substances consent and its associated consultation zones) and a negative effect on biodiversity (due to potential adverse impact on the Falkirk Gasworks SINC) and landscape (due to a potential loss of woodland along the canal) Development of the Etna Road 1 & 2 Cauldhame Farm 2, Blinkbonny Road, Carrick Place and Grangemouth Road , Falkirk East End Opportunity Area, Bank Street, Williamson Street, Carron Road, Woodend Farm1 & 2, Vicotria Buildings, Firs Park (019, 020, 022-025, 071-073, 122,123, 160, 167,168) sites could have a cumulatively significant positive effect on population and human health (through improving the quality of existing open space) Development of the Cauldhame Farm 2 (022) site could have a positive effect on population and human health (through creation of new open space) Development of the Gowan Avenue, Portdownie, Westburn Avenue and Grahamston Opportunity Area (018, 068-070) sites could have a positive effect on population and human health (through creation of new open space which helps to meet an existing local deficit in access to open space) Development of the Portdownie (069) site could have a significant negative effect on population and human health (due to impact on the green network) and a negative effect on landscape (due to loss of woodland) Development of the Gowan Avenue and Etna Road 2 (018 & 020) sites could have a negative effect on population and human health (due to noise impact from adjacent industrial uses) and air (due to local air quality impacts from adjacent industrial uses) Development of the Grangemouth Road, Westburn Avenue, Grahamston Opportunity Area, Falkirk East End Opportunity Area, Bank Street, Williamson Street, Falkirk Gateway, Carron Road, Firs Park (025, 069-073, 080, 122) sites could have a negative effect on population and human health (due to noise impact from adjacent busy local roads) Development of the Grangemouth Road, Westburn Avenue, Firs Park, Glen Village 	<ul style="list-style-type: none"> Development of the Woodend Farm 2 (160)site should be undertaken sensitively to avoid adversely impacting on the Callendar Woods Wildlife Site and mitigate negative effects on biodiversity; Development of the Etna Road 2 site should be undertaken sensitively to avoid adversely impacting on the Falkirk Gasworks SINC to mitigate negative effects on biodiversity; Development proposals at the Etna Road 2, Cauldhame Farm 2, Carrick Place, Grangemouth Road, Portdownie, Westburn Avenue, Falkirk Gateway, Carron Road, Woodend Farm 1 and Victoria Buildings (020,022,024,025,068,069,080,122 & 123) sites should be accompanied by ecological assessments which identify habitats of ecological value and be designed to retain these area to avoid negative effects on biodiversity; Development at the Grangemouth Road and Falkirk Gateway (025 & 080) sites should include the creation of a new green corridor connecting the Helix to Victoria Park to ensure significant positive effects on population and human health; Development of the Etna Road 1 & 2 Cauldhame Farm 2, Blinkbonny Road, Carrick Place and Grangemouth Road , Falkirk East End Opportunity Area, Bank Street, Williamson Street, Carron Road, Woodend Farm1 & 2, Victoria Buildings and Firs Park (019, 020, 022-025, 071-073, 122,123, 160, 167,168) sites should provide financial contributions towards the improvement of off-site open space to ensure cumulatively significant positive effects on population and human health; Development of the Gowan Avenue, Cauldhame Farm 2, Portdownie, Westburn Avenue and Grahamston Opportunity Area (018, 022, 068-070) should involve the creation of new open space to ensure positive effects on population and human health; Development of the Grangemouth Road, Westburn Avenue, Firs Park, Glen Village Bowling Club and the Hurllet (025, 069, 168, 169 & 186) sites should provide financial compensation for the loss of open space which should be invested in improving the quality of the local open space resource to mitigate negative effects on population and human health; Development of the Gowan Avenue, Etna Road 2, Carrick Place, Grangemouth Road, Westburn Avenue, Grahamston Opportunity Area, Falkirk East End Opportunity Area, Bank Street, Williamson Street, Falkirk Gateway, Carron Road, Firs Park and the Hurllet (018, 020, 024, 025, 069-073, 080, 122 & 186) sites should incorporate suitable noise mitigation measures to mitigate negative effects on population and

Alternative	Biodiversity Flora & Fauna	Population & Human Health	Soil	Water	Air	Climatic Factors	Material Assets	Cultural Heritage	Landscape	Assessment commentary	Enhancement/ Mitigation
										<p>Bowling Club and the Hurllet (025, 069, 168, 169 & 186) sites could have a negative effect on population and human health (due to loss of open space)</p> <ul style="list-style-type: none"> • Development of the Carrick Place and the Hurllet (024 & 186) site could have a negative effect on population and human health (due to noise impact from adjacent railway line) • Development of the Cauldhame Farm 1 & 2 (021 & 022) sites will have negative effect on population and human health (due to exposure to nuisance odour from the nearby West Carron landfill site and the potential to compromise waste handling operations there) and a negative effect on landscape (due to loss of open land with adverse landscape and visual impact) • Development of the Gowan Avenue and Etna Road 1 & 2, Carrick Place, Portdownie, Westburn Avenue, Grahamston Opportunity Area, Falkirk East End Opportunity Area, Victoria Buildings, Firs Park, Glen Village Bowling Club and the Hurllet (018 – 020, 024, 068-071, 167-169 & 186) sites could have a significant positive effect on soil (through removal of significant amounts of historic contamination) • Development of the Cauldhame Farm 1 & 2 and Woodend Farm 1 & 2 (021, 022 & 123, 160) sites will have a significant negative effect on soil (through loss of prime quality agricultural land) • Development of the Falkirk Gateway (080) site could have a negative effect on soil (due to loss of agricultural land) • Development of the Etna Road 2 and Cauldhame Farm 2 (020 & 022) sites could have a positive effect on water (due to potential for watercourse restoration at the Ladysmill Burn and Mungal Burn respectively) • Development of the Etna Road 2, Cauldhame Farm 1 & 2, Portdownie and Falkirk Gateway (020-022, 068 & 080) sites could have a significant negative effect on water (due to potential fluvial flood risk) • Development of the Blinkbonny Road, Grangemouth Road, Westburn Avenue, Grahamston Opportunity Area, Falkirk Gateway, Carron Road and Woodend Farm1 & 2, Victoria Buildings, Firs Park (023, 025, 069,070, 080, 122, 123, 160, 167, 168) sites could have a negative effect on water (due to potential surface water flood risk) • Development of the Grahamston Opportunity Area, Falkirk East End Opportunity Area, Bank Street and Williamson Street (070 - 073) sites could have a significant negative effect on air (due to increasing the population exposed to reduced air quality associated with the Falkirk Town Centre AQMA) • Development of the Gowan Avenue and Etna Road 1 & 2, Blinkbonny Road, Carrick Place, Grangemouth Road, Portdownie, Westburn Avenue, Grahamston Opportunity Area, Falkirk East End Opportunity Area, Bank Street, Williamson Street, Falkirk Gateway, Firs Park (018 – 020, 023-025, 068 -073,080, 168, 169 & 186) sites could have a cumulatively significant positive effect on material assets (due to improving townscape quality through regeneration of brownfield land, prominent surface car parks, redevelopment of the bus station, creation of an western gateway to Falkirk, regeneration of a derelict sports ground, bowling club 	<p>human health;</p> <ul style="list-style-type: none"> • Development of the Etna Road 2 and Cauldhame Farm 2 (020 & 022) sites should investigate opportunities for watercourse restoration of the Ladysmill Burn and Mungal Burn to ensure positive effects on water; • Development proposals at the Etna Road 2, Cauldhame Farm 1 & 2, Portdownie and Falkirk Gateway (020-022, 068 & 080) sites should be accompanied by a flood risk assessment and areas at risk of flooding should be excluded from development to mitigate significant negative effects on water; • Development proposals at the Blinkbonny Road, Grangemouth Road, Westburn Avenue, Grahamston Opportunity Area, Falkirk Gateway, Carron Road and Woodend Farm1 & 2, Victoria Buildings, Firs Park (023, 025, 069,070, 080, 122, 123, 160, 167, 168) sites should be accompanied by drainage strategies which adequately manage existing surface water flood risk to mitigate negative effects on water; • Scottish Canals should be consulted with on development proposals at Gowan Avenue, Etna Road 1 & 2, Portdownie and Falkirk Gateway (018 – 020, 068 & 080) to determine potential flood risk from infrastructure failure and consideration should be given to mitigation measures within the design of the sites to avoid negative effects on water; • Development of all sites should incorporate on site LZCGT to ensure positive effects on material assets; • Development of the Gowan Avenue, Etna Road 1 & 2, Cauldhame Farm 1 & 2, Grangemouth Road, Portdownie and Falkirk Gateway (018-022, 025, 068 & 080) sites should enhance the active travel network to ensure positive effects on material assets; • Development proposals the Falkirk East End Opportunity Area (071) site should include the retention and enhancement of the attractive 1930s frontage to Callendar Riggs to mitigate negative effects on material assets and cultural heritage; • Development proposals at the Victoria Buildings (167) site should include the retention and enhancement of the Victorian School to ensure positive effects on cultural heritage and mitigate negative effects on material assets and cultural heritage; • Development of the Westburn Avenue (069) site should be undertaken sensitively to enhance the setting of the Antonshill Conservation Area to ensure positive effects and mitigate negative effects on cultural heritage; • Development of the Garhamston Opportunity Area, Bank Street

Alternative	Biodiversity Flora & Fauna	Population & Human Health	Soil	Water	Air	Climatic Factors	Material Assets	Cultural Heritage	Landscape	Assessment commentary	Enhancement/ Mitigation
										<p>and pub)</p> <ul style="list-style-type: none"> Development of the Gowan Avenue, Etna Road 1 & 2, Cauldhame Farm 1 & 2, Blinkbonny Road, Carrick Place, Grangemouth Road, Portdownie & Westburn Avenue, Grahamston Opportunity Area, Falkirk East End Opportunity Area, Bank Street, Williamson Street, Falkirk Gateway, Carron Road, Woodend Farm 1&2, Victoria Buildings, Firs Park, Glen Village Bowling Club and the Hurllet (018- 025, 068-073, 080, 122, 123, 160, 167-169 & 186) sites could have a positive effect on material assets (due to increasing the amount of LZCGT) negative effect on population and human health (through marginally increased traffic related noise impacts) air (due to an increase in traffic related air pollution) climatic factors (due to increased release of greenhouse gases) and material assets (increased use of primary resources in the construction process and increased vehicular traffic on the local road network) Development of the Gowan Avenue, Etna Road 1 & 2, Cauldhame Farm 1 & 2, Grangemouth Road, Portdownie and Falkirk Gateway (018-022, 025, 068 & 080) sites could have a positive effect on material assets (due to improving the active travel network) Development of the Falkirk East End Opportunity Area and Victoria Buildings (071 & 167) sites could have a negative effect on material assets and cultural heritage (through adversely affecting townscape quality and non-listed buildings of architectural merit by threatening an existing attractive 1930s frontage to Callendar Riggs and an unlisted Victorian school building) Development of the Victoria Buildings (167) site could have a positive effect on cultural heritage (through enabling the restoration of unlisted Victorian school of some historic value) Development of the Westburn Avenue (069) site could have a positive effect on cultural heritage (through enhancing the setting of the Arnothill Conservation area) or a negative effect on cultural heritage (through potential adverse impact on the setting of the Arnothill Conservation Area) Development of the Garhamston Opportunity Area, Bank Street and Williamson Street (070,072 & 073) sites could have a positive effect on cultural heritage (through enhancing Falkirk Town Centre Conservation Area and its setting) or a negative effect on cultural heritage (through degrading the quality of Falkirk Town Centre Conservation Area and its setting) Development of the Woodend Farm 1 & 2 (123 & 160) sites could have a positive effect on cultural heritage (though enabling the restoration of a C listed farm steading) a significant negative effect on landscape (due to adverse landscape/visual impacts in an area of medium to high landscape sensitivity) and a negative effect on biodiversity (through reducing habitat connectivity between Callendar Woods and Hallglen Haven) population and human health (due to an adverse impact on the visual quality of the John Muir Way) cultural heritage (through adverse impact on a C listed farm steading and its setting) Development of the Portdownie and Williamson Street (068 & 073) sites could have a significant negative effect on cultural heritage (due to the potential for adverse 	<p>and Williamson Street (070,072 & 073) sites should be undertaken sensitive to enhance the Falkirk Town Centre Conservation Area and its setting to ensure positive effects and mitigate negative effects on cultural heritage;</p> <ul style="list-style-type: none"> Development of the Woodend Farm 1 & 2 (123 & 160) sites incorporate the restoration of the C listed farm steading to ensure positive effects and mitigate negative effects on cultural heritage; Development proposals at the Portdownie and Williamson Street sites should be accompanied by cultural heritage assessments which assess the impact of the development of these sites on the outstanding universal value of the Antonine Wall WHS to mitigate significant negative effects on cultural heritage. Development of the Woodend Farm 2 (160) site should be undertaken sensitively to avoid adverse impacts on the setting of the Callendar Park Inventory Designed Landscape to mitigate significant negative effects on cultural heritage; Development of the Gowan Avenue, Etna Road 1 & 2, Portdownie and Falkirk Gateway (018 – 020, 068 & 080) sites should be undertaken sensitively to avoid adversely impacting on the site and setting of the Forth and Clyde Canal SAM to avoid significant negative effects on cultural heritage; Development of the Gowan Avenue, Etna Road 1 & 2, Portdownie and Falkirk Gateway (018 – 020, 068 & 080) sites should incorporate canalside landscaping to soften the canalside environment and ensure positive effects on landscape; Development proposals at the Etna Road 2, Cauldhame Farm 2, Grangemouth Road, Portdownie, Westburn Avenue, Carron Road, Victoria Buildings (020, 022,025, 068, 069 &122, 167) sites should be accompanied by tree surveys and tree protection plans which retain mature trees to mitigate negative effects on landscape; Development of the Cauldhame Farm 2 (022) site should be informed by a rigorous landscape assessment and be designed within a comprehensive planting structure to ensure fit with the landscape, particularly on the escarpment top and on slopes to mitigate significant negative effects on landscape; Development of the Grangemouth Road (025) site should: retain the open space areas, with a parkland character which provide an attractive frontage to Grangemouth Road and Middlefield Road; retain the woodland strip between Middlefield Road and the playing field; and. Retain boundary hedgerows and trees where possible to mitigate negative effects on

Alternative	Biodiversity Flora & Fauna	Population & Human Health	Soil	Water	Air	Climatic Factors	Material Assets	Cultural Heritage	Landscape	Assessment commentary	Enhancement/ Mitigation
										<p>impacts on the Antonine Wall WHS and SAM)</p> <ul style="list-style-type: none"> • Development of the Woodend Farm 2 site (160) could have a significant negative effect on cultural heritage (due to a potential adverse impact on the Callendar Park inventory designed landscape) and a negative effect on biodiversity (due to potential adverse impact on the Callendar Woods Wildlife Site) • Development of the Gowan Avenue, Etna Road 1 & 2, Portdownie and Falkirk Gateway (018 – 020, 068 & 080) sites could have a positive effect on landscape (due to potentially improving the landscape setting of the canal), a significant negative effect on cultural heritage (due to potential for adverse effect on the site and setting of the Forth and Clyde Canal SAM) and a negative effect on water (due to potential flood risk from the canal) • Development of the Cauldhame Farm 1 & 2 and Grangemouth Road (021, 022 & 025) sites will have a cumulatively significant negative effect on landscape (due to loss of open land with adverse landscape and visual impact) • Development of the Falkirk Gateway (080) site could have a positive effect on landscape (through improving the landscape setting of the urban fringe) • Development of the Carron Road (122) site could have a negative effect on landscape (due to adverse landscape/visual impacts in an area of low landscape sensitivity) 	<p>landscape;</p> <ul style="list-style-type: none"> • Development of the Portdownie (068) site should incorporate planting/greenspace within the development, particularly along the waterfront to mitigate significant negative effects on landscape; • Development of the Falkirk Gateway(080) site should be within an integrated landscape framework to ensure positive effects on landscape; • Development of the Carron Road (122) site should: ensure retention of best quality established trees and grassed areas on Carron Road frontage; ensure tree planting avenue at frontage; ensure appropriate landscape treatment along Ronades Road with grass verge, avenue tree planting; keep development back from the road frontage; and ensure appropriate internal landscape treatment on any internal access roads to mitigate negative effects on landscape. • Development at the Woodend Farm 1 & 2 (123 & 160) site should: retain existing internal and boundary trees where appropriate; avoiding major changes in natural landform; retain boundary hedgerows; retain core path access / Forestry Commission maintenance / extraction access through site; create a broad open space area with tree planting at the road frontage; ensure overall housing development density remains low with buffer area between mature tree cover of Callendar Woods and dwellings; and maximise views out from site southwards to mitigate significant negative effects on landscape.
<p>Alternative 1: New South Falkirk SGA, involving greenfield expansion at Glen Farm (site 121).</p>	+	-	+	-	+	-	-	+	-	<ul style="list-style-type: none"> • Development of the Glen Farm site could have a positive effect on biodiversity (due to the potential to expand the woodland habitat network and reinforce the wetland habitat network) population and human health (through improving the quality and connectivity of the green network and creation of new open space) soil (through remediation of historic contamination and making safe unstable ground) water (due to potential for watercourse restoration) material assets (due to increasing the amount of LZCGT) • Development of the Glen Farm site could have a significant negative effect on biodiversity (through potential adverse impact on legally protected species) water (due to potential fluvial flood risk) • Development of the Glen Farm site could have a negative effect on and a negative effect on biodiversity (due to loss of tree, scrub and hedgerow habitat) population and human health (through marginally increased traffic related noise impacts) soil (through loss of agricultural land) water (due to potential surface water flood risk) air (due to an increase in traffic related air pollution) climatic factors (due to increased release of greenhouse gases) material assets (increased use of primary resources in the construction process and increased vehicular traffic on the local road network) and landscape (due to adverse landscape/visual impacts in an area of medium 	<ul style="list-style-type: none"> • Development should incorporate new woodland plating which expands the woodland habitat network to ensure positive effects on biodiversity • Development should include the creation of new wetland habitat to reinforce the wetland habitat network to ensure positive effects on biodiversity • Development proposals should be accompanied by protected species surveys and appropriate mitigation employed to avoid significant negative effects on biodiversity; • Development proposals should be accompanied by ecological assessments which identify habitats of ecological value and be designed to retain these area to avoid negative effects on biodiversity; • Development should include the creation of a new open space containing a playspace to ensure positive effects on population and human health • Development proposals should be accompanied by a flood risk

Alternative	Biodiversity Flora & Fauna	Population & Human Health	Soil	Water	Air	Climatic Factors	Material Assets	Cultural Heritage	Landscape	Assessment commentary	Enhancement/ Mitigation
										landscape sensitivity)	<p>assessment and areas at risk of flooding should be excluded from development to mitigate significant negative effects on water;</p> <ul style="list-style-type: none"> • Development proposals should be accompanied by drainage strategies which adequately manage existing surface water flood risk to mitigate negative effects on water; • Development should incorporate on site LZCGT to ensure positive effects on material assets; • Development should avoid encroachment into agricultural land to the south of the on-site watercourse; and incorporate structure planting to buffer development to open countryside to mitigate negative effects on landscape.
<p>Alternative 2: Minor settlement extension at Slamannan Road (site 120), involving greenfield expansion adjacent to the Union Canal.</p>	+	-	+	-	-	-	+	-	-	<ul style="list-style-type: none"> • Development of the Slamannan Road site could have a positive effect on biodiversity (due to the potential to improve the Bantaskine Estate and Union Canal SINC and reinforce the woodland habitat network) population and human health (through improving the quality of existing open space) soil (through remediation of historic contamination) material assets (due to increasing the amount of LZCGT) • Development of the Slamannan Road site could have a significant negative effect on biodiversity (due to the potential for adverse impacts on legally protected species) water (due to potential fluvial flood risk) cultural heritage (due to potential adverse impact on the setting of the Union Canal Scheduled Ancient Monument) • Development of the Slamannan Road site could have a negative effect on biodiversity (due to the potential for adverse impacts on the Bantaskine Estate and Union Canal SINC) population and human health (through marginally increased traffic related noise impacts) water (due to potential adverse impact on the riparian environment) air (due to an increase in traffic related air pollution) climatic factors (due to increased release of greenhouse gases) material assets (increased use of primary resources in the construction process and increased vehicular traffic on the local road network) cultural heritage (due to potential for adverse impacts on the Falkirk II Inventory Battlefield site) and landscape (due to adverse landscape/visual impacts in an area of low landscape sensitivity) 	<ul style="list-style-type: none"> • Development should incorporate new woodland planting to reinforce the woodland habitat network and ensure positive effects on biodiversity; • Landscape proposals should be designed to enhance the Bantastine Estate and Union Canal SINC to ensure positive effects on biodiversity; • Development proposals should be accompanied by protected species surveys and appropriate mitigation employed to avoid significant negative effects on biodiversity; • Financial contributions towards the improvement of off-site open space should be provided to ensure positive effects on population and human health; • Development proposals should be accompanied by a flood risk assessment and areas at risk of flooding should be excluded from development to mitigate significant negative effects on water; • A suitably designed undeveloped buffer zone around the on-site watercourse should be maintained to avoid negative impacts on water quality and mitigate negative effects on water; • Development should incorporate on site LZCGT to ensure positive effects on material assets; • Development should be undertaken sensitively to avoid adversely impacting on the site and setting of the Forth and Clyde Canal SAM to avoid significant negative effects on cultural heritage; • Archaeological mitigation may be needed to avoid adversely impacting on potentially buried remains from the Battle of Falkirk II Inventory Battlefield to avoid negative effects on cultural heritage; • Development should: avoid damage to boundary trees on adjacent land; avoid substantial infill / level changes with retaining structures; incorporate structure planting to canal edge

Alternative	Biodiversity Flora & Fauna	Population & Human Health	Soil	Water	Air	Climatic Factors	Material Assets	Cultural Heritage	Landscape	Assessment commentary	Enhancement/ Mitigation
											/ buffer planting to existing residences; and investigate opportunities for path linkages to the West to mitigate negative effects on landscape
MAIN ISSUE 5: SUSTAINABLE COMMUNITY GROWTH - GRANGEMOUTH											
<p>Preferred Option: Consolidation, with development limited to infill and redevelopment opportunities which may arise within the urban area. Grangemouth Town Centre and Abbots Road (170)</p>	+	+	N	-	-	-	+	-	-	<ul style="list-style-type: none"> Development of the Abbots Road (170) site could have a positive effect on biodiversity (due to potential to reinforce the habitat network) population and human health (through improving the quality of existing open space) material assets (through improving townscape quality due to regeneration of a vacant former nursery) a significant negative effect on biodiversity (due to potential adverse impact on legally protected species) and a negative effect water (due to potential surface water flood risk) and landscape (due to potential loss of low level hedging and mature garden planting) Development of the Grangemouth Town Centre (074) site could have a positive effect on population and human health (through potential creation of open space which helps to address a local deficiency in access to open space) material assets (due to improving townscape quality within Grangemouth Town Centre and improving the quality of the active travel network) a significant negative effect on population and human health (due to potential to increase the population exposed to risk of injury from major hazards) and cultural heritage (due to potential adverse impact on the setting of the category A listed Dundas Church) and a negative effect on cultural heritage (due to potential adverse impact on the category C listed former La Scala Cinema and the Grangemouth Area of Townscape Value) Development of the Grangemouth Town Centre and Abbots Road (074 & 170) sites could have a positive effect on material assets (due to increasing the amount of LZCGT) a significant negative effect on air (due to increasing the population exposed to reduced air quality associated with the Grangemouth AQMA) water (due to potential fluvial/ coastal flood risk) negative effect on population and human health (through marginally increased traffic related noise impacts) air (due to an increase in traffic related air pollution) climatic factors (due to increased release of greenhouse gases) and material assets (increased use of primary resources in the construction process and increased vehicular traffic on the local road network) 	<ul style="list-style-type: none"> Development proposals at the Abbots Road (170) site should incorporate new broadleaved woodland planting to reinforce the habitat network and ensure positive effects on biodiversity; Development proposals at the Abbots Road (170) site should be accompanied by protected species surveys and appropriate mitigation employed to avoid significant negative effects on biodiversity; Development of the Abbots Road (170) site should provide financial contributions towards the improvement of off-site open to ensure positive effects on population and human health; Development of the Grangemouth Town Centre (074) site should incorporate the creation of new park or amenity space of 0.2ha or greater to meet a local deficiency in access to open space and ensure positive effects on population and human health; The number of new houses within the Grangemouth Town Centre (074) site should be restricted to avoid unacceptably increasing the population exposed to risk of injury from major hazards and mitigate significant negative effects on population and human health; Development proposals at both sites should be accompanied by a flood risk assessment and areas at risk of flooding should be excluded from development to mitigate significant negative effects on water; Development of the Abbots Road (170) should be accompanied by drainage strategies which adequately manage existing surface water flood risk to mitigate negative effects on water; Development of both sites should incorporate on site LZCGT to ensure positive effects on material assets; Development of the Grangemouth Town Centre (074) site should contribute towards the improvement of the active travel network to ensure positive effects on material assets; Development at the Grangemouth Town Centre (074) site should be undertaken sensitively to avoid adversely impacting on the category A listed Dundas Church and the C listed former La Scala Cinema and the Grangemouth Area

Alternative	Biodiversity Flora & Fauna	Population & Human Health	Soil	Water	Air	Climatic Factors	Material Assets	Cultural Heritage	Landscape	Assessment commentary	Enhancement/ Mitigation
											<p>of Townscape Value to mitigate significant negative effects on cultural heritage;</p> <ul style="list-style-type: none"> Development of the Abbots Road (170) site should include additional targeted planting to mitigate negative effects on landscape.
MAIN ISSUE 5: SUSTAINABLE COMMUNITY GROWTH – LARBERT AND STENHOUSEMUIR											
<p>Preferred Option: Permit some additional housing within North Larbert SGA on the Hill of Kinnaird business park site (sites 026-028,062 &094)</p>	+	-	+	-	-	-	+	-	+	<ul style="list-style-type: none"> Development of these sites could deliver approximately 926 new houses. Between 2001 and 2014 each new house built in Larbert and Stenhousemuir increased the population by 1.88 people. At those rates 926 new houses could be expected to increase the population by 1741 people which would equate to a 6.8% population increase from mid-2014 population estimates (25,789) The average household size in the Council area is 2.26 people per household. At those rates 926 new houses could be expected to increase the population by 2093 people which could equate to a 8.1% population increase. Development of the Hill of Kinnaird and Hill of Kinnaird 2 (026 & 094) sites could have a positive effect on biodiversity (through connecting fragmented parts of the broadleaved habitat network) a significant negative effect on soil (through development of prime quality agricultural land) a negative effect on biodiversity (through adversely impacting the Stenhousemuir SINC) Development of the Hill of Kinnaird and Pretoria Road (026 & 062) sites could have a positive effect on population and human health (through improving the quality and connectivity of the green network) and material assets (due to potential to improve the active travel network) Development of the Hill of Kinnaird, Lorne Road and Hill of Kinnaird 2 (026, 027 & 094) sites could have a positive effect on population and human health (through creation of new open space) Development of the Lorne Road and Larbert House/Stables (027 & 028) sites could have a positive effect on population and human health (through regenerating vacant/derelict land) and material assets (through improved townscape quality due to regeneration of brownfield land) Development of the Pretoria Road (062) site could have a positive effect on population and human health (through improving the quality of existing open space) a significant negative effect on biodiversity (through potential adverse impact on legally protected species) and cultural heritage (due to potential adverse impact on the setting of the Category A listed Larbert Old Church, Churchyard with James Bruce Monument and the James Bruce Monument Scheduled Ancient Monument) and a negative effect on biodiversity (due to loss of scrubland habitat) soil (through loss of agricultural land) Development of the Hill of Kinnaird (026) site could have a negative effect on 	<ul style="list-style-type: none"> Approved masterplans/ planning permissions are in place for the Hill of Kinnaird, Lorne Road and Larbert House/Stables (026-028) sites, these will act to ensure the significant positive effects and mitigate the significant negative effects caused by the development of these sites. Development of the Hill of Kinnaird 2 (094) site should incorporate new broadleaved woodland habitat to connect up fragmented parts of the broadleaved habitat network and ensure positive effects on biodiversity Development of the Hill of Kinnaird 2 (094) site should incorporate a suitably designed undeveloped buffer around the Stenhousemuir SINC to mitigate potential negative effects on biodiversity Development proposals at the Pretoria Road (062) site should be accompanied by protected species surveys and appropriate mitigation employed to avoid significant negative effects on biodiversity; Development proposals at the Pretoria Road (062) site should be accompanied by ecological assessments which identify habitats of ecological value and be designed to retain these area to avoid negative effects on biodiversity; Development of the Pretoria Road (062) site should incorporate an enhanced pedestrian entrance to the Forth Valley Royal Hospital to ensure positive effects on population and human health and material assets Development of the Hill of Kinnaird 2 site should include the creation of a new sports area to ensure positive effects on population and human health Development of the Pretoria Road (062) site should provide financial contributions towards the improvement of off-site open space to ensure positive effects on population and human health Development at the Pretoria Road site should be undertaken sensitively to avoid adversely impacting on the setting of the Category A listed Larbert Old Church, Churchyard with James Bruce Monument and the James Bruce Monument Scheduled Ancient Monument to mitigate significant negative effects on

Alternative	Biodiversity Flora & Fauna	Population & Human Health	Soil	Water	Air	Climatic Factors	Material Assets	Cultural Heritage	Landscape	Assessment commentary	Enhancement/ Mitigation
										<p>population and human health (through noise impact from the nearby motorway) and material assets (due to potential adverse impact on the active travel network)</p> <ul style="list-style-type: none"> • Development of the Lorne Road (027) site could have a positive effect on soil (through remediation of historic contamination) and a significant negative effect on population and human health (due to increasing the population exposed to risk from major hazards) • Development of the Hill of Kinnaird and Lorne Road (026 & 027) sites could have a significant negative effect on water (due to potential fluvial flood risk) • Development of the Hill of Kinnaird, Lorne Road, Larbert House/ Stables, Pretoria Road & Hill of Kinnaird 2 (026 – 028 & 062) sites could have a positive effect on material assets (through increasing the amount of LZCGT) and a negative effect on population and human health (due to a marginal increase in road noise from traffic) air (due to an increase in traffic related air pollution) climatic factors (due to increased release of greenhouse gases) material assets (due to increased use of primary resources in the construction process and increased vehicular traffic on the local road network) • Development of the Pretoria Road and Hill of Kinnaird 2 (062 & 094) sites could have a positive effect on material assets (through improving townscape quality along Denny Road and Bellsdyke Road respectively) and a negative effect material assets (through degrading townscape quality along Denny Road and Bellsdyke Road respectively) and landscape (due to adverse landscape/visual impacts in an area of low landscape sensitivity) • Development of the Larbert House/Stables (028) site could have a positive effect on cultural heritage (through enabling the restoration of the category B listed Larbert House, Stable Block and Walled Garden) • Development of the Hill of Kinnaird and Larbert House/Stables (026 & 028) sites could have a negative effect on landscape (due to loss of open land) 	<p>cultural heritage.</p> <ul style="list-style-type: none"> • Development at the Hill of Kinnaird 2 site should ensure that heat demand is met through district heating networks (subject to the outcomes of a feasibility statement) to mitigate negative effects on climatic factors; • Development proposals at the Pretoria Road and Hill of Kinnaird 2 sites should incorporate on site LZCGT to ensure positive effects on material assets; • Development at the Pretoria Road and Hill of Kinnaird 2 sites should ensure a high quality frontage treatment to Denny Road and Bellsdyke Road respectively to ensure positive effects and mitigate negative effects on material assets; • Development at the Pretoria Road site should provide structure woodland planting on western edge of site to demarcate edge of settlement as a whole and mitigate negative effects on landscape; • Development at the Hill of Kinnaird 2 site should: retain existing trees along the Eastern boundary and strengthen with buffer / screen planting to delineate urban edge; and provide a strong landscape treatment along Bellsdyke Road frontage and to the minor road to the East to mitigate negative effects on landscape.
<p>Alternative 1: Residential use within the Glenbervie business site (site 92).</p>	-	+	-	--	+	-	-	+	-	<ul style="list-style-type: none"> • Development of the site could have a positive effect on population and human health (through contributing towards the improvement of the green network or the quality of nearby open space) water (due to potential for watercourse restoration) material assets (through increasing the amount of LZCGT and improving the townscape quality at the northern gateway to Larbert) • Development of the site could have a significant negative effect on soil (due to loss of prime quality agricultural land) water (due to potential fluvial flood risk) • Development of the site could have a negative effect on biodiversity (due to loss of habitat) population and human health (due to increased exposure to nuisance noise from the adjacent M876 and a marginal increase in road noise from traffic)) air (due to an increase in traffic related air pollution) climatic factors (due to increased release of greenhouse gases) material assets (due to increased use of primary resources in the construction process, increased vehicular traffic on the local road network and degrading townscape quality at the northern gateway to Larbert) 	<ul style="list-style-type: none"> • Development should be accompanied by ecological assessments which identify habitats of ecological value and be designed to retain these area to avoid negative effects on biodiversity; • Development of the site should contribute towards the delivery of the Glenbervie to Denny path green network opportunity to ensure positive effect on population and human health; • Development should provide financial contributions towards the improvement of existing open space to ensure positive effects on population and human health; • Development should incorporate suitable noise mitigation measures to mitigate negative effects on population and human health; • Opportunities for on-site watercourse restoration should be explored to ensure positive effects on water; • Development proposals should be accompanied by a flood risk assessment and areas at risk of flooding should be excluded

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											<p>from development to mitigate significant negative effects on water;</p> <ul style="list-style-type: none"> Development should ensure that heat demand is met through district heating networks (subject to the outcomes of a feasibility statement) to mitigate negative effects on climatic factors. Development should incorporate on site LZCGT to ensure positive effects on material assets; Development should incorporate high quality frontage design to ensure positive effects and mitigate negative effects on material assets;
<p>Alternative 2: New Larbert West SGA, involving sites within the former RSNH estate (sites 132, 133).</p>	+	+	--	--	-	-	+	-	--	<ul style="list-style-type: none"> Development of the Denny Road and Stirling Road (132 & 133) sites could have a positive effect on biodiversity (through connecting up fragmented parts of the broadleaved woodland habitat network) and material assets (through increasing the amount of LZCGT) a significant negative effect on biodiversity (due to potential adverse impact on legally protected species) and landscape (due to adverse landscape and visual impacts in an area of high landscape sensitivity) and a negative effect on population and human health (due to a marginal increase in road noise from traffic) water (due to potential surface water flood risk) air (due to an increase in traffic related air pollution) climatic factors (due to increased release of greenhouse gases) material assets (due to increased use of primary resources in the construction process, increased vehicular traffic on the local road network) cultural heritage (due to potential adverse impact on the setting of category B listed Larbert House/Stables and the Larbert House estate non-inventory designed landscape) Development at the Denny Road (132) site could have a positive effect on biodiversity (through reinforcing the wetland habitat network) population and human health (due to creation of new open space and improving the quality and connectivity of the green network) material assets (through improving townscape quality along Denny Road) and a negative effect on biodiversity (due to loss of scrubland habitat) soil (due to loss of agricultural land) material assets (due to degrading townscape quality along Denny Road) Development of the Stirling Road (133) site could have a positive effect on population and human health (through improving the quality of existing open space) a significant negative effect on soil (through loss of prime quality agricultural land) and water (due to potential fluvial flood risk) negative effect on biodiversity (due to potential loss of mature trees) 	<ul style="list-style-type: none"> Development of the Denny Road and Stirling Road (132 & 133) sites should incorporate new broadleaved woodland planting to connect up fragmented parts of the broadleaved woodland habitat network and ensure positive effects on biodiversity; Development of the Denny Road (132) site should incorporate new ponds SUDS features to reinforce the wetland habitat network and ensure positive effects on biodiversity; Development proposals at the Denny Road and Stirling Road (132 & 133) sites should be accompanied by protected species surveys and appropriate mitigation employed to avoid significant negative effects on biodiversity; Development proposals at the Denny Road and Stirling Road (132 & 133) sites should be accompanied by ecological assessments which identify habitats of ecological value and be designed to retain these area to avoid negative effects on biodiversity; Development at the Denny Road (132) site should incorporate a new park or amenity space of 0.2ha or greater to ensure positive effects on population and human health; Development at the Denny Road (132) site should contribute towards the implementation of the River Carron Corridor Improvements green network opportunity to ensure positive effects on population and human health; Development of the Stirling Road (133) site should provide financial contributions towards the improvement of existing open space to ensure positive effects on population and human health; Development proposals at the Denny Road and Stirling Road (132 & 133) sites should be accompanied by a drainage strategy to mitigate negative effects on water; Development proposals at the Denny Road and Stirling Road (132 & 133) sites should ensure that heat demand is met through district heating networks (subject to the outcomes of a

Alternative	Biodiversity Flora & Fauna	Population & Human Health	Soil	Water	Air	Climatic Factors	Material Assets	Cultural Heritage	Landscape	Assessment commentary	Enhancement/ Mitigation
											<p>feasibility statement) to mitigate negative effects on climatic factors;</p> <ul style="list-style-type: none"> Development of the Denny Road and Stirling Road (132 & 133) sites should incorporate on site LZCGT to ensure positive effects on material assets Development of the Denny Road (132) site should incorporate high quality frontage treatment along Denny Road to ensure positive effects and mitigate negative effects on material assets
<p>Alternative 3: New East Stenhousemuir SGA, involving green belt release at Bensfield (site 131) or Roughlands (130)</p>	+	-	+	-	+	-	-	+	-	<ul style="list-style-type: none"> Development of the Roughlands Farm and Bensfield (130 & 131) sites could have a positive effect on biodiversity (through reinforcing broadleaved woodland habitat networks) population and human health (through improving the quality and connectivity of the green network) soil (through making safe unstable ground) material assets (through increasing the amount of LZCGT) a significant negative effect on biodiversity (through potential adverse impact on legally protected species) and a negative effect on biodiversity (due to loss of trees and hedges) population and human health (due to a marginal increase in road noise from traffic) water (due to potential surface water flood risk) air (due to an increase in traffic related air pollution) climatic factors (due to increased release of greenhouse gases) material assets (due to increased use of primary resources in the construction process, increased vehicular traffic on the local road network) Development of the Bensfield Farm site (131) could have a positive effect on population and human health (through creation of new open space which addresses existing deficiencies in access to open space in the local area) material assets (through improving the quality of the active travel network) a significant negative effect on soil (through loss of prime quality agricultural land) and landscape (through loss of greenbelt land which adversely affects the landscape setting of Stenhousemuir and Carronshore) a negative effect on material assets (through severing the active travel network) cultural heritage (due to potential negative impact on features of archaeological interest) landscape (due to adverse landscape and visual impact on an area of low sensitivity to landscape change) Development of the Roughlands Farm (130) site could have a significant positive effect on water (through reducing surface water flooding of adjacent properties) a positive effect on population and human health (through improving the quality of existing open space) and material assets (through improving the townscape quality along the B902) a significant negative effect on landscape (due to adverse landscape and visual impact in a visually prominent area of medium sensitivity to landscape change) and a negative effect on population and human health (due to increasing the population exposed to nuisance noise from busy adjacent local roads) soil (due to loss of agricultural land) and material assets (due degrading the townscape quality along the B902) 	<ul style="list-style-type: none"> Development of the both sites should incorporate new broadleaved woodland planting to reinforce the existing habitat network and ensure positive effects on biodiversity; Development proposals at both sites should be accompanied by protected species surveys and appropriate mitigation employed to avoid significant negative effects on biodiversity; Development at both sites should be accompanied by ecological assessments which identify habitats of ecological value and be designed to retain these area to avoid negative effects on biodiversity; Development of both sites should contribute towards the implementation of the Kinnaird/ Carron Policies green network opportunity to ensure positive effects on population and human health; Development at the Bensfield Farm (131) site should include the creation of a new park or amenity space of 0.2ha or greater and a new playspace to ensure positive effects on population and human health; Development at the Roughlands Farm (130) site should provide fincnail contributions towards the improvement of existing open space to ensure positive effects on population and human health; Development of both sites should investigate and remediate potentially unstable ground to ensure positive effects on population and human health; Development of the Roughlands Farm (130) site should incorporate suitable noise mitigation measures to mitigate negative effects on population and human health; Development at the Roughlands Farm (130) site should incorporate appropriately designed SUDS to reduce existing surface water flooding of nearby properties and ensure significant positive effects on water; Development proposals at both sites should be accompanied by a drainage strategy to mitigate negative effects on water; Development at both sites should ensure that heat demand is

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											<p>met through district heating networks (subject to the outcomes of a feasibility statement) to mitigate negative effects on climatic factors;</p> <ul style="list-style-type: none"> Development of both sites should incorporate on site LZCGT to ensure positive effects on material assets; Development at the Roughlands Farm (130) site should incorporate a high quality frontage treatment to the B902 to ensure positive effects and mitigate negative effects on material assets; Development of the Bensfield Farm (131) site should avoid severing and improve the quality of the active travel network to ensure positive effects and mitigate negative effects on material assets; A metal detector sweep should be carried out in advance of development at the Bensfield Farm (131) site to mitigate negative effects on cultural heritage; Development at the Bensfield Farm (131) site should provide appropriate structure / screen planting along Northern, Eastern and Southern boundaries, linking with the wider habitat network to mitigate negative effects on landscape; Development proposals at the Roughlands Farm (130) site should be accompanied by a Landscape and Visual Impact Assessment to determine the limit of development. A backdrop of screen / structure planting should be provided on upper slopes, with development occurring on lower ground. <p>Development of the northern site and on the northern part of the southern site should be avoided to mitigate negative effects on landscape.</p>
<p>Alternative 4: New Kinnaird SGA, involving large scale green belt release to the east Kinnaird Village (site 134).</p>	+	-	+	-	-	-	+	-	-	<ul style="list-style-type: none"> Development could have a positive effect on biodiversity (due to potential to reinforce the woodland habitat network) population and human health (due to creation of new open space and potential to improve the quality and connectivity of the green network) soil (due to potential to make safe unstable ground) material assets (due to potential positive townscape impact along the A88 and potential to improve the quality of the active travel network) Development could have a significant negative effect on biodiversity (due to potential for adverse impact on legally protected species and long established plantation origin woodland and significant impact on the habitat network) soil (due to loss of prime quality agricultural land) water (due to potential fluvial flood risk) and landscape (through loss of greenbelt land which adversely affects the landscape setting of Stenhousemuir and an adverse landscape and visual impact in an area of medium to high sensitivity to landscape change) Development of the site could have a negative effect on population and human health (due to increase in noise from road traffic and increasing the population affected by nuisance noise from the adjacent M9) water (due to potential surface 	<ul style="list-style-type: none"> Development should involve the creation of new broadleaved woodland which reinforces existing habitat networks to ensure positive effects on biodiversity; Development should retain and protect areas of long established plantation origin woodland to mitigate significant negative effects on biodiversity; Development proposals should be accompanied by protected species surveys and appropriate mitigation employed to avoid significant negative effects on biodiversity; Development should involve the creation of new open space to ensure positive effects on population and human health; Development should contribute towards the implementation of the Kinnaird/ Carron Policies green network opportunity to ensure positive effects on population and human health; Development should investigate and remediate potentially unstable ground to ensure positive effects on population and

Alternative	Biodiversity Flora & Fauna	Population & Human Health	Soil	Water	Air	Climatic Factors	Material Assets	Cultural Heritage	Landscape	Assessment commentary	Enhancement/ Mitigation
										<p>water flood risk) air (due to an increase in traffic related air pollution) climatic factors (due to increased release of greenhouse gases) material assets (due to increased use of primary resources in the construction process, increased vehicular traffic on the local road network and the potential to degrade townscape quality along the A88) cultural heritage (due to potential adverse impact on the setting of the category B listed Kinnaird House which is also a non-inventory designed landscape)</p>	<p>human health;</p> <ul style="list-style-type: none"> • Development should incorporate suitable noise mitigation measures to mitigate negative effects on population and human health; • Development proposals should be accompanied by a flood risk assessment and areas at risk of flooding should be excluded from development to mitigate significant negative effects on water; • Development proposals should be accompanied by a drainage strategy to mitigate negative effects on water; • Development should ensure that heat demand is met through district heating networks (subject to the outcomes of a feasibility statement) to mitigate negative effects on climatic factors; • Development should incorporate a high quality frontage treatment along the A88 to ensure positive effects and mitigate negative effects on material assets; • Development proposals should be accompanied by an assessment of impact on setting and grounds of Kinnaird House local designed landscape and it findings should inform site layout to mitigate negative effects on cultural heritage; • Development should: provide strong treatment along Bellsdyke Road frontage; provide strong woodland planting along the Eastern boundary to buffer and retain setting of designed landscape of Kinnaird along alignment of current North to South track; provide buffer boundary tree planting along Northern and Western boundary to motorway and minor road respectively; and avoid development on the eastern part of the site to mitigate significant negative effects on landscape
<p>Alternative 5: New Carronshore SGA, involving large scale green belt release at Bensfield/ Kirkton Farm up to the M9 (sites 129, 127)</p>	+	-	+	-	+	-	-	+	-	<ul style="list-style-type: none"> • Development of the Kirkton Farm 1 & 2 (129 & 127) could have a positive effect on biodiversity (due to potential to reinforce the woodland habitat network and connect fragmented woodland habitat) population and human health (due to creation of new open space and improving the quality and connectivity of the green network) soil (due to potential remediation of historic contamination and making safe unstable ground) water (due to potential for watercourse restoration) material assets (due to increasing the amount of LZCGT material assets and potential to improve the active travel network) a significant negative effect on biodiversity (due to potential for adverse impacts on legally protected species and significant impact on existing habitat networks) soil (due to loss of prime quality agricultural land) water (due to potential fluvial flood risk) material assets (due to increased vehicular traffic on the local road network causing a significant detrimental effect) and landscape (through loss of greenbelt land which adversely affects the landscape setting of Stenhousemuir/ Carronshore) and a negative effect on population and human health (due to increase in noise from road traffic and increasing the 	<ul style="list-style-type: none"> • Development of both sites should incorporate new broadleaved woodland planting to connect fragmented parts of the habitat network and ensure positive effects on biodiversity • Development proposals at both sites should be accompanied by protected species surveys and appropriate mitigation employed to avoid significant negative effects on biodiversity; • Development of the both sites should include the creation of new parkland areas with play facilities to ensures positive effects on population and human health • Development of both sites could assist in the delivery of the Kinnaird and Carron Policies and River Carron Corridor Improvements green network opportunities to ensure positive effects on population and human health; • Development of both sites should incorporate suitable noise mitigation measures to mitigate negative effects on population

Alternative	Biodiversity Flora & Fauna	Population & Human Health	Soil	Water	Air	Climatic Factors	Material Assets	Cultural Heritage	Landscape	Assessment commentary	Enhancement/ Mitigation
										<p>population affected by nuisance noise from the adjacent M9/Bellsdyke Road and Kincardine Road) water (due to potential surface water flood risk) air (due to an increase in traffic related air pollution) climatic factors (due to increased release of greenhouse gases) and material assets (due to increased use of primary resources in the construction process.)</p> <ul style="list-style-type: none"> • Development of the Kirkton Farm 1 (129) site could have a positive effect on a significant negative effect on and landscape (due to an adverse landscape and visual impact in an area of medium to high sensitivity to landscape change) and a negative effect on material assets (due to potential to sever the active travel network) • Development of the Kirkton Farm 2 site (127) could have a negative effect on cultural heritage (due to potential adverse impact on the setting of Carronhall House, walled garden, doocot and gin mill pit) and landscape (due to adverse landscape and visual impact in an area of medium sensitivity to landscape change) 	<p>and human health;</p> <ul style="list-style-type: none"> • Development of both sites should investigate and remediate potentially unstable ground to ensure positive effects on soil; • Development of both sites should investigate and remediate potential sources of historic contamination to ensure positive effects on soil; • Development of both sites should investigate opportunities for watercourse restoration to ensure positive effects on water; • Development proposals at both sites should be accompanied by a flood risk assessment and areas at risk of flooding should be excluded from development to mitigate significant negative effects on water; • Development proposals at both sites should be accompanied by a drainage strategy to mitigate negative effects on water; • Development of both sites should ensure that heat demand is met through district heating networks (subject to the outcomes of a feasibility statement) to mitigate negative effects on climatic factors; • Development of both sites should include on site LZCGT to ensure positive effects on material assets; • Development proposals at both sites should be accompanied by a transportation assessment and major road infrastructure improvements made to mitigate significant negative effects on material assets; • Development of both sites should improve the quality of the active travel network to ensure positive effects on material assets; • Development at the Kirkton Farm 1 (129) site should avoid severing the active travel network to mitigate negative effects on material assets; • Development of the Kirkton Farm 2 site should be undertaken sensitively to avoid adverse impacting on the setting of Carronhall House, walled garden, doocot and gin mill pit to mitigate negative effects on cultural heritage; • Development at the Kirkton Farm 1 site (129) should: ensure that development of southern area extends no further uphill than the uppermost level of Symington Place / Bruce Crescent on Webster Avenue, following similar contour that runs through Carronhall and along western edge of development in North East area; provide woodland / structure planting above this contour, without development in S area required, to ensure a long term backdrop & define limit to development; avoid development of the north western spur running up alongside Webster Avenue to the north west of Symngton Place to

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											<p>mitigate significant negative effects on landscape;</p> <ul style="list-style-type: none"> Development of the Kirkton Farm 2 site should: be informed by Landcape and Visual Impact Assessment; provide substantial structure / screen planting to the North and East to the motorway boundary and South to Bothkennar Road with industrial site boundaries clearly defined by structure / screen planting, with a buffer of planting to the industrial area in SW corner; retain existing sporadic tree cover within site where trees are healthy; provide advance planting as part of overall structure; provide internal structure planting as part of a landscape framework together with open space to physically break up site and screen / separate residential areas from other uses as well as contribute to the habitat / green network and access routes through the site and to the surrounding area to mitigate negative effects on landscape. 																																																																																																																																																																																																																																																																																																																																																																																																
MAIN ISSUE 5: SUSTAINABLE COMMUNITY GROWTH – RURAL NORTH VILLAGES																																																																																																																																																																																																																																																																																																																																																																																																											
<p>Preferred Option: The preferred option is to promote an extension to Skinflats at Newton Avenue South (site 165), but to resist further development in the other Rural North villages. (039-044 & 165)</p>	+	-	+	-	+	--	-	-	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
										<ul style="list-style-type: none"> Development of these sites could deliver approximately 316 new houses. Between 2001 and 2014 each new house built in the Rural North increased the population by 1.18 people. At those rates 316 new houses could be expected to increase the population by 373 people which would equate to a 12.3% population increase from mid-2014 population estimates (3,020) The average household size in the Council area is 2.26 people per household. At those rates 316 new houses could be expected to increase the population by 714 people which could equate to a 23.6% population increase. Development of the Castle View (039) site could have a positive effect on biodiversity (due to potential to reinforce the broadleaved woodland habitat network) Development of the Newton Avenue South (165) could have a positive effect on biodiversity (due to potential to connect up fragmented parts of the broadleaved woodland habitat network) and a negative effect on water (due to potential surface water flood risk) and material assets (due to potential to degrade townscape quality at the southern entrance to Skinflats) Development of the Castle View and Newton Avenue South (039 & 165) sites could have a significant negative effect on biodiversity (due to potential adverse impacts on legally protected species) Development of the Glebe and Newton Avenue South (042 & 165) sites could have a significant negative effect on biodiversity (due to loss of potential supporting habitat to the Firth of Forth SPA) Development of the Castle View, Graham Terrace, Airth Castle South, Former Torwood School and McLaren Park (039-041, 043 & 044) sites could have a negative effect on biodiversity (due to potential adverse impact on broadleaved woodland habitat) Development of the Castle View																																																																																																																																																																																																																																																																																																																																																																																																	

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										<p>McLaren Park (039, 041, 043 & 044) sites could have a positive effect on population and human health (due to creation of new open space which addresses a deficiency in access to open space in the local area)</p> <ul style="list-style-type: none"> • Development of the Graham Terrace, the Glebe and Newton Avenue South (040, 042 & 165) sites could have a positive effect on population and human health (due to improving the quality of existing open space) • Development of the Castle View, Graham Terrace, Airth Castle South, The Glebe (039-042) sites could have a positive effect on soil (due to making safe unstable land) and a negative effect on material assets (due to potential sterilization of shallow coal deposits) • Development of the Castle View, Airth Castle South, the Glebe, McLaren Park and Newton Avenue South (039, 041, 042, 044 & 165) sites could have a negative effect on soil (due to loss of agricultural land) • Development of the Castle View, Graham Terrace, Airth Castle South, The Glebe, Former Torwood School and Newton Avenue South (039-043 & 165) sites could have a significant negative effect on water (due to potential fluvial flood risk) • Development of the Castle View, Graham Terrace, Airth Castle South, The Glebe, Former Torwood School, McLaren Park and Newton Avenue South (039-044 & 165) sites could have a positive effect on material assets (through increasing the amount of LZCGT) and a negative effect on population and human health (due to increased road traffic noise) air (due to an increase in traffic related air pollution) climatic factors (due to increased release of greenhouse gases) material assets (due to increased use of primary resources in the construction process and increased traffic on the local road network) • Development of the Graham Terrace and Former Torwood School (040 & 043) sites could have a positive effect material assets (through improving townscape quality through regeneration of a brownfield site) • Development of the McLaren Park (044) site could have a positive effect on material assets (through improving the connectivity of the active travel network) • Development of the Castle View and Graham Terrace (039 & 040) sites could have a negative effect on material assets (due to potential to sever the active travel network) • Development of the Castle View, Graham Terrace and the Glebe (039, 040 & 042) sites could have a negative effect on material assets (due to potential to degrade townscape quality at the northern gateway to Airth.) • Development of the Castle View, Graham Terrace, Airth Castle South and the Glebe (039-042) sites could have a cumulatively significant negative effect on material assets (through breaching the capacity of Airth WWTW) • Development of the Former Torwood School (043) site could have a negative effect on material assets (due to degrading townscape quality at the southern gateway to Torwood and breaching the capacity of the local waste water treatment works) • Development of the Airth Castle South (041) site could have a significant negative effect on cultural heritage (due to potential to adversely impact the setting of Airth Castle and Airth Old Church category A listed buildings and Airth Old Church SAM) 	<ul style="list-style-type: none"> • Development of the Graham Terrace, the Glebe and Newton Avenue South (040, 042 & 165) sites should provide financial contributions towards the improvement of existing open space to ensure positive effects on population and human health; • Development of the Castle View, Graham Terrace, Airth Castle South, The Glebe (039-042) sites should investigate and make safe potentially unstable land to ensure positive effects on soil; • Development proposals at Castle View, Graham Terrace, Airth Castle South, The Glebe, Former Torwood School and Newton Avenue South (039-043 & 165) sites should be accompanied by a flood risk assessment and areas at risk of flooding should be excluded from development to mitigate significant negative effects on water; • Development proposals at the Newton Avenue South (165) site should be accompanied by a drainage strategy to mitigate negative effects on water; • Development at the Castle View and Newton Avenue South (039 & 165) sites should ensure that heat demand is met through district heating networks (subject to the outcomes of a feasibility statement) to mitigate negative effects on climatic factors; • Development of the Castle View, Graham Terrace, Airth Castle South, The Glebe (039-042) sites should investigate and if feasible extract reserves of shallow coal before commencing development to mitigate negative effects on material assets; • Development of the Castle View, Graham Terrace, Airth Castle South, The Glebe, Former Torwood School, McLaren Park and Newton Avenue South (039-044 & 165) sites should incorporate on site LZCGT to ensure positive effects on material assets; • Development at the Castle View, Graham Terrace and the Glebe (039, 040 & 042) sites should ensure high quality frontage design to the A905 to mitigate negative effects on material assets; • Development at the Newton Avenue South (165) site should incorporate a high quality frontage treatment to the A905, Newton Terrace and Skinflats Park to mitigate negative effects on material assets; • Development at the McLaren Park (044) site should provide a pedestrian link through neighbouring woodland towards Castle Crescent to ensure positive effects on material assets; • Development of the Castle View and Graham Terrace (039 & 040) sites should avoid severing the active travel network and improve the quality of the active travel network to ensure positive effects and mitigate negative effects on material

Alternative	Biodiversity Flora & Fauna	Population & Human Health	Soil	Water	Air	Climatic Factors	Material Assets	Cultural Heritage	Landscape	Assessment commentary	Enhancement/ Mitigation
										<ul style="list-style-type: none"> Development of the Glebe (042) site could have a significant negative effect on cultural heritage (due to potential adverse impact on the setting of an inventory designed landscape) and a negative effect on biodiversity (due to loss of hedgerow and wet ditch habitat) Development of the Castle View, Graham Terrace, Airth Castle South, The Glebe and Newton Avenue South (039-042, 044 & 165) sites could have a negative effect on landscape (due to adverse landscape and visual impact) 	<p>assets;</p> <ul style="list-style-type: none"> Development of the Former Torwood School site should incorporate high quality frontage design to the A9 to mitigate negative effects on material assets; Torwood and Airth Waste Water Treatment Works should be expanded to mitigate negative effects on material assets; Development of the Airth Castle South site should be undertaken sensitively to avoid an adverse impact on the setting of Airth Castle and Airth Old Church category A listed buildings and Airth Old Church SAM and mitigate significant negative effects on cultural heritage; Development of the Glebe (042) site should incorporate planting to the north and west of the site to mitigate significant negative effects on cultural heritage; Development at the Castle View (039) site should provide compensatory planting to replace any on site woodland lost due to development to mitigate negative effects on landscape; Development of the Glebe (042) site should provide new structure planting along the northern boundary; and ensure low density development fronting the road to retain rural character and minimise effects on adjacent inventory designed landscape to mitigate negative effects on landscape. Development of the Newton Avenue South (165) site should retain tree cover outside site, near boundaries of recreation area and on area to the south; provide structure / buffer / screen planting along full (currently un-delineated) eastern boundary to round off settlement and on Southern boundary in South West corner to strengthen screening by existing woodland; and ensure the buildings along the A905 frontage are of a lower density and align with existing development line / front gardens to mitigate negative effects on landscape.
<p>Alternative 1: New Airth SGA, involving major greenfield release to the west of the village at Airth Mains Farm (site 148), or to the east at Eastfield 2 (site 151)</p>	+	-	+	-	-	-	+	-	-	<ul style="list-style-type: none"> Development at the Airth Mains Farm (148) site could have positive effect on biodiversity (due to potential to connect up fragmented parts of the broadleaved woodland habitat network) soil (due to making safe unstable land) and a significant negative effect on water (due to potential fluvial flood risk) cultural heritage (due to potential adverse impact on the Pineapple inventory designed landscape) and landscape (due to adverse landscape and visual impacts in an area of medium landscape sensitivity and high visual sensitivity) and a negative effect on and cultural heritage (due to potential negative effect on Airth Conservation Area) Development at the Eastfield 2(151) site could have a positive effect on biodiversity (due to potential creation of new grassland habitat) a significant negative effect on biodiversity (due to potential loss of Firth of Forth SPA supporting habitat) water (due to potential coastal flood risk) and a negative effect 	<ul style="list-style-type: none"> Development at the Airth Mains Farm (148) site should incorporate new broadleaved woodland planting to connect up fragmented parts of the habitat network and ensure positive effects on biodiversity; Development of the Eastfield 2 (151) site should incorporate new grassland planting to ensure positive effects on biodiversity; Development proposals at the Eastfield 2 (151) site should be accompanied by bird surveys which clarifies the role of the site as supporting habitat to the Firth of Forth SPA to mitigate significant negative effects on biodiversity; Development proposals at both sites should be accompanied by

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										<p>on water (due to potential surface water flood risk) and landscape (due to adverse landscape and visual impacts in an area of low sensitivity to landscape change)</p> <ul style="list-style-type: none"> Development at both sites could have a positive effect on material assets (through increasing the amount of LZCGT and improving the quality of the active travel network) a significant negative effect on biodiversity (due to potential adverse impact on legally protected species) and material assets (through breaching the capacity of Airth WWTW) and a negative effect on population and human health (due to increased road traffic noise) soil (due to loss of agricultural land) air (due to an increase in traffic related air pollution) climatic factors (due to increased release of greenhouse gases) material assets (due to increased use of primary resources in the construction process and increased traffic on the local road network) 	<p>protected species surveys and appropriate mitigation employed to avoid significant negative effects on biodiversity;</p> <ul style="list-style-type: none"> Development of both sites should incorporate new park, play space and sports facilities as appropriate to address local deficiencies in access to different kinds of open space and ensure positive effects on population and human health; Development at the Airth Mains Farm (148) site should investigate and make safe potentially unstable land to ensure positive effects on soil; Development of both sites should be accompanied by a flood risk assessment and areas at risk of flooding should be excluded from development to mitigate significant negative effects on water; Development proposals at the Eastfield 2 (151) site should be accompanied by a drainage strategy to mitigate negative effects on water; Development of both sites should ensure that heat demand is met through district heating networks (subject to the outcomes of a feasibility statement) to mitigate negative effects on climatic factors; Development of both sites should incorporate on site LZCGT to ensure positive effects on material assets; Development of both sites should improve the quality of the active travel network to ensure positive effects on material assets; Development of the Airth Mains Farm (148) site should be undertaken sensitively to avoid adversely impacting on the Pineapple Inventory Designed Landscape to mitigate significant negative effects on cultural heritage; Development at the Eastfield 2 (151) site should be accompanied by a masterplan informed by Landscape and Visual Impact Assessment; provide a substantial native broadleaf structure planting belt on the Eastern and Southern sides to mitigate visual impacts and delineate settlement in this very open location; and incorporate internal open space to retain an element of the rural character of the location, with linkages to boundary planting and to open countryside beyond to mitigate negative effects on landscape
Alternative 2: Moderate settlement expansion at Airth, involving small allocations	+	-	+	-	+	-	+	-	-	<ul style="list-style-type: none"> Development of both sites could have a positive effect on biodiversity (due to potential to reinforce the broadleaved woodland habitat network) population and human health (due to creation of new open space which addresses an existing deficiency in access to open space in the local area) material assets (through increasing the amount of LZCGT and improving the quality of the active travel network) a significant negative effect on biodiversity (due to potential adverse 	<ul style="list-style-type: none"> Development at both sites should incorporate new broadleaved woodland planting to reinforce the existing habitat network and ensure positive effects on biodiversity; Development proposals at both sites should be accompanied by protected species surveys and appropriate mitigation employed to avoid significant negative effects on biodiversity;

Alternative	Biodiversity Flora & Fauna	Population & Human Health	Soil	Water	Air	Climatic Factors	Material Assets	Cultural Heritage	Landscape	Assessment commentary	Enhancement/ Mitigation
at the Glebe to the north (site 149) or Eastfield to the south (150).										<p>impact on legally protected species and the potential loss of Firth of Forth SPA supporting habitat) water (due to potential fluvial and coastal flood risk) and material assets (through breaching the capacity of Airth WWTW) and a negative effect on population and human health (due to increased road traffic noise) soil (due to loss of agricultural land) air (due to an increase in traffic related air pollution) climatic factors (due to increased release of greenhouse gases) material assets (due to increased use of primary resources in the construction process and increased traffic on the local road network)</p> <ul style="list-style-type: none"> • Development of the Airth Glebe(149) site could have a positive effect on water (due to potential for watercourse restoration) and a negative effect on material assets (due to the potential to degrade townscape quality at the northern gateway to Airth) cultural heritage (due to potential adverse impact on the setting of East Lodge Dunmore Park category B listed building) and landscape (due to adverse landscape and visual impact in an area of medium sensitivity to landscape change) • Development of the Eastfield 1 (150) site could have a positive effect on soil (due to making safe unstable ground) a significant negative effect on cultural heritage (due to potential adverse impact on the setting of Airth Castle) and a negative effect on material assets (due to degrading townscape quality at the southern gateway to Airth) and landscape (due to an adverse landscape and visual impact in an area of low sensitivity to landscape change) 	<ul style="list-style-type: none"> • Development proposals at both sites should be accompanied by bird surveys which clarifies the role of the site as supporting habitat to the Firth of Forth SPA to mitigate significant negative effects on biodiversity; • Development at both sites should incorporate a new park or amenity space of 0.2ha or greater to ensure positive effects on population and human health; • Development at the Eastfield 1 (150) site should investigate and make safe potentially unstable land to ensure positive effects on soil; • Development at the Airth Glebe (149) site should investigate opportunities for watercourse restoration to ensure positive effects on water; • Development of both sites should be accompanied by a flood risk assessment and areas at risk of flooding should be excluded from development to mitigate significant negative effects on water; • Development at the Eastfield 1 (150) site should ensure that heat demand is met through district heating networks (subject to the outcomes of a feasibility statement) to mitigate negative effects on climatic factors; • Development of both sites should improve the quality of the active travel network to ensure positive effects on material assets; • Development at both sites should incorporate on site LZCGT to ensure positive effects on material assets; • Development at both sites should ensure high quality frontage design to the A905 to mitigate negative effects on material assets; • Development at the Airth Glebe (149) site should be undertaken sensitively to avoid adversely impacting on the setting of the East Lodge Dunmore Park category B listed building to mitigate negative effects on cultural heritage; • Development at the Eastfield 1 (150) site should be undertaken sensitively to avoid adversely impacting on the setting of Airth Castle category A listed building to mitigate significant negative effects on cultural heritage; • Development at the Airth Glebe (149) site should retain all trees and boundary hedges on the western area; ensure low density development fronting the road to retain rural character and minimise effects on adjacent inventory designed landscape; limit any North Easterly extension to the existing rear boundary of current development to the South East; ensure strong native woodland planting belt along watercourse to delineate

Alternative	Biodiversity Flora & Fauna	Population & Human Health	Soil	Water	Air	Climatic Factors	Material Assets	Cultural Heritage	Landscape	Assessment commentary	Enhancement/ Mitigation
											<p>settlement / rural boundary; keep low density housing at main road frontage with frontage / avenue tree planting to match opposite side of road and retain rural character adjacent to Inventory Designed Landscape site; and avoid any north eastern extension beyond the existing rear boundary of current development to mitigate negative effects on landscape;</p> <ul style="list-style-type: none"> Development at the Eastfield 1 (150) site should provide a high quality design treatment to the eastern road frontage on approaching Airth, with development line set back from road and lower density housing, with strong frontage landscape treatment; delineate the settlement limit along minor road with a native tree / woodland strip along the southern boundary of the site to provide high quality landscape treatment to act as 'gateway' feature to village to mitigate negative effects on landscape
<p>Alternative 3: Moderate village extension to the east of Letham (site 155).</p>	+	-	+	-	-	-	+	-	-	<ul style="list-style-type: none"> Development could have a positive effect on biodiversity (due to potential to connect up fragmented parts of the broadleaved woodland habitat network) population and human health (through improving the quality and connectivity of the green network) material assets (through increasing the amount of LZCGT) Development could have a significant negative effect on biodiversity (due to potential adverse impact on legally protected species) water (due to potential fluvial flood risk) material assets (through significantly impacting established village character and breaching the capacity of Airth WWTW and Letham pumping station) cultural heritage (due to significant impact on the character and setting of Letham Conservation Area) and landscape (due to adverse landscape and visual impact in an area of high landscape sensitivity) Development could have a negative effect on population and human health (due to increased road traffic noise) soil (due to loss of agricultural land) air (due to an increase in traffic related air pollution) climatic factors (due to increased release of greenhouse gases) material assets (due to increased use of primary resources in the construction process and increased traffic on the local road network) 	<ul style="list-style-type: none"> Development should incorporate new broadleaved woodland planting to connect up fragmented parts of the habitat network and ensure positive effects on biodiversity; Development proposals should be accompanied by protected species surveys and appropriate mitigation employed to avoid significant negative effects on biodiversity; Development should contribute towards implementing the Waterslap green network opportunity to ensure positive effects on population and human health; Development proposals should be accompanied by a flood risk assessment and areas at risk of flooding should be excluded from development to mitigate significant negative effects on water; Development should incorporate on site LZCGT to ensure positive effects on material assets; Letham pumping station may need to be upgraded to mitigate negative effects on material assets.
<p>Alternative 4: Moderate village extension to Airth, involving greenfield release either at Castle Crescent (site 154), or Blairs Farm (site 152).</p>	+	-	+	-	+	-	+	-	-	<ul style="list-style-type: none"> Development of the Blair's Farm (152) site could have a positive effect on water (due to potential watercourse restoration) a significant negative effect on water (due to potential fluvial flood risk) and a negative effect on biodiversity (through adversely affecting the Wallacebank Wood Wildlife Site) cultural heritage (due to potential adverse impact on Carbrook House non-inventory designed landscape) Development of the Castle Crescent (154) site could have a positive effect on material assets (through improving the quality and connectivity of the active travel network) significant negative effect on biodiversity (due to potential loss of long standing woodland of plantation origin) Development of both sites could have a positive effect on biodiversity (through connecting up fragmented parts of the broadleaved woodland habitat network) population and human health (through creating new open space which addresses 	<ul style="list-style-type: none"> Development at both sites should incorporate new broadleaved woodland planting to connect up fragmented parts of the habitat network and ensure positive effects on biodiversity; Development proposals at both sites should be accompanied by protected species surveys and appropriate mitigation employed to avoid significant negative effects on biodiversity; Development of the Castle Crescent (154) site should incorporate an appropriate habitat buffer around areas of mature woodland to mitigate significant negative effects on biodiversity; Development of the Blairs Farm (152) site should be developed sensitively to avoid adversely affecting the Wallacebank Wood

Alternative	Biodiversity Flora & Fauna	Population & Human Health	Soil	Water	Air	Climatic Factors	Material Assets	Cultural Heritage	Landscape	Assessment commentary	Enhancement/ Mitigation
										<p>an existing deficiency in access to open space in the local area) soil (through remediating historic contamination) material assets (through increasing the amount of LZCGT) a significant negative effect on biodiversity (due to potential adverse impact on legally protected species) soil (through loss of prime quality agricultural land) material assets (breaching the capacity of Torwood WWTW) and landscape (due to adverse landscape and visual impact in an area of high sensitivity to landscape change) and a negative effect on biodiversity (through severing the broadleaved woodland habitat network) population and human health (due to increased road traffic noise) water (due to potential surface water flood risk) air (due to an increase in traffic related air pollution) climatic factors (due to increased release of greenhouse gases) material assets (due to increased use of primary resources in the construction process, and increased traffic on the local road network)</p>	<p>Wildlife Site to mitigate negative effects on biodiversity;</p> <ul style="list-style-type: none"> • Development of both sites should avoid the loss of broadleaved woodland to mitigate negative effects on biodiversity; • Development at both sites should incorporate a new park or amenity space of 0.2ha or greater with play and sports facilities to ensure positive effects on population and human health; • Development of both sites should investigate and remediate sources historic contamination to ensure positive effects on soil; • Development of the Blair's Farm (152) site should investigate opportunities for watercourse restoration to ensure positive effects on water; • Development proposals at both sites should be accompanied by a drainage strategy to mitigate negative effects on water; • Development at both sites should ensure that heat demand is met through district heating networks (subject to the outcomes of a feasibility statement) to mitigate negative effects on climatic factors; • Development of both sites should incorporate on site LZCGT to ensure positive effects on material assets; • Torwood Waste Water Treatment Works should be expanded to mitigate negative effects on material assets; • Development proposals at the Blair's Farm site should be accompanied by an archaeological assessment to mitigate negative effects on cultural heritage; • Development at the Castle Crescent (154) site should improve the quality of the active travel network and aim to link up the network to the adjacent McLaren Park development site to ensure positive effects on material assets
<p>Alternative 5: Alternative site for Skinflats growth at Newton Avenue (site 153)</p>	+	-	+	-	-	-	+	-	N	<ul style="list-style-type: none"> • Development could have a positive effect on biodiversity (due to potential to reinforce existing field boundaries and tree belts) population and human health (due to improving the quality of existing open space) material assets (through increasing the amount of LZCGT) • Development could have a significant negative effect on biodiversity (due to potential adverse impact on legally protected species and loss of potential supporting habitat to the Firth of Forth SPA) • Development could have a negative effect on population and human health (due to increased road traffic noise) soil (due to loss of agricultural land) water (due to potential surface water flood risk) air (due to an increase in traffic related air pollution) climatic factors (due to increased release of greenhouse gases) material assets (due to increased use of primary resources in the construction process and increased traffic on the local road network) and landscape (due to adverse landscape and visual effects in an area of low sensitivity to landscape change) 	<ul style="list-style-type: none"> • Development should incorporate connecting planting and landscaping to reinforce existing field boundaries and tree belts to ensure positive effects on biodiversity; • Development proposals should be accompanied by protected species surveys and appropriate mitigation employed to avoid significant negative effects on biodiversity; • Development proposals should be accompanied by bird surveys which clarifies the role of the site as supporting habitat to the Firth of Forth SPA to mitigate significant negative effects on biodiversity; • Development should provide contributions towards improving existing open space to ensure positive effects on population and human health; • Development proposals should be accompanied by a drainage

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											<p>strategy to mitigate negative effects on water;</p> <ul style="list-style-type: none"> • Development should ensure that heat demand is met through district heating networks (subject to the outcomes of a feasibility statement) to mitigate negative effects on climatic factors; • Development should incorporate on site LZCGT to ensure positive effects on material assets; • Development should provide buffer / structure / screen planting along Northern and Eastern side to open countryside; and provide partial screen planting / spacing on Western and part Southern boundary to provide buffer to existing housing to mitigate negative effects on landscape.
MAIN ISSUE 5: SUSTAINABLE COMMUNITY GROWTH – WINDFALL SITES											
<p>Preferred Option: Include an allowance of 40 homes per year for windfall sites which come forward outwith the plan process.</p>	?	?	?	?	?	?	?	?	?	<p>Including a windfall allowance means that less sites for sustainable community growth need to be identified within the MIR. The environmental effects of the development of windfall sites cannot be meaningfully predicted as they can occur anywhere within the urban area.</p>	
<p>Alternative 1: No windfall allowance would be made, with output from such sites contributing extra flexibility to the supply.</p>	?	?	?	?	?	?	?	?	?	<p>Without an allowance of 40 homes, additional sites to accommodate 400 units would need to be identified over the first 10 year period of the plan to meet the housing land requirement. The environmental effects of developing alternative options for sustainable community growth have been set out under the assessment of Main Issue 5 above. Which of the alternative options for sustainable community growth would be chosen to make up the 400 home shortfall cannot meaningfully be predicted at this stage so environmental effects are recorded as unknown.</p>	
MAIN ISSUE 5: SUSTAINABLE COMMUNITY GROWTH – EFFECTIVE HOUSING LAND SUPPLY											
<p>Preferred Option: Continue to include an 'alternative sites' policy to deal with any future shortfalls in the effective housing land supply, but revise the criteria to give a clearer</p>	?	?	?	?	?	?	?	?	?	<p>Despite the proposed clarification of criteria outlining the circumstances where proposals would meet the presumption in favour of sustainable development, we still cannot meaningfully predict where sustainable development proposals will come forward and therefore cannot predict what their environmental effects will be (other than that they will not be significantly negative)</p>	

Alternative	Biodiversity Flora & Fauna	Population & Human Health	Soil	Water	Air	Climatic Factors	Material Assets	Cultural Heritage	Landscape	Assessment commentary	Enhancement/ Mitigation					
indication of where proposals would meet the presumption in favour of sustainable development.																
Alternative 1: The policy could be retained with the current wording.	?	?	?	?	?	?	?	?	?	<p>The current alternative sites policy sets out that if the Housing Land Audit process identifies a shortfall in the effective land supply, the council will consider supporting sustainable development proposals that are effective, in the following order of preference:</p> <ol style="list-style-type: none"> 1. Urban Capacity sites 2. Additional brownfield sites 3. Sustainable greenfield sites <p>In doing so, account will be taken of other local development plan policies and of any adverse impacts that would significantly and demonstrably outweigh the benefits of the proposal.</p> <p>This policy clarifies that development which contributes to sustainable development does not necessarily outweigh other LDP policies which seek to limit the impact of development on the environment.</p> <p>The environmental effects of any sustainable development proposal which may come forward in the event of a shortfall in the housing land supply are extremely hard to predict, however it could be argued that, by definition, no "sustainable" development proposal would be likely to have significant negative effects on the environment.</p>						
MAIN ISSUE 6: BUSINESS LOCATIONS – FALKIRK INVESTMENT ZONE																
Preferred Option: Amend the mix of uses proposed at the Falkirk Gateway and Falkirk Stadium sites (sites 80, 81) to focus on tourism, food and drink, recreation and business, with an element of residential use.	+	-	+	-	+	-	--	-	-	+	-	--	+	-	<ul style="list-style-type: none"> • Development of the Falkirk Gateway (080) site could have a significant positive effect on population and human health (through enabling the creation of a significant new green corridor) a positive effect on biodiversity (due to the potential to enhance the riparian environment) population and human health (through enhancing the recreational amenity of the Forth and Clyde Canal) material assets (due to improving townscape quality through creation of an western gateway to Falkirk and increasing the amount of LZCGT) and landscape (through improving the landscape setting of the canal and improving the landscape setting of the urban fringe) a significant negative effect on cultural heritage (due to potential for adverse effect on the site and setting of the Forth and Clyde Canal SAM) a negative effect on biodiversity (due to loss of scrub habitat and potential adverse impact on the Forth and Clyde Canal Wildlife Site) water (due to potential flood risk from the canal) • Development of the Falkirk Stadium (081) site could have a positive effect on biodiversity (through connecting up fragmented parts of the broadleaved woodland 	<ul style="list-style-type: none"> • Development at the Falkirk Gateway (080) site should investigate opportunities to enhance the riparian environment and recreational amenity of the Forth and Clyde Canal to ensure positive effects on biodiversity and population and human health; • Development at the Falkirk Gateway (080) site should incorporate new broadleaved woodland planting to connect up fragmented parts of the habitat network and ensure positive effects on biodiversity; • Development proposals at the Falkirk Gateway and Falkirk Stadium (080 & 081) sites should be accompanied by protected species surveys and appropriate mitigation employed to avoid significant negative effects on biodiversity; • Development at the Falkirk Gateway (080) site should be undertaken sensitively to avoid adversely impacting on the

Alternative	Biodiversity Flora & Fauna	Population & Human Health	Soil	Water	Air	Climatic Factors	Material Assets	Cultural Heritage	Landscape	Assessment commentary	Enhancement/ Mitigation
Proposals for large scale retail use would be deleted, with any retailing reduced to a local scale.										<p>habitat network) material assets (though improving townscape quality) and a negative effect on biodiversity (due to loss of broadleaved woodland habitat)</p> <ul style="list-style-type: none"> • Development of the Falkirk Gateway and Falkirk Stadium (080 & 081) sites could have a positive effect on population and human health (through improving the quality and connectivity of the green network) a significant negative effect on biodiversity (due to potential adverse impact on legally protected species) and water (due to potential fluvial flood risk) • Development of the Abbotsford Business Park (082) site could have a positive effect on population and human health (through regeneration of vacant/derelict land) soil (through removal of historic contamination) and material assets (through improving townscape quality due to regeneration of brownfield land) negative effect on biodiversity (due to loss of open mosaic habitat) • Development of the Falkirk Gateway, Falkirk Stadium, Abbotsford Business Park & Caledon Business Park (080-083) sites could have a positive effect on material assets (due to increasing the amount of LZCGT) and a negative effect on population and human health (due to noise impact from adjacent busy local roads, through marginally increased traffic related noise impacts) air (due to an increase in traffic related air pollution) climatic factors (due to increased release of greenhouse gases) and material assets (increased use of primary resources in the construction process and increased vehicular traffic on the local road network) • Development of the Falkirk Gateway and Abbotsford Business Park(080 & 082) sites could have a negative effect on water (due to potential surface water flood risk) • Development of the Falkirk Gateway and Caledon Business Park (080 & 083) sites could have a positive effect on material assets (through improving the quality of the active travel network) negative effect on soil (due to loss of agricultural land) • Development of the Caledon Business Park (083) site could have a positive effect on material assets (due to improving townscape quality through screening old industrial buildings) negative effect on biodiversity (due to loss of scrub habitat) • Development of the Falkirk Stadium and Caledon Business Park (081 & 083) sites could have a negative effect on landscape (due to adverse landscape impact) 	<p>Forth and Clyde Canal Wildlife Site and mitigate negative effects on biodiversity;</p> <ul style="list-style-type: none"> • Development proposals at all sites should be accompanied by ecological assessments which identify habitats of ecological value and be designed to retain these area to avoid negative effects on biodiversity; • Development at the Falkirk Gateway (080) site should include the creation of a new green corridor connecting the Helix to Victoria Park to ensure significant positive effects on population and human health; • Development at the Abbotsford Business Park (082) site should investigate and remediate sources of historic contamination to ensure positive effects on soil; • Development of both sites should contribute towards landscape and access improvements at the Helix to ensure positive effects on population and human health; • Development of the Falkirk Gateway, Falkirk Stadium and Abbotsford Business Park (080-082) sites should incorporate suitable noise mitigation measures to mitigate negative effects on population and human health; • Development proposals at the Falkirk Stadium and Falkirk Gateway (080-081) sites should be accompanied by a flood risk assessment and areas at risk of flooding should be excluded from development to mitigate significant negative effects on water; • Development proposals at the Falkirk Gateway and Abbotsford Business Park (080 & 082) sites should be accompanied by drainage strategies which adequately manage existing surface water flood risk to mitigate negative effects on water; • Scottish Canals should be consulted with on development proposals at the Falkirk Gateway (080) site to determine potential flood risk from infrastructure failure and consideration should be given to mitigation measures within the design of the sites to avoid negative effects on water; • Development of all sites should incorporate on site LZCGT to ensure positive effects on material assets; • Development of the Falkirk Gateway and Caledon Business Park (080 & 082) sites should enhance the active travel network to ensure positive effects on material assets; • Development at the Falkirk Stadium site should involve the creation of the final stand and infilling of corners to ensure positive effects on material assets; • Development of the Caledon Business Park (083) site should replace or screen the old industrial buildings along Bog Road to

Alternative	Biodiversity Flora & Fauna	Population & Human Health	Soil	Water	Air	Climatic Factors	Material Assets	Cultural Heritage	Landscape	Assessment commentary	Enhancement/ Mitigation
											<p>ensure positive effects on material assets;</p> <ul style="list-style-type: none"> Development of the Falkirk Gateway (080) site should be undertaken sensitively to avoid adversely impacting on the site and setting of the Forth and Clyde Canal SAM to avoid significant negative effects on cultural heritage; Development of Falkirk Gateway (080) site should incorporate canalside landscaping to soften the canalside environment and ensure positive effects on landscape; Development of the Falkirk Gateway(080) site should be within an integrated landscape framework to ensure positive effects on landscape;
<p>Alternative 1: Residential use could be excluded from the proposed menu of uses.</p>	+	-	+	-	--	-	+	-	+	<p>Excluding residential use from the proposed menu of uses at the Falkirk Gateway site would be unlikely to change the environmental effects caused by the development of the site.</p>	
MAIN ISSUE 6: EMPLOYMENT LOCATIONS – GRANGEMOUTH INVESTMENT ZONE											
<p>Preferred Option: 1. Allocate land at the eastern end of Grangemouth Docks (sites 128, 162, 163) for port related activities and a power station with carbon capture and storage in accordance with NPF3. Extend the current opportunity at Central Dock Road (site 190) to reflect the planning permission for the biomass energy plant; and 2. Extend</p>	+	-	+	--	--	+	-	+	-	<ul style="list-style-type: none"> Development of the Grangemouth Docks 3 4 & 4 (162, 163 & 190) sites could have a positive effect on biodiversity (due to connecting up fragmented parts of the broadleaved woodland habitat network) Development of the Grangemouth Docks 1-5 (090, 128, 162, 163 & 190) sites could have a significant negative effect on biodiversity (due to increased disturbance of Firth of Forth/Forth Islands SPA, Firth of Forth and St Andrew's Bay pSPA, River Teith SAC species caused by increased shipping) Development of the South Bridge Street, Grangemouth Docks 1-4 (089, 090, 128, 162, 163) sites could have a significant negative effect on biodiversity (due to the loss of potential supporting habitat to the Firth of Forth SPA) Development of the Grangemouth Docks 3 & 4, Bo'ness Road North and South and Wholeflats Road (162, 163 & 200-202) sites could have a significant negative effect on biodiversity (due to potential disturbance of Firth of Forth/Forth Islands SPA, Firth of Forth and St Andrew's Bay pSPA, River Teith SAC species during construction and operation) Development of the South Bridge Street, Grangemouth Docks 1 & 5 (089,090 & 190) sites could have a negative effect on biodiversity (due to loss of open mosaic habitat) Development of the Grangemouth Docks 1-3 (090, 128, 162) sites could have a negative effect on biodiversity (due to potential to sever the broadleaved woodland habitat network) Development of the Glensburgh (088) site could have a negative effect on biodiversity (due to loss of scrub habitat) water (due to potential surface water flood risk) and material assets (due to degrading townscape value at a prominent gateway to Grangemouth) Development of the Grangemouth Docks 1, Wholeflats Business Park, 	<ul style="list-style-type: none"> Development of the Grangemouth Docks 3-5 (162, 163 & 190) sites should incorporate new broadleaved woodland planting to connect up fragmented parts of the broadleaved woodland habitat network and ensure positive effects on biodiversity Development proposals at the South Bridge Street, Grangemouth Docks 1-4 (089, 090, 128, 162, 163) sites should be accompanied by bird surveys which clarifies the role of the site as supporting habitat to the Firth of Forth SPA to mitigate significant negative effects on biodiversity; Development proposals a the Grangemouth Docks 3 & 4, Bo'ness Road North and South and Wholeflats Road (162, 163 & 2-202) sites should be accompanied by an appropriate assessment which demonstrates that development can be carried out without causing an adverse impact on the integrity of the Firth of Forth SPA; the Forth Islands SPA; the Firth of Forth and St Andrews Bay pSPA and the River Teith SAC either alone or in combination with other plans and projects to mitigate significant negative effects on biodiversity. Development proposals at the Glensburgh, South Bridge Street, Grangemouth Docks 1, Wholeflats Business Park, Grangemouth Docks 2-5 (088, 089, 090, 091, 128, 129 & 190) should be accompanied by ecological assessments which identify habitats of ecological value and be designed to retain these area to mitigate negative effects on biodiversity; Development of the Grangemouth Docks 1-3 (090, 128, 162) sites should avoid severing the broadleaved woodland habitat

Alternative	Biodiversity Flora & Fauna	Population & Human Health	Soil	Water	Air	Climatic Factors	Material Assets	Cultural Heritage	Landscape	Assessment commentary	Enhancement/ Mitigation
the Earls Road core business area to include land at Wood Street, Dundas Street and Dalgrain Road										<p>Grangemouth Docks 2-5 (090, 091, 128, 162,163 & 190) sites could have a negative effect on biodiversity (due to loss of broadleaved woodland habitat)</p> <ul style="list-style-type: none"> • Development of the Earlsgate Park and Grangemouth Docks 5 (087 & 190) sites could have a positive effect on population and human health (due to potential increase in waste management infrastructure capacity) climatic factors (due to reduction of methane emissions from landfill caused by development of energy from waste facilities) and a negative effect on landscape (due to potential adverse visual impact of large scale industrial uses) • Development of the Earlsgate Park, Glensburgh and Wholeflats Business Park(087, 088 & 091) sites could have a negative effect on population and human health (due to increased population exposed to nuisance noise/ odour from busy adjacent roads) • Development of the Earlsgate Park, South Bridge Street Grangemouth Docks 1, Wholeflats Business Park, Grangemouth Docks 2, Bo'ness Road North & South and Wholeflats Road (087, 089, 090, 128 & 200-202) sites could have a positive effect on population and human health and material assets (through improving townscape value due to regeneration of vacant/derelict land) • Development of the Earlsgate Park, Glensburgh, South Bridge Street, Grangemouth Docks 1-3 & 5, Bo'ness Road North & South and Wholeflats Road (087- 090, 128, 162,190, 200-202) sites could have a cumulatively significant positive effect on soil (through remediating historic contamination) • Development of the Grangemouth Docks 1-5, Bo'ness Road North& South and Wholeflats Road (090, 128, 162, 163, 190 & 200-202) sites could have a significant negative effect on water (due to potential coastal flood risk) • Development of the Wholeflats Road (202) site could have a significant negative effect on water (due to potential fluvial flood risk) • Development of the Grangemouth Docks 3 & 4 (162 & 163) sites could have a negative effect on water (due to the potential loss/pollution of on-site pond) • Development of the Grangemouth Dock 4 & 5 (163 & 190) site could have a significant positive effect on climatic factors (through enabling the creation of significant renewable energy generation capacity which significantly reduces greenhouse gas emissions) • Development of the Grangemouth Docks 5 (190) site could have a negative effect on material assets (due to the negative townscape impact of introducing a large scale power plant which is visually prominent from the town centre.) • Development of the Earlsgate Park, Glensburgh, South Bridge Street, Grangemouth Docks 1, Wholeflats Business Park, Grangemouth Docks 2- 5, Bo'ness Road North & South and Wholeflats Road (087- 091,128, 162, 163, 190, 200-202) sites could have a positive effect on material assets (through increasing the amount of LZCGT) a cumulatively significant negative effect on air (due to an increase in traffic and industrial related air pollution within an Air Quality Management Area) material assets (due to increased vehicular traffic on the strategic and local road network)and a negative effect on population and human health (due to increased road traffic noise) climatic factors (due to increased release of greenhouse gases) 	<p>network to mitigate negative effects on biodiversity;</p> <ul style="list-style-type: none"> • Development of the Glensburgh (088) site should be accompanied by a drainage strategy to mitigate negative effects on water; • Development of the Grangemouth Docks 3 & 4 (162 &163) sites should avoid the loss or pollution of on-site ponds to mitigate negative effects on water; • High quality landscape or frontage design treatment should be incorporated at the Glensburgh (088) site to avoid adverse impacts on townscape and mitigate negative effects on material assets; • Development of the Earlsgate Park, Glensburgh and Wholeflats Business Park(087, 088 & 091) sites should incorporate noise mitigation measures to mitigayte negative effects on population and human health; • Development of the Earlsgate Park, South Bridge Street Grangemouth Docks 1, Wholeflats Business Park, Grangemouth Docks 2, Bo'ness Road North & South and Wholeflats Road (087, 089, 090, 128 & 200-202) sites should investigate and remediate historic contamination to ensure cumulatively significant positive effects on soil; • Development proposals at the Grangemouth Docks 1-5, Bo'ness Road North& South and Wholeflats Road (090, 128, 162, 163, 190 & 200-202) sites should be accompanied by a flood risk assessment and areas at risk of flooding should be excluded from development to mitigate significant negative effects on water; • Any new Carbon Capture and Storage Power Station in Grangemouth should ensure its feed stock is not delivered by road to mitigate significant negative effects on air and material assets. • Development of the Earlsgate Park, Glensburgh, South Bridge Street, Grangemouth Docks 1, Wholeflats Business Park, Grangemouth Docks 2- 5, Bo'ness Road North & South and Wholeflats Road (087- 091,128, 162, 163, 190, 200-202) sites should incorporate on site LZCGT to ensure positive effects on material assets; • Significant improvements should be made to the strategic road network to mitigate cumulatively significant negative effects on material assets; • Development of the Grangemouth Docks 1 site should be undertaken sensitively to avoid an adverse impact on the C listed workshop building to mitigate negative effects on cultural heritage;

Alternative	Biodiversity Flora & Fauna	Population & Human Health	Soil	Water	Air	Climatic Factors	Material Assets	Cultural Heritage	Landscape	Assessment commentary	Enhancement/ Mitigation				
										<ul style="list-style-type: none"> and material assets (due to increased use of primary resources in the construction process) Development of the Grangemouth Docks 1 (090) site could have a negative effect on cultural heritage (due to potential adverse impact on a category C listed building) Development of the Glensburgh, Grangemouth Docks 1, Wholeflats Business Park, Grangemouth Docks 2-4 (088,090, 091, 128, 162 & 163) sites could have a negative effect on landscape (due to loss of open land) 	<ul style="list-style-type: none"> Development of the Glensburgh and Wholeflats Business Park (088 & 092) site should incorporate improved screen planting along Glensburgh Road and Wholeflats Road respectively to mitigate negative effects on landscape; Development at the Grangemouth Docks 2-4 (128) site should be informed by Landscape and Visual Impact Assessment for any developments involving tall/ bulky structures with particular reference to visibility from the Fife coast; and use appropriate building design and colour to reduce impacts and mitigate negative effects on landscape. 				
<p>Alternative 1: No alternative sites for the CCS plant have been proposed or assessed, although it is possible that it could be accommodated within vacant land at Ineos.</p>										<ul style="list-style-type: none"> The environmental effects of developing the vacant land at Ineos (sites 200-202) have been set out above. As this alternative does not de-allocate sites the eastern end of Grangemouth Docks (sites 128, 162 & 163), identical environmental effects are recorded. 	<ul style="list-style-type: none"> 				
MAIN ISSUE 6: EMPLOYMENT LOCATIONS – LARBERT GATEWAY															
<p>Preferred Option: Adopt a mixed use approach at Hill of Kinnaird business park (site 94), with housing and community uses permitted as well as business.</p>	+	-	+	-	--	+	-	-	-	+	-	N	-	<ul style="list-style-type: none"> Development of the Hill of Kinnaird 2 (094) site could have a positive effect on biodiversity (through connecting fragmented parts of the broadleaved habitat network) population and human health (through creation of new open space) material assets (through improving townscape quality along Bellsdyke Road) a negative effect on biodiversity (through adversely impacting the Stenhousemuir SINC) material assets (due to degrading townscape quality along Bellsdyke Road) and landscape (due to adverse landscape/visual impacts in an area of low landscape sensitivity) Development of the Glenbervie (092) site could have a positive effect on water (due to potential for watercourse restoration) material assets (through improving the townscape quality at the northern gateway to Larbert); and a negative effect on biodiversity (due to loss of habitat) population and human health (due to increased exposure to nuisance noise from the adjacent M876) material assets (due to degrading townscape quality at the northern gateway to Larbert) Development of the Glenbervie, Glenbervie Business Park and Hill of Kinnaird 2 (092 - 094) sites could have a positive effect on population and human health (through contributing towards the improvement of the green network) material assets (through increasing the amount of LZCGT) and a negative effect on population and human health (due to a marginal increase in road noise from traffic) air (due to an increase in traffic related air pollution) climatic factors (due to 	<ul style="list-style-type: none"> Development of the Hill of Kinnaird 2 (094) site should incorporate new broadleaved woodland habitat to connect up fragmented parts of the broadleaved habitat network and ensure positive effects on biodiversity Development of the Glenbervie and Glenbervie Business Park (092 & 093) sites should be accompanied by ecological assessments which identify habitats of ecological value and be designed to retain these area to avoid negative effects on biodiversity; Development of the Hill of Kinnaird 2 (094) site should incorporate a suitably designed undeveloped buffer around the Stenhousemuir SINC to mitigate potential negative effects on biodiversity Development of the Hill of Kinnaird 2 site should include the creation of a new sports area to ensure positive effects on population and human health Development of the Glenbervie and Glenbervie Business Park (092 & 093) sites should contribute towards the delivery of the Glenbervie to Denny path green network opportunity to ensure

Alternative	Biodiversity Flora & Fauna	Population & Human Health	Soil	Water	Air	Climatic Factors	Material Assets	Cultural Heritage	Landscape	Assessment commentary	Enhancement/ Mitigation
										<p>increased release of greenhouse gases) material assets (due to increased use of primary resources in the construction process, increased vehicular traffic on the local road network)</p> <ul style="list-style-type: none"> Development of the Glenbervie and Hill of Kinnaird 2 (092 & 094) sites could have a significant negative effect on soil (through development of prime quality agricultural land) Development of the Glenbervie and Glenbervie Business Park (092 & 093) sites could have a significant negative effect on water (due to potential fluvial flood risk) and a negative effect on biodiversity (due to loss of broadleaved woodland habitat) 	<p>positive effect on population and human health;</p> <ul style="list-style-type: none"> Development proposals at Gelnbervie and Glenbervie Business Park (092 & 093) should be accompanied by a flood risk assessment and areas at risk of flooding should be excluded from development to mitigate significant negative effects on water; Opportunities for on-site watercourse restoration should be explored at the Glenbervie (092) site to ensure positive effects on water; Development at the Hill of Kinnaird 2 site should ensure that heat demand is met through district heating networks (subject to the outcomes of a feasibility statement) to mitigate negative effects on climatic factors; Development proposals at the Hill of Kinnaird 2 sites should incorporate on site LZCGT to ensure positive effects on material assets; Development at the Glenbervie, Glenbervie Business Park and Hill of Kinnaird 2 (092-094) sites should ensure a high quality frontage treatment to Bellsdyke Road respectively to ensure positive effects and mitigate negative effects on material assets; Development at the Hill of Kinnaird 2 site should: retain existing trees along the Eastern boundary and strengthen with buffer / screen planting to delineate urban edge; and provide a strong landscape treatment along Bellsdyke Road frontage and to the minor road to the East to mitigate negative effects on landscape.
<p>Alternative 1: Maintain Hill of Kinnaird business park exclusively for business use.</p>	+	-	+	-	--	+	-	-	+	<p>Maintaining the Hill of Kinnaird site for exclusively business use would make it less likely that any new open space would be created as part of the new development and so previously predicted positive effects on population and human health would be reduced</p>	<p>Mitigation and enhancement measures are outlined above</p>
<p>Alternative 2: Adopt a mixed use approach, including residential, at Glenbervie (site 92).</p>	+	-	+	-	--	+	-	-	+	<p>Adopting a mixed use approach including residential at Glenbervie could have further positive effects on population and human health (through improving the quality of existing open space) and negative effects on population and human health (through new residential areas being exposed to nuisance noise and odour from adjacent business uses)</p>	<ul style="list-style-type: none"> Development should provide financial contributions towards the improvement of existing open space to ensure positive effects on population and human health; Development should incorporate suitable noise mitigation measures to mitigate negative effects on population and human health;
<p>MAIN ISSUE 6: EMPLOYMENT LOCATIONS – EASTERN GATEWAY</p>											
<p>Preferred Option:</p>	+	-	+	-	--	+	-	-	+	<ul style="list-style-type: none"> Development of the Gilston and A801 Union Canal Hub (095 & 203) sites could have a cumulatively significant positive effect on biodiversity (through connecting 	<ul style="list-style-type: none"> Development at the Gilston and A801 Union Canal Hub (095 & 203) sites incorporate a new broadleaved woodland corridor to

Alternative	Biodiversity Flora & Fauna	Population & Human Health	Soil	Water	Air	Climatic Factors	Material Assets	Cultural Heritage	Landscape	Assessment commentary	Enhancement/ Mitigation
<p>Focus the Eastern Gateway Strategic Business Location on Gilston and Whitecross. Drum South would no longer a strategic business site, with its business component reduced and focused on provision of a local neighbourhood services.</p>										<p>up significant fragmented habitats) a positive effect on population and human health (through improving the quality and connectivity of the green network) and a negative effect on material assets (due to potential adverse impact on the water supply network)</p> <ul style="list-style-type: none"> • Development of the Whitecross and Gilston (076 & 095) sites could have a significant negative effect on biodiversity (due to potential adverse impact on legally protected species) and water (due to potential fluvial flood risk) • Development of the Whitecross (076) site could have a significant positive effect on population and human health and material assets (by improving townscape value through regeneration of a vacant/derelict brownfield site) and soil (due to potential remediation of historic contamination) and a positive effect on biodiversity (through reinforcing the broadleaved woodland habitat network) population and human health (through creation of new open space in an area of deficiency) and soil (through making safe unstable ground) a significant negative effect on biodiversity and landscape (due to potential loss of long established woodland of plantation origin) population and human health (due to exposure to risk from major hazard pipelines) and landscape (due to potentially significant adverse landscape impacts) and a negative effect on biodiversity (due to adverse impact on the Haining Wood Wildlife Site and the potential to sever parts of the broadleaved woodland habitat network) and material assets (due to potential to sever the active travel network and adversely affect village character) • Development of the Whitecross, Gilston and A801 Union Canal Hub (076, 095 & 203) sites could have a positive effect on material assets (due to increasing the amount of LZCGTand improving the quality of the active travel network) a significant negative effect on soil (due to loss of prime quality agricultural land) a negative effect on population and human health (due to increased exposure to nuisance odour from the nearby landfill and the potential to compromise waste handling operations and increased exposure to nuisance noise from the adjacent railway line and increased noise from road traffic) air (due to increased emissions from motorised transport) climatic factors (due to increased emissions of greenhouse gases) material assets (due to increased use of primary resources in the construction process and increased traffic on the local road network) • Development of the Whitecross and A801 Union Canal Hub (076 & 203) sites could have a significant negative effect on cultural heritage (through adverse impact on the Union Canal SAM and its setting) and a negative effect on biodiversity (through potential adverse impact on the Union Canal SINC) • Development of the Gilston (095) site could have a negative effect on biodiversity (through adverse impact on riparian habitat) cultural heritage (due to potential adverse impact on an early house and doocot at Nicholton Farm) and landscape (due to adverse landscape and visual impact in an area of medium sensitivity to landscape change) 	<p>connect up fragmented habitats to ensure significant positive effects on biodiversity;</p> <ul style="list-style-type: none"> • Development proposals at the Whitecross and Gilston (076 & 095) sites should be accompanied by protected species surveys and appropriate mitigation employed to avoid significant negative effects on biodiversity; • Development at the Whitecross (076) site should retain areas of long established woodland of plantation origin and provide appropriately sized habitat buffers to mitigate significant negative effects on biodiversity and landscape; • Development at the Whitecross (076) site should incorporate appropriately sized undeveloped habitat buffers adjacent to the Haining Wood Wildlife Site and the Union Canal SINC to and avoid severing the broadleaved woodland habitat network to mitigate negative effects on biodiversity; • Development at the A801 Union Canal Hub (203) site should incorporate appropriately sized undeveloped habitat buffers adjacent to the Union Canal SINC to mitigate negative effects on biodiversity; • Development at the Gilston (095) site should avoid adversely impacting on the Gilston Burn riparian corridor to mitigate negative effects on biodiversity; • Development at the Whitecross (076) site should incorporate new open space to meet local deficiencies in access to open space to ensure positive effects on population and human health; • Development at the Gilston (095) site should contribute towards: the establishment of an accessible woodland buffer between the eastern extents of the site and the A801; and establish an accessible green network corridor along the Gilston Burn to ensure positive effects on population and human health; • Development at the Whitecross and A801 Union Canal Hub (076 & 203) sites should contribute towards landscape and access improvements at the John Muir Way to ensure positive effects on population and human health; • Sensitive land uses should be excluded from major hazard pipeline zones on the Whitecross (076) site to mitigate significant negative effects on population and human health • Development at the Whitecross, Gilston and A801 Union canal Hub sites (076, 085 & 203) should incorporate noise mitigation measures to mitigate negative effects on population and human health; • Development at the Whitecross (076) site should make safe

Alternative	Biodiversity Flora & Fauna	Population & Human Health	Soil	Water	Air	Climatic Factors	Material Assets	Cultural Heritage	Landscape	Assessment commentary	Enhancement/ Mitigation
											<p>unstable ground to ensure positive effects on soil;</p> <ul style="list-style-type: none"> • Development at the Whitecross (076) site should investigate and remediate historic contamination to ensure significant positive effects on soil; • Development proposals at the Whitecross and Gilston (076 & 095) sites should be accompanied by a flood risk assessment and areas at risk of flooding should be excluded from development to mitigate significant negative effects on water; • Developments at the Whitecross, Gilston and A801 Union canal Hub sites (076, 085 & 203) should ensure that heat demand is met through district heating networks (subject to the outcomes of a feasibility statement) to mitigate negative effects on climatic factors; • Development at the Whitecross, Gilston and A801 Union canal Hub sites (076, 085 & 203) sites should incorporate on site LZCGT to ensure positive effects on material assets; • Development at the Whitecross, Gilston and A801 Union canal Hub sites (076, 085 & 203) sites should improve the quality of the active travel network to ensure positive effects on material assets; • A Water Supply Impact Assessment will be required to determine capacity at Polmont's service reservoir which may need upgraded dependant on the cumulative scale of housing growth within its catchment to mitigate negative effects on material assets. • Development of the Whitecross (076) site should avoid severing the active travel network to mitigate negative effects on material assets; • Development of the Whitecross (076) site should investigate and if feasible extract reserves of shallow coal before commencing development to mitigate negative effects on material assets; • Development at the Whitecross and A801 Union Canal Hub sites should be undertaken sensitively to avoid adversely impacting on the Union Canal SAM or its setting to mitigate significant negative effects on cultural heritage; • Archaeological investigation should be carried out at the early house and doocot at Nicholton Farm to mitigate negative effects on cultural heritage caused by development of the Gilston (095) site; • Development at the Whitecross (076) site should retain existing woodland and hedgerows; and provide a comprehensive landscape framework to integrate the new development into its surroundings to mitigate significant negative effects on

Alternative	Biodiversity Flora & Fauna	Population & Human Health	Soil	Water	Air	Climatic Factors	Material Assets	Cultural Heritage	Landscape	Assessment commentary	Enhancement/ Mitigation
											<p>landscape;</p> <ul style="list-style-type: none"> Development at the Gilston (095) site should: retain tree / hedgerow cover along watercourses, minor road (Nicholton Road) to the East and internally along former field boundaries; retain boundary tree cover and trees along the Eastern boundary to the A801 and on elevated land with woodland area in SE corner of site; ensure additional planting in areas of retained tree / hedgerow cover to enhance habitat network; retain distinct local rural landscape character of elevated wooded area in the South East corner of site and hedgerows / mature trees on the Southern section of Nicholton Road; ensure strong landscape treatment along the Northern boundary to A803 and to the West fronting Gilston Crescent and Gilston farm; and provide strong native species woodland buffer / screen planting around the proposed industrial/ business area to screen from existing and proposed housing and wider area to mitigate negative effects on landscape.
<p>Alternative 1: A mixed use approach could be adopted for the Gilston site, introducing residential use and reducing the scale of business land.</p>	+	-	+	-	+	-	-	+	-	<p>If a mixed use approach was adopted for Gilston then development could have an additional positive effect on population and human health (due to creation of new open space in an area of deficiency) Other predicted environmental effects remain the same.</p>	<ul style="list-style-type: none"> Development should incorporate a new sports area to ensure positive effects on population and human health;
<p>MAIN ISSUE 7: TOWN CENTRES – FALKIRK’S NETWORK OF CENTRES</p>											
<p>Preferred Option: 1. Revise the policy on the network of centres, and relevant supporting policies, to emphasise the ‘town centre first’ principle. 2. Remove the Falkirk Gateway from the current network of centres.</p>	N	+	N	N	+	+	+	+	N	<p>Emphasising the town centre first principle should help to sustain the vitality of existing town centres and have positive effects on population and human health, air, climatic factors and material assets (through decreasing car related road traffic noise, greenhouse gas and other emissions and congestion on the road network associated with trips to out of centre retail uses) and material assets and cultural heritage (through promoting the reuse of buildings within existing town centres thereby preventing a deterioration of existing townscape and historic character)</p> <p>Removing the Falkirk Gateway from the current network of centres re-establishes the primacy of existing centres as suitable locations for commercial development with similar effects to those described in the paragraph above.</p>	

Alternative	Biodiversity Flora & Fauna	Population & Human Health	Soil	Water	Air	Climatic Factors	Material Assets	Cultural Heritage	Landscape	Assessment commentary	Enhancement/ Mitigation
Alternative 1: Retain the Falkirk Gateway as a commercial centre in the network of centres.	N	+	N	N	+	+	+	+	N	Retaining the Falkirk Gateway as a commercial centre in the network of centres would lessen the positive environmental effects on population and human health, air, climatic factors, material assets and cultural heritage described above	
MAIN ISSUE 7: TOWN CENTRES – FALKIRK TOWN CENTRE											
Preferred Option: 1. Promote the key opportunities of Grahamston and the East End, with an emphasis on residential, office, leisure, cultural and tourism uses. The East End site would be expanded to include Callendar Square where there are opportunities for restructuring and new uses. 2. Promote improved connections within and to the Town Centre 3. Amend policies to increase flexibility on changes of use within the Town Centre, with a core area no longer identified.	N	+	-	+	-	+	-	+	-	<ul style="list-style-type: none"> Development of the Falkirk East End Opportunity Area (071) site could have a positive effect on population and human health (through improving the quality of existing open space) and a negative effect on material assets and cultural heritage (through adversely affecting townscape quality and non-listed buildings of architectural merit by threatening an existing attractive 1930s frontage to Callendar Riggs) Development of Grahamston Opportunity Area (070) site could have a positive effect on population and human health (through creation of new open space which helps to meet an existing local deficit in access to open space) and cultural heritage (through enhancing Falkirk Town Centre Conservation Area and its setting) and a negative effect on water (due to potential surface water flood risk) and cultural heritage (through degrading the quality of Falkirk Town Centre Conservation Area and its setting) Development of the Grahamston and Falkirk East End Opportunity Area (070 & 071) sites could have a positive effect on soil (through removal of significant amounts of historic contamination) and material assets (due to improving townscape quality through regeneration of brownfield land and increasing the amount of LZCGT) a significant negative effect on air (due to increasing the population exposed to reduced air quality associated with the Falkirk Town Centre AQMA) a negative effect on population and human health (due to noise impact from adjacent busy local roads and marginally increased traffic related noise impacts) air (due to an increase in traffic related air pollution) climatic factors (due to increased release of greenhouse gases) and material assets (increased use of primary resources in the construction process and increased vehicular traffic on the local road network) Promoting improved connections within and to the town centre could have a positive effect on material assets (through improving the quality of the active travel network) Promoting improved connections within and to the town centre, increasing the flexibility for changes of use within the town centre and supporting the building of more homes in the town centre could contribute towards improving the vitality of the town centre with associated positive effects on population and human health, air, climatic factors and material assets (through decreasing car related road traffic noise, greenhouse gas and other emissions and congestion on the road network associated with using the car to access the town centre) and material assets and cultural heritage (through promoting the reuse of buildings within existing town centres thereby preventing a deterioration of existing townscape and historic character) 	<ul style="list-style-type: none"> Development of the Falkirk East End Opportunity Area (071) site should provide financial contributions towards the improvement of off-site open space to positive effects on population and human health; Development of the Grahamston Opportunity Area (070) site should involve the creation of new open space to ensure positive effects on population and human health; Development of the Grahamston and Falkirk East End Opportunity Area (070 & 071) sites should incorporate suitable noise mitigation measures to mitigate negative effects on population and human health; Development proposals at the Grahamston Opportunity Area (070) site should be accompanied by drainage strategy which adequately manage existing surface water flood risk to mitigate negative effects on water; Development of both sites should incorporate on site LZCGT to ensure positive effects on material assets; Development proposals the Falkirk East End Opportunity Area (071) site should include the retention and enhancement of the attractive 1930s frontage to Callendar Riggs to mitigate negative effects on material assets and cultural heritage; Development of the Garhamston Opportunity Area (070) site should be undertaken sensitive to enhance the Falkirk Town Centre Conservation Area and its setting to ensure positive effects and mitigate negative effects on cultural heritage;

Alternative	Biodiversity Flora & Fauna	Population & Human Health		Soil	Water	Air	Climatic Factors		Material Assets		Cultural Heritage		Landscape	Assessment commentary	Enhancement/ Mitigation
4. Support the building of more homes in the Town Centre by relaxing developer contributions on residential development within the Town Centre boundary.															
Alternative 1: Exclude Central Retail Park from the defined boundary of the Town Centre.	N	+	-	+	-	+	-	+	-	+	-	+	-	<ul style="list-style-type: none"> The exclusion of Central Retail Park may marginally increase the vitality of the town centre with associated positive effects on population and human health, air, climatic factors and material assets (through decreasing car related road traffic noise, greenhouse gas and other emissions and congestion on the road network associated with using the car to access the town centre) and material assets and cultural heritage (through promoting the reuse of buildings within existing town centres thereby preventing a deterioration of existing townscape and historic character). Excluding Central Retail Park from the town centre boundary may reduce its attractiveness to retailers which could result in negative effects on population and human health and material assets (due to an increase in vacant retail units and associated degradation of townscape quality) 	
MAIN ISSUE 7: TOWN CENTRES – DISTRICT AND LOCAL CENTRES															
Preferred Option: 1. Continue to promote mixed use opportunities in the district centres, but with enhanced food shopping no longer a particular focus. 2. Identify the Carron Centre as an opportunity for redevelopment for mixed use, including retail, food and drink,	--	+	-	+	--	+	-	+	-	+	-	+	-	<ul style="list-style-type: none"> Promoting mixed use opportunities within district centres should enhance their vitality with associated positive effects on population and human health, air, climatic factors and material assets (through decreasing car related road traffic noise, greenhouse gas and other emissions and congestion on the road network associated with using the car to access the town centre) and material assets and cultural heritage (through promoting the reuse of buildings within existing town centres thereby preventing a deterioration of existing townscape and historic character). Development of the Carron Road (122) site could have a significant negative effect on biodiversity (due to potential adverse impact on legally protected species) a negative effect on biodiversity and landscape (due to potential loss of mature trees) population and human health (due to noise impact from adjacent busy local roads) landscape (due to adverse landscape/visual impacts in an area of low landscape sensitivity) Development of the Church Walk (079) site could have a significant positive effect on population and human health and material assets (through regenerating a prominent vacant site and significantly improving townscape value) a significant negative effect on material assets (due to increased traffic on the local road network impacting on Denny Cross which is currently operating over capacity) and a negative effect on cultural heritage (through potential adverse impact on the 	<ul style="list-style-type: none"> Development proposals at the Carron Road (122) site should be accompanied by protected species surveys and appropriate mitigation employed to avoid significant negative effects on biodiversity; Development proposals at the Carron Road and Links Road (122 & 198) sites should be accompanied by ecological assessments which identify habitats of ecological value and be designed to retain these area to avoid negative effects on biodiversity; Development of the Carron Road and Links Road (122 & 198) sites should provide financial contributions towards the improvement of off-site open space to ensure positive effects on population and human health; Development of the Grangemouth Town Centre (074) site should incorporate the creation of new park or amenity space of 0.2ha or greater to meet a local deficiency in access to open space and ensure positive effects on population and human health; Development of the Carron Road and Links Road (122 & 198)

Alternative	Biodiversity Flora & Fauna	Population & Human Health	Soil	Water	Air	Climatic Factors	Material Assets	Cultural Heritage	Landscape	Assessment commentary	Enhancement/ Mitigation
community uses, and residential.										<p>setting of the category B listed Denny Parish Church and the Denny Area of Townscape Value)</p> <ul style="list-style-type: none"> • Development of the Carron Road and Links Road (122 & 198) sites could have a positive effect on population and human health (through improving the quality of existing open space) and a negative effect on water (due to potential surface water flood risk) • Development of the Grangemouth Town Centre (074) site could have a positive effect on population and human health (through potential creation of open space which helps to address a local deficiency in access to open space) material assets (and improving townscape quality within Grangemouth Town Centre) and a significant negative effect on population and human health (due to potential to increase the population exposed to risk of injury from major hazards) water (due to potential fluvial/ coastal flood risk) air (due to increasing the population exposed to reduced air quality associated with the Grangemouth AQMA) cultural heritage (due to potential adverse impact on the setting of the category A listed Dundas Church) and a negative effect on cultural heritage (due to potential adverse impact on the category C listed former La Scala Cinema and the Grangemouth Area of Townscape Value) • Development of the Links Road (198) site could have a positive effect on population and human health and material assets (through regeneration of a vacant/derelict site and improving townscape value) soil (through potential remediation of historic contamination) and a negative effect on biodiversity (due to loss of broadleaved woodland habitat) population and human health (due to exposure to nuisance noise and odour from adjacent iron foundry) and cultural heritage (due to potential adverse impact on the setting of the category B listed Ballantine Bo'ness Iron Company Warehouse and Pattern Shop and the Bo'ness Town Centre Conservation Area) • Development of the Grangemouth Town Centre, Church Walk, Carron Road and Links Road (074, 079, 122 & 198) sites could have a positive effect on material assets (due to increasing the amount of LZCGT) negative effect on population and human health (through marginally increased traffic related noise impacts) air (due to an increase in traffic related air pollution) climatic factors (due to increased release of greenhouse gases) and material assets (increased use of primary resources in the construction process and increased vehicular traffic on the local road network) • Development of the Grangemouth Town Centre and Links Road (074) sites could have a positive effect on material assets (through improving the quality of the active travel network) 	<p>sites should incorporate suitable noise mitigation measures to mitigate negative effects on population and human health;</p> <ul style="list-style-type: none"> • The number of new houses within the Grangemouth Town Centre (074) site should be restricted to avoid unacceptably increasing the population exposed to risk of injury from major hazards and mitigate significant negative effects on population and human health; • Development at the Links Road (198) site should investigate and remediate potential sources of historic contamination to ensure positive effects on soil; • Development proposals at the Grangemouth Town Centre (074) site should be accompanied by a flood risk assessment and areas at risk of flooding should be excluded from development to mitigate significant negative effects on water; • Development proposals at the Carron Road and Links Road (122 & 198) sites should be accompanied by drainage strategies which adequately manage existing surface water flood risk to mitigate negative effects on water; • Development of all sites should incorporate on site LZCGT to ensure positive effects on material assets; • Development at the Church Walk (079) site should provide proportionate financial contributions towards the construction of the Denny Eastern Access Road to mitigate significant negative effects on material assets; • Development of the Grangemouth Town Centre and Links Road (074) sites should contribute towards the improvement of the active travel network to ensure positive effects on material assets; • Development at the Church Walk (079) site should be undertaken sensitively to avoid adversely impacting on the category B listed Denny Parish Church and the Denny Area of Townscape Value to mitigate negative effects on cultural heritage; • Development at the Grangemouth Town Centre (074) site should be undertaken sensitively to avoid adversely impacting on the category A listed Dundas Church and the C listed former La Scala Cinema and the Grangemouth Area of Townscape Value to mitigate significant negative effects on cultural heritage; • Development of the Links Road site should be undertaken sensitively to avoid adversely impacting on the setting of the category B listed Ballantine Bo'ness Iron Company Warehouse and Pattern Shop and the Bo'ness Town Centre Conservation Area to mitigate negative effects on cultural heritage;

Alternative	Biodiversity Flora & Fauna	Population & Human Health	Soil	Water	Air	Climatic Factors	Material Assets	Cultural Heritage	Landscape	Assessment commentary	Enhancement/ Mitigation
											<ul style="list-style-type: none"> Development proposals at the Carron Road (122) site should be accompanied by tree surveys and tree protection plans which retain mature trees to mitigate negative effects on landscape; Development of the Carron Road (122) site should: ensure retention of best quality established trees and grassed areas on Carron Road frontage; ensure tree planting avenue at frontage; ensure appropriate landscape treatment along Ronades Road with grass verge, avenue tree planting; keep development back from the road frontage; and ensure appropriate internal landscape treatment on any internal access roads to mitigate negative effects on landscape.
Alternative 1: Enhanced food shopping could be retained as a continuing aspiration in Bo'ness and Denny.	--	+ +	-	+	--	+	-	+	-	Retaining enhanced food shopping as an aspiration in Bo'ness and Denny could, with the correct market conditions act to further enhance the vitality of these district centres. However, there is a risk that retaining the aspiration for enhanced food shopping could prevent the redevelopment of district centre sites for other appropriate uses which would mean that significant positive effects on material assets (though the regeneration of vacant/ derelict sites and improving townscape quality) may not occur. Environmental effects of this alternative are therefore unknown.	
MAIN ISSUE 8: TOURISM											
Preferred Option: Maintain the existing framework of themes and nodes as the basis for tourism development. Identify additional tourism opportunities at the Falkirk Wheel (Site 204), Wester Carmuir, Falkirk (Site 197) and Kinneil walled garden (Site 196).	-	+ -	N	N	-	-	+	-	+	<ul style="list-style-type: none"> Development of the Wester Carmuir (197) site could have a significant negative effect on cultural heritage (due to potential adverse impact on the setting of the Antonine Wall WHS and Roman Camp SAM) and a negative effect on landscape (due to loss of open land) Development of the Kinneil Walled Garden (196) site could have a positive effect on cultural heritage (through enabling the restoration of the category C listed walled garden) a significant negative effect on cultural heritage (due to potential adverse impact on the setting of the category A listed Kinneil House and the Antonine Wall WHS) and a negative effect on cultural heritage (due to potential adverse impacts on the category C listed walled garden and the setting of the C listed duchess Anne Cottages and Kinneil Estate non inventory designed landscape) Development of the Wester Carmuir, Kinneil Walled Garden and Falkirk Wheel (196, 197 & 204) sites could have a positive effect on population and human health (due to potential to improve the quality and connectivity of the green network) and material assets (due to the potential to improve the quality of the active travel network and increase the amount of LZCGT) and a negative effect on population and human health (due to increased road traffic noise) air (due to increased traffic related emissions) climatic factors (due to increased greenhouse gas emissions) and material assets (due to increased congestion on the local road network) Development of the Falkirk Wheel (204) site could have a significant negative effect on cultural heritage (due to potential adverse impact on the Forth and Clyde Canal Scheduled Ancient Monument and the Antonine Wall WHS) and negative effects on 	<ul style="list-style-type: none"> Development at the Falkirk Wheel (204) site should incorporate suitably wide undeveloped buffer zones around the adjacent Roughcastle and Forth and Clyde Canal Wildlife Sites to mitigate negative effects on biodiversity; Development at the Falkirk Wheel (204) site should contribute towards landscape and access improvements along the John Muir way to ensure positive effects on population and human health; Any loss of open space caused by development at the Falkirk Wheel(204) site should be compensated for through improvements to other parts of the open space resource to mitigate negative effects on population and human health; Development of the Wester Carmuir (197) site should contribute towards opportunities for watercourse restoration and habitat enhancement alongside the Carmuir burn to ensure positive effects on population and human health; Development at the Kinneil Walled Garden (196) should contribute towards creating a recreational node at Kinneil Estate to ensure positive effects on population and human health Development of all sites should incorporate on site LZCGT to ensure positive effects on material assets; Development of all sites should contribute towards the improvement of the active travel network to ensure positive

Alternative	Biodiversity Flora & Fauna	Population & Human Health	Soil	Water	Air	Climatic Factors	Material Assets	Cultural Heritage	Landscape	Assessment commentary	Enhancement/ Mitigation
										<p>biodiversity (due to potential adverse impact on the Roughcastle and Forth and Clyde Canal Wildlife Sites) population and human health (due to loss of open space) material assets (due to potential to sever the active travel network) and landscape (due to potential landscape and visual impacts)</p>	<p>effects on material assets;</p> <ul style="list-style-type: none"> Development of the Falkirk Wheel site should avoid severing the active travel network to mitigate negative effects on material assets; Development of the Kinneil Walled Garden (196) site should be undertaken sensitively to avoid adverse impact on the category A listed Kinneil House, category C listed Walled Garden and Duchess Anne House, the Antonine Wall WHS and the Kinneil Estate non inventory designed landscape to mitigate significant negative effects on cultural heritage; Development of the Wester Carmuir (197) site should be undertaken sensitively to avoid adverse impact on the setting of the Antonine Wall WHS and SAM to mitigate significant negative effects on cultural heritage; Development of the Falkirk Wheel (204) site should be undertaken sensitively to avoid adversely impacting on the setting of the Forth and Clyde Canal SAM and the Antonine Wall WHS to mitigate significant negative effects on cultural heritage;
<p>Alternative 1: Additional sites for tourism development were proposed through 'call for sites' submissions for the whisky distillery at Beancross, and at Airth, associated with the Pineapple. These could have been given allocations. However, the distillery is under construction and does not need an allocation. The proposal at Airth is linked to a larger housing</p>	+	-	+	-	-	-	+	-	-	<ul style="list-style-type: none"> Development of the Grandsable Road (137) site could have a positive effect on biodiversity (due to potential to reinforce the habitat network) a significant negative effect on cultural heritage (due to potential adverse impact on the Antonine Wall WHS and its setting) and landscape (due the adverse landscqpe and visual effects in an area of high sensitivity to landscape change) and a negative effect on biodiversity (due to potential adverse impact on riparian and woodland habitats) water (due to potential surface water flood risk) Development at the Airth Mains Farm (148) site could have positive effect on biodiversity (due to potential to connect up fragmented parts of the broadleaved woodland habitat network) population and human health (due to creation of new open space which addresses an existing deficiency in access to open space) soil (due to making safe unstable land) a significant negative effect on biodiversity (due to potential adverse impact on legally protected species) cultural heritage (due to potential adverse impact on the Pineapple inventory designed landscape) and landscape (due to adverse landscape and visual impacts in an area of medium landscape sensitivity and high visual sensitivity) and a negative effect and cultural heritage (due to potential negative effect on Airth Conservation Area) Development of the Grandsable Road and Airth Mains Farm (137 & 148) sites could have a positive effect on material assets (through increasing the amount of LZCGT and improving the quality of the active travel network) a significant negative effect on water (due to potential fluvial flood risk) and a negative effect on population and human health (due to increased road traffic noise) soil (due to loss of agricultural land) air (due to an increase in traffic related air pollution) climatic factors (due to increased release of greenhouse gases) material assets (due to increased use of primary resources in the construction process and increased traffic on the local road 	<ul style="list-style-type: none"> Development at the Airth Mains Farm (148) site should incorporate new broadleaved woodland planting to connect up fragmented parts of the habitat network and ensure positive effects on biodiversity; Development of the Grandsable Road (137) site should incorporate new broadleaved woodland planting to reinforce existing habitat networks and ensure positive effects on biodiversity; Development proposals at the Grandsable Road (137) site should be accompanied by an ecological assessment which identify habitats of ecological value and be designed to retain these area to avoid negative effects on biodiversity; Development proposals at the Airth Mains Farm (148) site should be accompanied by protected species surveys and appropriate mitigation employed to avoid significant negative effects on biodiversity; Development of the Airth Mains Farm (148) site should incorporate new open space facilities as appropriate to address local deficiencies in access to different kinds of open space and ensure positive effects on population and human health; Development at the Airth Mains Farm (148) site should investigate and make safe potentially unstable land to ensure positive effects on soil; Development of both sites should be accompanied by a flood

Alternative	Biodiversity Flora & Fauna	Population & Human Health	Soil	Water	Air	Climatic Factors	Material Assets	Cultural Heritage	Landscape	Assessment commentary	Enhancement/ Mitigation
proposal which is not a preferred option.										network)	<p>risk assessment and areas at risk of flooding should be excluded from development to mitigate significant negative effects on water;</p> <ul style="list-style-type: none"> Development of the Grandsable Road (137) site should be accompanied by a drainage strategy to mitigate negative effects on water; Development of both sites should incorporate on site LZCGT to ensure positive effects on material assets; Development of both should improve the quality of the active travel network to ensure positive effects on material assets; Development of the Airth Mains Farm (148) site should be undertaken sensitively to avoid adversely impacting on the Pineapple Inventory Designed Landscape to mitigate significant negative effects on cultural heritage; Development of the Grandsable Road site should be carried out sensitively to avoid adverse impact on the Antonine Wall WHS and its setting and mitigate significant negative effects on cultural heritage; Development at the Grandsable Road site should: retain all boundary trees and hedgerows; and provide strong screen / buffer planting of native broadleaf woodland around any development to the Northern and Western road frontages to retain a rural / greenbelt character to mitigate significant negative effects on landscape;
MAIN ISSUE 9: INFRASTRUCTURE - DELIVERY											
<p>Preferred Option: The infrastructure projects listed in Figure 6.1 and shown in Figure 6.2 will be promoted in LDP2 to support the sustainable growth of the area. 2. Delivery of the infrastructure will be through the capital</p>	+	-	+	-	+	-	+	-	-	<p><u>Strategic transport proposals</u></p> <ul style="list-style-type: none"> New strategic road network infrastructure will act to ease congestion through increasing road capacity. Increasing the capacity of the road network will have significant positive effects on material assets and may lead to short term improvements in air quality but is likely to promote long term traffic growth which is likely to cancel out any air quality improvements in the long term and cause a significant negative effect on climatic factors (through increased greenhouse gas emissions) The delivery of these projects may also have negative effects on biodiversity (through loss of habitat) and soil and landscape (through development on greenfield land) Junction improvement proposals present the opportunity for capturing the surface water which currently runs off existing roads and storing it in SUDS this could have a positive effect on water (through improving run off quality and reducing flood risk) and material assets (through reducing pressure on the sewerage network) The M9 junction 5 upgrade (1) could have a significant negative effect on cultural heritage (through adversely impacting on the setting of the Antonine Wall at Cadger's Brae); 	<ul style="list-style-type: none"> Strategic transport proposals (1-3), the DEAR proposal (6) and all Cemetery Extension Projects (24) should be accompanied by ecological assessments which identify habitats of ecological value and should be designed to retain these area to avoid negative effects on biodiversity; The Grangemouth Flood prevention scheme (17) should be accompanied by a project specific appropriate assessment which demonstrates that the scheme can be carried out without having an adverse effect on the integrity of the Firth of Forth / Forth Islands SPA, The Firth of Forth and St Andrews Bay Complex pSPA and the River Tieth SAC either alone or in combination with other plans and projects to mitigate significant negative effects on biodiversity; The Dalderse Waste Water treatment Works upgrade (16) should be accompanied by a project specific appropriate assessment which demonstrates that the scheme can be carried out without having an adverse effect on the River Tieth SAC either alone or in combination with other plans and projects to mitigate significant negative effects on biodiversity;

Alternative	Biodiversity Flora & Fauna	Population & Human Health	Soil	Water	Air	Climatic Factors	Material Assets	Cultural Heritage	Landscape	Assessment commentary	Enhancement/ Mitigation
<p>programmes of the Council and relevant infrastructure providers, the TIF programme, other external funding sources where available, and developer contributions. 3. The nature and level of developer contributions will be set out in policy and consolidated supplementary guidance, and will be related and proportionate to the impacts of individual developments on local infrastructure.</p>										<ul style="list-style-type: none"> M80J7 Improvement (2) could have a negative effect on material assets (through degrading townscape value) and landscape (due to adverse landscape impacts) The A801 corridor Avon Gorge (3) upgrade will have a significant negative effect on landscape (through major adverse landscape impact) <p><u>Local transport proposals</u></p> <ul style="list-style-type: none"> New local road network infrastructure will act to ease congestion. Increasing the capacity of the road network will have significant positive effects on material assets and may lead to short term improvements in air quality but is likely to promote long term traffic growth which is likely to cancel out any air quality improvements in the long term and a negative effect on climatic factors (through increased greenhouse gas emissions) The A904 corridor improvement proposals in Falkirk (4) could have a positive effect on population and human health and material assets (through improving active travel access to the Helix and increasing recreational opportunity) but could also have a negative effect on population and human health (due to loss of open space) The A803 corridor improvement proposals in Falkirk (5) could have a significant negative effect on cultural heritage (through adversely impacting on the setting of the Forth and Clyde Canal SAM) a negative effect on population and human health (through loss of open space) and material assets (through adversely affecting townscape value) The Denny Eastern Access Road (6) proposal could have a significant negative effect on biodiversity (due to potential adverse impact on legally protected species) a negative effect on biodiversity (through loss of habitat) population and human health (through noise impact on future residents and loss of open space) soil (through use of greenfield land) and water (through a potential new road culvert over the Little Denny Burn) However, it also has the potential to have a significant positive effect on biodiversity (through creating new broadleaved habitat linking significant existing habitat networks) and positive effect on air and material assets (through reducing existing traffic congestion at Denny Cross) The Denny Cross upgrade (6) could have a negative effect on cultural heritage (through potential adverse impact on the setting of the category B listed Denny Parish Church and the Denny Area of Townscape Value) The A904/A993 junction improvement project in Bo'ness (7) could have a significant negative effect on cultural heritage (due to potential adverse impact on the Antonine Wall WHS) and a negative effect on biodiversity (due to potential adverse impact on the Bo'ness Foreshore Wildlife Site) and population and human health (due to loss of open space) C116 Waterslap Road Improvement (8) could have negative effects on landscape (due to adverse landscape impact in the greenbelt) <p><u>Public transport proposals</u></p>	<ul style="list-style-type: none"> The A904/A993 junction improvement project in Bo'ness (7) should avoid encroaching on the Bo'ness Foreshore Wildlife Site to mitigate any negative effects on biodiversity; The DEAR and all Cemetery Extension projects (6 & 24) should be accompanied by protected species surveys and appropriate mitigation employed to avoid significant negative effects on biodiversity; The DEAR project (6) should incorporate new broadleaved woodland planting to connect up fragmented parts of the broadleaved woodland habitat network and ensure significant positive effects on biodiversity The A904 and A803 corridor improvement, the DEAR and the A904/A993 junction improvement projects (4-7) should provide financial compensation for the loss of any open space which should be invested in improving the quality of open space elsewhere to mitigate negative effects on population and human health; The Falkirk-Denny/Bonnybridge Path and Bo'ness to Grangemouth Path (11 & 12) proposals should avoid disturbing major hazard pipelines to mitigate significant negative effects on population and human health; Capacity enhancements at Larbert, Denny, Braes and St Mungo's High Schools (18) and at Kinnaird, Denny, Maddiston, Bankier, Victoria, and Head of Muir Primary Schools (19) should ensure that development does not lead to the school having an inadequate amount of playground space to meet the needs of the increased school population to mitigate negative effects on population and human health; The A904 corridor improvement project (4) should incorporate enhanced pedestrian and cycle crossing facilities to ensure positive effects on population and human health and material assets Development of a new school at Whitecross (20) should investigate and remediate potential sources of historic contamination to ensure positive effects on soil; Grangemouth Flood prevention scheme (17) should be accompanied by detailed coastal geomorphological assessment to ensure that it does not adversely impact on existing coastal processes or the ecological status of the water environment to mitigate significant negative effects on water; All Cemetery Extension Projects (24) should be accompanied by a detailed assessment of suitability of ground conditions and potential mitigation in relation to SEPA's guidance on assessing the impacts of cemeteries on groundwater to mitigate negative

Alternative	Biodiversity Flora & Fauna	Population & Human Health	Soil	Water	Air	Climatic Factors	Material Assets	Cultural Heritage	Landscape	Assessment commentary	Enhancement/ Mitigation
										<ul style="list-style-type: none"> Improvements to sustainable transport infrastructure will have a positive effect on air and climatic factors (through reducing traffic growth and greenhouse gas emissions) and material assets (through reducing use of the road network) Improvements at Falkirk Bus Station (9) could have a positive effect on material assets (due to improving townscape value at an important gateway to Falkirk) The safeguarding of sites for future railway stations at Grangemouth and Bonnybridge (10) will not have any environmental effect. <p><u>Active travel</u></p> <ul style="list-style-type: none"> Active travel proposals (11-15) will lead to a significant positive effect on population and human health and material assets (through creation of new and improvement existing of path networks leading to enhanced recreational opportunity) Falkirk-Denny/Bonnybridge Path and Bo'ness to Grangemouth Path (11 & 12) proposals could have a significant negative effect on population and human health (due to potentially impacting on a major hazard pipeline) The Bo'ness to Grangemouth Path and A904 Road Realignment and B9143 Inchyra Road Path (12 & 15) proposals could have a significant negative effect on cultural heritage (through potential adverse impact on the setting of the Antonine Wall WHS) <p><u>Drainage and Flood Management</u></p> <ul style="list-style-type: none"> Upgrades to Waste Water Treatment Works at Whitecross, Denny and Dalderse (16) will have a significant positive effect on material assets (through increasing the capacity of environmental infrastructure) and a positive effect on water (through improving the quality of effluent being discharged from existing WWTW) The Grangemouth Flood prevention scheme (17) will have a significant positive effect on water (through reducing flood risk) and could have further significant positive effects on biodiversity and water (through restoring natural coastal processes i.e. managed realignment) but could also have a significant negative effect on biodiversity (through likely significant effects on the Firth of Forth/ Forth Islands SPA, the Firth of Forth and St Andrews Bay Complex pSPA and the River Teith SAC) and a potential significant negative effect on water (through altering coastal processes) Upgrades to Waste Water Treatment Works at Dalderse (16) could have a significant negative effect on biodiversity (due to likely significant effect on the River Teith SAC caused by sediment release during construction and increased water pollution during operation) In the absence of a new flood defence scheme at Grangemouth an inundation of the existing Petrochemical and chemical complexes would likely lead to the large scale release of harmful pollutants into the environment to the detriment of biodiversity 	<p>effects on water.</p> <ul style="list-style-type: none"> A redevelopment proposals at Falkirk Bus Station should be of a high quality design to improve townscape value and ensure positive effects on material assets; The Denny Cross upgrade project (6) should be carried out sensitively to avoid adversely impacting on the category B listed Denny Parish Church or the Denny Area of Townscape Value to mitigate negative effects on cultural heritage; The M9J5 upgrade, A904/A993 junction improvement (1 & 7) project and Bo'ness to Grangemouth Path and A904 Road Realignment and B9143 Inchyra Road Path (12 & 15) proposals should be carried out sensitively to avoid adversely impacting on the setting of the Antonine Wall WHS to mitigate significant negative effects on cultural heritage; The A803 corridor improvement project (5) should be carried out sensitively to avoid adversely impacting of the Forth and Clyde Canal SAM and its setting to mitigate significant negative effects on cultural heritage; Development of the new Falkirk Community Hospital (21) should be carried out sensitively to avoid adversely affecting the setting of the Arnothill Conservation Area and mitigate negative effects on cultural heritage; Screen planting and boundary landscaping should be carried out at strategic transport proposal (1-3) sites and the C116 Waterslap Road Improvement project (8) where appropriate to mitigate negative effects on landscape;

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										<p>and human health. Therefore the implementation of a Flood Defence scheme at Grangemouth help to guard against potential significant positive effects on biodiversity and population and human health</p> <p><u>Education, Healthcare and Community Facilities</u></p> <ul style="list-style-type: none"> Capacity enhancements Larbert, Denny, Braes and St Mungo's High Schools (18) and at Kinnaird, Denny, Maddiston, Bankier, Victoria, and Head of Muir Primary Schools (19) are likely to involve the loss of existing school grounds which could have a negative effect on population and human health (through reducing recreational opportunity) The new school at Whitecross (20) will have a positive effect on population and human health and material assets (through regeneration of a brownfield site leading to improved townscape quality) and could have a positive effect on population and human health and soil (through removal or remediation of potentially contaminated land) but will also have a negative effect on material assets (as it will necessitate the closure and demolition of the existing school in Whitecross rather than it's reuse which will involve the use of finite natural resources) The New Falkirk Community Hospital (21) will be on the site of the former Falkirk Royal Infirmary. This will have positive effects on population and human health and material assets (through improving townscape quality by regenerating a brownfield site) but could also have negative effects on cultural heritage (through adversely affecting the setting of the Arnohill Conservation Area The location of prospective capacity enhancements at GP surgeries in the Denny and Bonnybridge/Banknock (22) areas is as yet unknown so it is difficult to predict their environmental effects. In general capacity enhancements at GP surgeries will lessen the need for people to travel outwith their local area to access primary care facilities and will therefore have positive effects on population and human health, air, climatic factors and material assets (due to reduced traffic movements and their associated noise and emissions) The locations of new 3G Pitches (23) are yet to be determined so it is difficult to predict their environmental effects. The rationale for creating new 3G pitches is to create facilities which are capable of intensive use throughout the year so this is likely to have a positive effect on population and human health (through improving recreational opportunity) <p><u>Cemeteries</u></p> <ul style="list-style-type: none"> Extensions at Camelon, Muiravonside, Hills of Dunipace, Weedingshall (24) could have a positive effect on population and human health (through creation of new open space) a significant negative effect on biodiversity (through potential adverse impact on legally protected species) and a negative effect biodiversity (through potential loss of woodland) water (due to potential detrimental effect on groundwater quality and potential surface water flood risk) and landscape (due to 	

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										potential adverse landscape and visual effects)	
Alternative 1 : Promote a comprehensive 'roof tax' which would roll all infrastructure costs across the area, or within a settlement, into a rate per house. It is possible, too, that the Scottish Government's response to the recently published Review of Planning may provide a new structure for funding infrastructure.	N	N	N	N	N	N	N	N	N	Promoting a comprehensive roof tax as opposed to seeking to collect developer contributions from sites contributing towards the need for infrastructure upgrading will have no environmental effect.	
MAIN ISSUE 10: ENERGY – LOW CARBON ENERGY											
Preferred Option: 1. Introduce a policy on energy developments, incorporate the wind energy spatial framework into LDP2 and consolidate guidance on renewable technologies into a single supplementary guidance document. 2. Allocate a site	+	-	+	-	++	--	--	+	-	Introducing a policy on energy developments should allow the better environmental regulation of proposals for new energy generation. Current policy only relates to renewable energy generation so this policy would bring other forms of energy generation (such as energy from waste, carbon capture and storage and biomass fed energy generation) within the scope of the development plan. This should help to mitigate any significant negative effects on the environment caused by future proposals for energy generation in the Council area. The environmental effects of the development of sites within Grangemouth Docks (128, 162 & 163) has previously been set out within the assessment of main issue 6 employment locations – Grangemouth Investment Zone and is summarised in the matrix to the left.	Proposed mitigation and enhancement measures relating to the development of sites within Grangemouth Docks (128, 162 & 163) has previously been set out within the assessment of main issue 6 employment locations – Grangemouth Investment Zone.

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in Grangemouth Docks (sites 128, 162 and 163) for a power station with carbon capture and storage in accordance with NPF3.											
Alternative 1: No alternative sites for the CCS plant has been proposed or assessed, although it is possible that it could be accommodated within vacant land at Ineos.	N	N	N	N	N	N	N	N	N	<p>The environmental effects of developing at the various vacant sites within the Ineos complex (200-202) has previously been set out within the assessment of main issue 6 employment locations – Grangemouth Investment Zone.</p> <p>Relocating the CCS proposal to the Ineos sites from the sites in Grangemouth Docks would have no environmental effect as both the Grangemouth Docks and Ineos sites would still be developed in absence of the CCS proposal. Neutral effects are therefore recorded.</p>	
MAIN ISSUE 10: ENERGY – HEAT NETWORKS											
Preferred Option: Strengthen the policy on heat networks and the incorporation of district heating into major new developments. Identify the network opportunities associated with the Grangemouth Energy Project within the spatial strategy.	N	N	N	N	--	+	+	N	N	<p>Strengthening the policy on heat networks may encourage the development of new heat sources close to the proposed heat network opportunities in Grangemouth. There is the potential for a significant negative effect on air (due to increasing industrial and traffic related emissions in an Air Quality Management Area) and a positive effect on climatic factors and material assets (if new heat sources use renewable energy which displaces the use of heat from non-renewable sources)</p> <p>Developing the pipework necessary to operate heat networks could have a range of environmental effects depending on the sensitivity of the environment where they are installed. At this stage the location of potential heat networks are too generalised to know with any accuracy where new pipework infrastructure will be laid, therefore the environmental effects of putting in this infrastructure cannot be meaningfully predicted at this stage.</p>	<p>There will be a need to word the new energy development policy appropriately so that any new heat sources developed to serve potential new heat networks do not adversely impact on the air quality within Grangemouth AQMA to mitigate significant negative effects on air</p> <p>Any new thermal heat source constructed in Grangemouth should ensure its feed stock is not delivered by road to mitigate significant negative effects on air.</p> <p>The strengthened policy on heat networks should encourage the use of renewable heat sources to ensure positive effects on climatic factors and material assets</p>

Alternative	Biodiversity Flora & Fauna	Population & Human Health	Soil	Water	Air	Climatic Factors	Material Assets	Cultural Heritage	Landscape	Assessment commentary	Enhancement/ Mitigation
<p>Alternative 1: The potential networks within the Grangemouth Energy Project are effectively alternatives in terms of where investment in infrastructure might be prioritised. However, it is too early to commit to any one option, pending the development of the relevant business cases.</p>										<p>The preferred option already encapsulates the alternatives. No further environmental assessment necessary.</p>	
<p>MAIN ISSUE 10: ENERGY – LOW AND ZERO CARBON GENERATING TECHNOLOGY</p>											
<p>Preferred Option: Maintain the policy requiring a proportion of emissions reduction in new development to be met by LZCGT, and increase the required proportion to 12%, to reflect changes to Scottish Building Standards; and review the scope of exemptions and the definition of relevant technical and</p>	N	N	N	N	N	-	+ +	- -	N	<p>The enforced deployment of LZCGT in all new development could have a cumulatively significant positive effect on material assets (through increasing capacity to generate energy from renewable sources) however, almost counter intuitively, this will not lead to a proportionate reduction in the production of greenhouse gasses from new development as the policy requires a proportion of overall energy efficiency savings required through building standards to be met through provision of LZCGT. Therefore new buildings will be less energy efficient than they would have been without this policy and with the required proportion increased from 10% – 15% the revised policy will exacerbate this effect. The embedded carbon in the process of manufacturing LZCGT will actually mean that this policy will have a negative effect on climatic factors (through increasing the production of greenhouse gasses). It could also have a cumulatively significant negative effect on material assets (through reduction in townscape quality)</p>	<p>Any more rational alternative policy where new LZCGT capacity installed as part of new development is not at the expense of wider energy efficiency measures would be in conflict with section 3F of the Town and Country Planning (Scotland) Act 1997 and is therefore not considered to be reasonable.</p> <p>Potential negative effects on townscape value caused by new LZCGT can be mitigated through the application of urban design and placemaking policies within the LDP.</p>

Alternative	Biodiversity Flora & Fauna	Population & Human Health	Soil	Water	Air	Climatic Factors	Material Assets	Cultural Heritage	Landscape	Assessment commentary	Enhancement/ Mitigation
practical constraints within the policy and supporting supplementary guidance to address current implementation difficulties.											
Alternative 1: The proportion of emissions reduction required through LZCGT could be increased by a greater amount.	N	N	N	N	N	-	+ +	- -	N N	This alternative would increase the magnitude of significant positive effects on material assets (through increasing capacity to generate energy from renewable sources) negative effects on climatic factors (through increasing the production of greenhouse gases) and cumulatively significant negative effects on material assets (through reduction in townscape quality)	
MAIN ISSUE 11: ONSHORE GAS, MINERALS AND WASTE – ONSHORE GAS AND MINERALS											
Preferred Option: Maintain the current policy on onshore gas and oil developments, embedded within the general mineral policies, pending the outcome of the Scottish Government review.	-	-	-	-	-	-	-	-	-	The current policy states that proposals for onshore oil and gas extraction will only be supported where there is not significant adverse impact on the environment or the local community. The effect of this policy is to guard against significant negative environmental effects	
Alternative 1: Promote a separate policy dealing with onshore oil and gas developments	-	-	-	-	-	-	-	-	-	A separate policy may aid clarity in decision making but would have the same overall effect.	
MAIN ISSUE 11: ONSHORE GAS, MINERALS AND WASTE – WASTE											
Preferred Option: Remove the site safeguarding for	N	-	N	N	N	N	+	N	N	Indicating that new waste management facilities should be on business and industry sites should lead to a positive effect on material assets (through minimising demands on primary resources needed to establish new facilities) and avoid significant negative effects in new locations on population and human health (through increased nuisance	

Alternative	Biodiversity Flora & Fauna	Population & Human Health	Soil	Water	Air	Climatic Factors	Material Assets	Cultural Heritage	Landscape	Assessment commentary	Enhancement/ Mitigation
additional landfill capacity at Avondale and maintain the existing policy on the location of waste management facilities which supports their location on business and industry sites. Continue to identify operational waste management sites on the proposed plan.										noise/odour) Removing the site safeguarding for an extension of the Avondale Waste Management Site should avoid the environment effects of that proposal which are outlined in the assessment of the alternative below	
Alternative 1: Maintain the safeguarded site at Avondale. Identify specific sites for waste management facilities.	--	--	--	--	-	+	+	-	--	<ul style="list-style-type: none"> Safeguarding of site for landfill at Avondale (97) is likely to have positive effects on climatic factors (as locally produced municipal waste will be able to be treated locally with resultant reduction in greenhouse gas emissions); and material assets (as opportunities to recover landfill gas will be increased.) Safeguarding of site for landfill at Avondale (97) is likely to have significant negative effects on biodiversity (through likely significant effect on the Firth of Forth SPA and adverse effect on the Avon Gorge SSSI); population and human health (through an increase in exposure to nuisance odour); soil (through loss of prime quality agricultural land); water (through potential land raising within an area of high flood risk leading to increased flood risk downstream) climatic factors (through release of methane) material assets (through potential sterilisation of sand and gravel deposits); and landscape (through major adverse effect on landscape character) Safeguarding of site for landfill at Avondale (97) is likely to have negative effects biodiversity (through potential adverse impact on the on Avonbank SINC)population and human health, air, climatic factors and material assets (through an increase in road traffic and related congestion, emissions and noise) and cultural heritage (through adverse effect on the setting of the Category B listed Avonbank Railway viaduct) 	<ul style="list-style-type: none"> Project based appropriate assessments will be required at the planned expansion of the Avondale Landfill Site which demonstrate that the projects can be carried out without having an adverse effect on the integrity of the Firth of Forth SPA and the River Teith SAC to avoid significant negative effects on biodiversity. Development of the site should be undertaken sensitively to avoid an adverse effect on the Avon Gorge SINC or the Avonbank SINC and mitigate significant negative effects on biodiversity. A landfill gas recovery system should be employed on site to reduce the impact of nuisance odour and maximise the use of this renewable resource for energy generation to mitigate significant negative effects on population and human health and climatic factors and ensure positive effects on material assets. The only way to avoid the loss of prime quality agricultural land and significant negative effects on soil would be through the deletion of the site A flood risk assessment should be undertaken and land-raising within the functional flood plain avoided to mitigate significant negative effects on water A cultural heritage assessment should be carried out and development designed sensitively to avoid an adverse effect on the setting of the Category B listed Avonbank Railway Viaduct

Alternative	Biodiversity Flora & Fauna	Population & Human Health	Soil	Water	Air	Climatic Factors	Material Assets	Cultural Heritage	Landscape	Assessment commentary	Enhancement/ Mitigation
											to mitigate negative effects on cultural heritage <ul style="list-style-type: none"> The only way to avoiding significant negative effects on landscape would be through deletion of the site.
-- Significant Negative	- Negative			N Neutral		? Unknown		+ Positive			++ Significant Positive

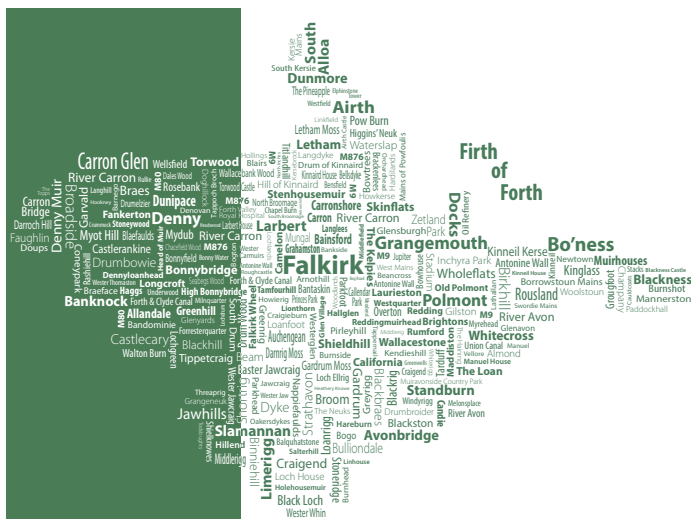
FALKIRK

Local Development Plan 2

Environmental Report

Appendix 2: Detailed Environmental Assessment Matrices

February 2017



Falkirk Council