shaw fair

development manual

Midlothian

Revised
August 2002

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Designed by Executive Services, Midlothian Council

Foreword

"One of the key challenges of the new Century is not just to provide places to live and jobs for people, but to create quality homes in a sustainable environment, with a strong sense of community. Midlothian Council wants to play a major role in meeting this challenge for the Shawfair area. However, we cannot achieve this alone, and it is crucial that all of the agencies involved in bringing such a major project to fruition are able to work together to deliver this vision.

This Development Manual has been prepared mainly for the benefit of those who will influence and implement the development proposals, to explain some of the Council's main objectives and the standards that are expected. However, it is hoped that it will also provide further useful information to the public, giving an opportunity to comment on more detailed proposals.

We are at the beginning of what can be a major success story for Midlothian, but also, I hope, something that will achieve national recognition as a model of good practice."

Councillor
Jim Dunsmuir
Cabinet Member for
Strategic Services

shawfair

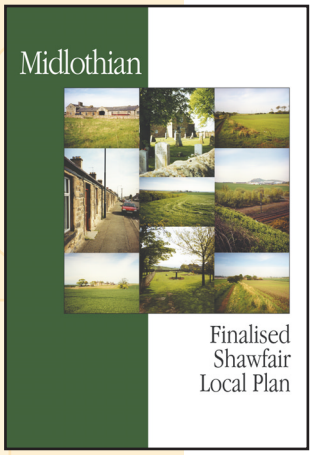
development manual

Contents

Vision

- The Lothian Structure Plan 1994, approved with modifications by the then Secretary of State in 1997, established the principle of accommodating major residential development and other uses in the area known as the South East Wedge. The majority of this development will be built within the area defined by the Shawfair Local Plan.
- In recent times, private housing developments on the edge of Edinburgh and its neighbouring towns have generally comprised relatively small schemes of unexceptional suburban character, with few associated community facilities or shops, poor access to public transport and lack of ready access to employment areas. This approach has done little to engender community identity or quality in urban design. The failure to closely link new housing with jobs, facilities and public transport increases reliance on the private car, thereby adding to pollution and congestion. Such an approach is unsustainable.
- The Shawfair Local Plan and this Development Manual promote the most significant comprehensively planned community development in Lothian for decades. The challenge for Midlothian Council and its partners, in both the public and private sectors, is to ensure that development is well designed and combines to create vibrant, self-contained communities in attractive settings where reliance on the private car is not encouraged.
- The Council's vision is of a more sustainable pattern of development that supports and encourages public transport, cycling and walking. Fundamental to achieving this is the location of houses close to good community facilities, shops and employment opportunities, with efficient and high quality public transport links. Integral to this vision is the creation of an attractive environment, both within and surrounding the new and expanded communities. This will entail a high quality of urban design and architecture, and the careful integration of new building into the landscape. Particular emphasis is placed upon securing community access to the surrounding countryside, where the planting of woodlands and the creation of parks is proposed.
- It is the Council's aim to ensure that people already living in the area benefit as much as possible from the changes. It is recognised that the character of the area will be significantly altered, but it is hoped that the benefits that will accrue in the form of enhanced job opportunities, improved community facilities and better access to recreational open spaces, will be seen to outweigh some of the perceived disadvantages.
- The development of the area raises special challenges and the opportunity to create a stimulating environment for the people that live there. It is Midlothian Council's aim to fulfil the expectations of existing and future generations for quality in all aspects of the development process.

The development process



Purpose of the development manual

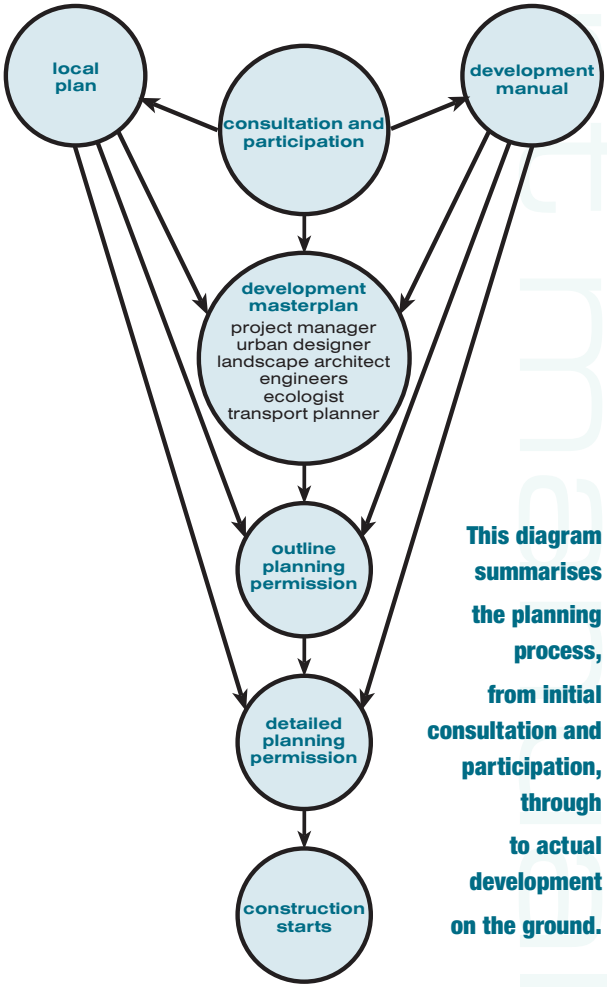
The Shawfair Development Manual provides supplementary planning guidance and information to the Shawfair Local Plan, and should be read in conjunction with that document. Its purpose is to explain, in greater detail than the Local Plan, how certain aspects of the proposed development will be implemented. It is not intended to be an all encompassing guide to best planning practice. Rather, it concentrates on specific topics where particular guidance is thought to be required. The loose leaf format will allow additions/changes to be made in the future, if necessary.

The **Indicative Development Framework Plan** at the end of this document shows the overall development scheme in a conceptual manner. It demonstrates how the various development proposals could be successfully integrated with the transport network, landscaping and open space to create an attractive environment where community facilities are easily accessible.

The Shawfair Local Plan requires that development proposals conform to its requirements as well as the principles contained in this document. Consequently, both the Local Plan and the Manual will be important considerations in determining planning applications.

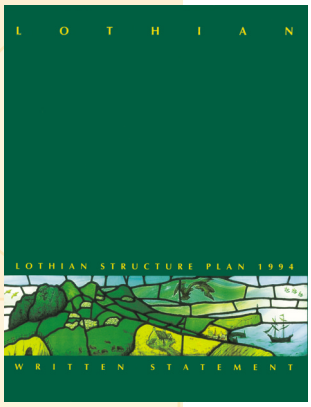
The development masterplan

The Local Plan and Development Manual, together, provide the context for the preparation of a Development Masterplan. Policy IMP2 of the Local Plan specifies the matters that the Masterplan will address, and anticipates that it will be prepared by a consortium of potential developers.



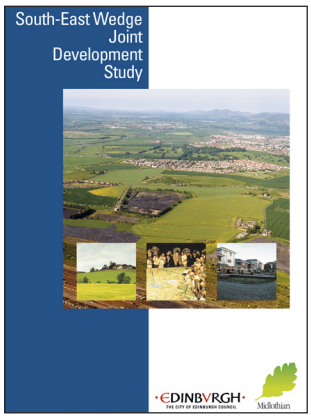
This diagram summarises the planning process, from initial consultation and participation, through to actual development on the ground.

The development context



Lothian Structure Plan

The principle of development in the Shawfair area has been established through the Lothian Structure Plan 1994, which laid down the requirement for major housing, business and community uses in the area then known as the South East Wedge.



The South East Wedge Joint Development Study

The South East Wedge straddles the administrative areas of Edinburgh and Midlothian Councils. Following publication of the Lothian Structure Plan, the two Councils, in consultation with local communities, worked jointly to develop more detailed proposals for the area. The resulting document was published in early 1999.

National policy and best practice

Both the Shawfair Local Plan and this Manual have been heavily influenced by national planning policy and advice, as well as emerging guidance on best practice in terms of developing new communities and integrating sustainable technologies.

Summary of development proposals

Housing

A new community will be created called Shawfair, of up to 3,500 houses, integrating the existing villages of Millerhill and Newton. A further 500 houses are proposed on two sites to the north and south of Danderhall.

Community facilities

Major housing development requires to be associated with a wide range of accessible facilities. These will include shops, a health centre, a sports centre and pitches, community meeting rooms, post office and banking facilities, and a library.

Business and industry

The allocation of land for business and industrial uses will provide local job opportunities. Three main sites are proposed: Whitehill Mains (13 hectares), Todhills (9 hectares) and currently derelict land in and around the former Monktonhall Colliery.

Transport

There is an emphasis upon encouraging sustainable forms of travel. The proposals therefore allow for the prospect of re-introducing passenger rail services in the area, with stations at Shawfair and south of Danderhall. Park & Ride sites will be located next to the rail stations. Where necessary, the road network will give priority to buses, cyclists and pedestrians.

An extensive urban and countryside path network will also be created.

Education

Two new primary schools are required in the Shawfair community, and also an extension to Danderhall primary school. Secondary pupils will attend the new Dalkeith Schools Community Campus.

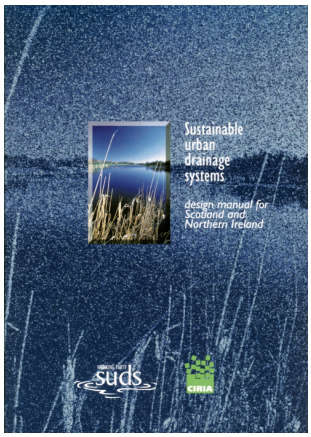
Design and landscape

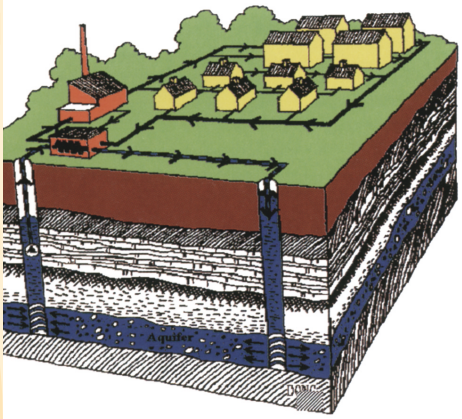
Development of the highest quality is required. This means good design rooted in traditional local styles and a substantial landscape framework to help integrate development with its surroundings. This does not exclude the best in contemporary architecture. Community woodlands will be planted and parklands created to allow for informal outdoor recreation.

The Scottish Executive has underscored its commitment to high quality design in its recently published "Designing Places - A Policy Statement for Scotland".

Sustainable urban drainage

Sustainable urban drainage systems allow surface water to be managed in a manner sympathetic to the environment, avoiding flooding and pollution, whilst allowing the creation of wildlife habitats and the enhancement of formal and informal recreation areas by the use of water.





Energy efficiency

New development is expected to maximise energy efficiency, principally through the introduction of efficient energy distribution systems such as district heating, perhaps using geothermal sources, but otherwise through layout for passive solar gain and sustainable construction techniques.

Development form

Lothian Character

The design of new housing and, in particular, the layout of housing, should respect and reflect the character of the more attractive and traditional aspects of Lothian's towns and villages. Such character is somewhat diverse, but there are consistent underlying themes that contribute to creating urban environments that people can enjoy.

High quality innovative design will be encouraged.

Traditional urban form

Lothian's pre-20th century towns and villages are in the main characterised by linked housing fronting directly onto the street. There is generally a sense of enclosure, formed by the relationship between buildings and landscaping, that creates spaces that have a variety of visual interest and are pleasant places to be in.

Suburbia

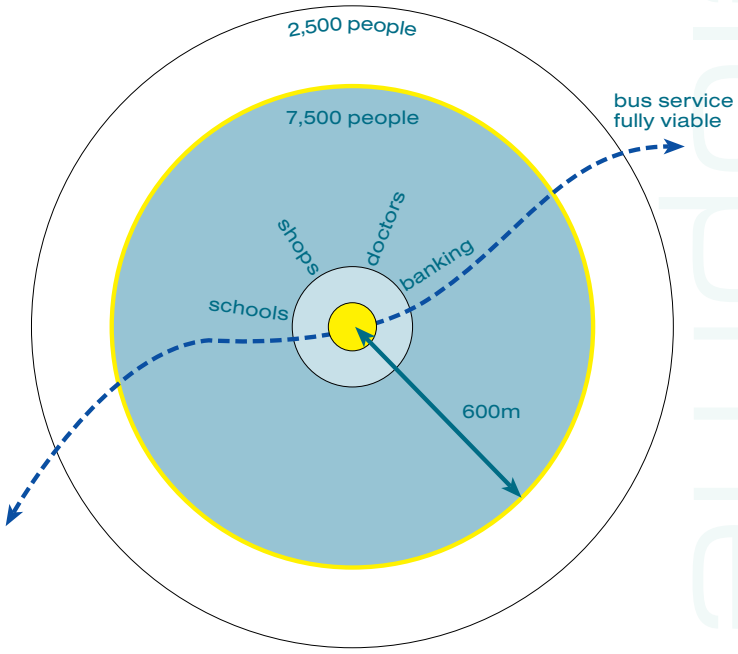
Much 20th century housing development has been characterised by an unsatisfactory suburban style. Although many of the housing estates created provide pleasant living environments, they generally lack character and identity, and there are few that can claim to be visually stimulating. A predominance of detached housing on smaller plots has meant suburban development can appear uniform, cramped and lacking a landscape setting. Fragmentation of frontages and the setting back of housing from the road results in a lack of enclosure. A street scene dominated by roads and hard standing for cars and prominent garage doors can be very unattractive.

A Sustainable Urban Structure

Recent housing development on the edge of Edinburgh and its neighbouring towns has generally had few associated community facilities or shops, poor access to public transport and lack of proximity to employment areas. This approach has done little to engender community identity, and the failure to link new housing with jobs, facilities and public transport increases reliance on the private car.

Community facilities can be sustained by a population of approximately 7,500 people living within walking distance (approximately 600 metres) of the centre. The new Shawfair community should therefore be developed in such a manner that this density of population can be achieved.

Total Shawfair Population approximately 10,000 people



A compact development pattern has many advantages. It allows people to walk to the centre of the community where facilities are concentrated. This lends vitality to the centre and improves the overall viability of a community. Concentrations of development also allow for an efficient and viable bus service as well as the introduction of Combined Heat and Power/District Heating Systems. It also minimises the use of greenfield land.

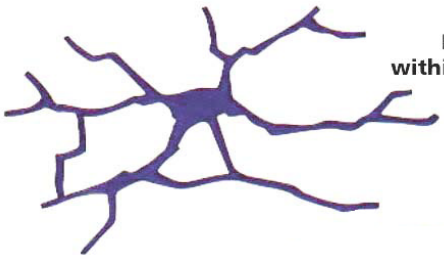
The new Shawfair community and extended Danderhall community should therefore be structured in a manner that maximises the opportunity for people to access facilities and public transport on foot. In practice, this will mean that higher density development is located centrally, with lower density development on the outskirts.

Other than in exceptional circumstances, all new housing in Shawfair should be no further than:

- 400m from a bus stop
- 400m from a local public park
- 1200m from sports pitches
- 1200m from countryside parkland and woodland

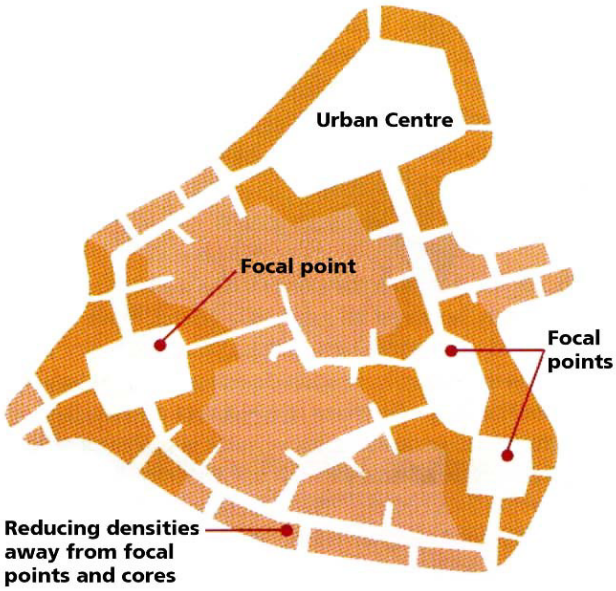
A Comprehensible Urban Structure

The new and extended communities should be laid out in a way that provides a comprehensible yet varied urban structure. Much existing suburban development, for example, tends to a homogenous structure and this results in a general lack of visual interest. In contrast, Lothian's historic towns and villages are characterised by 'nucleic' settlement patterns, where roads and pathways radiate from centres, creating a hierarchy of pattern and form that is easily understood and creates a sense of place and identity.



Urban centres

The aspiration is to create a vibrant town centre at the heart of the Shawfair community, with residential development focussing on this centre via a network of paths and roads. For Danderhall, the arrangement of routes and buildings should focus on existing facilities and development.

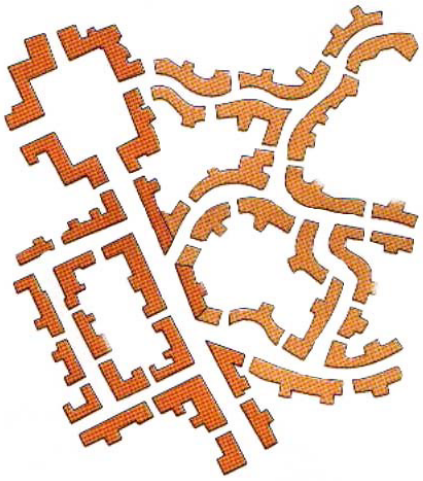


Focal points

Outwith the urban centres, residential development should be structured around a series of focal points. These will include small parks, road and pathway interchanges, local shops and bus stops. These may be communal spaces, some with seating, or simply key buildings or groups of buildings of more distinctive architectural style.

Character areas

In such large scale development as proposed at Shawfair and Danderhall, it is important to have an element of variety in form and design. To avoid any impression of monotony, there should be variation in space, street blocks, architectural treatment, landscaping, street furniture and building materials between different character areas. Generally speaking, the size of these character areas should decrease towards the centre of the community. The Harelaw, Newton Village and Millerhill communities represent existing character areas, and these should be taken account of in the layout and design of the Shawfair community.



Contrast in character between adjacent areas

Urban edges

It is important that the edges of development are treated with care, particularly where buildings meet countryside or public open space, or between character areas. For example, open spaces should be treated as an outlook onto which houses front, rather than being tucked away to the back or side of houses. In order to avoid domination by back fences, roads should be fronted by houses. Continuity of buildings and landscape framework will assist in blending different character areas.

An edge onto a public open space

Landmarks and vistas

Landmarks provide a sense of location within a town or village, and help to give structure to a community. Grander or taller buildings, as well as public art (e.g. street sculpture) can serve as landmarks. They are particularly useful in areas away from focal points where orientation may be more difficult. Off-setting the angle of streets or paths leading to a landmark can help increase the sense of surprise when the landmark comes into view. The use of slightly higher buildings can help emphasise key locations, particularly the town centre.

A clear network of routes through the communities can help to provide strong mental images. Views and vistas aligned with key buildings are particularly important. The best routes are often those with a varied sequence of longer and shorter views, terminated by landmarks.

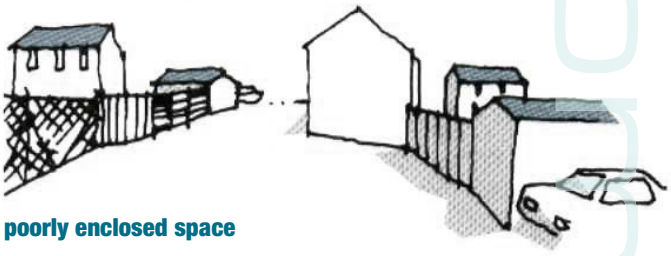
The Detail of Urban Structure

Creating a human scale

A feeling of comfort in an urban environment is heavily influenced by the nature of the spaces created. The width of spaces and the height of adjoining buildings requires particular care.

The ideal relationship for pedestrian friendly dynamic spaces is for the width of spaces to be equal to the height of the enclosing buildings. In practice this can be difficult to achieve, and differences in the height of enclosing buildings, partial widening of space etc should be compensated for by narrowing the rest of the space and/or increasing the building height on one side. Roof slopes, gables, dormers, chimneys and other skyline features can increase the apparent height of buildings and thereby their ability to enclose space.

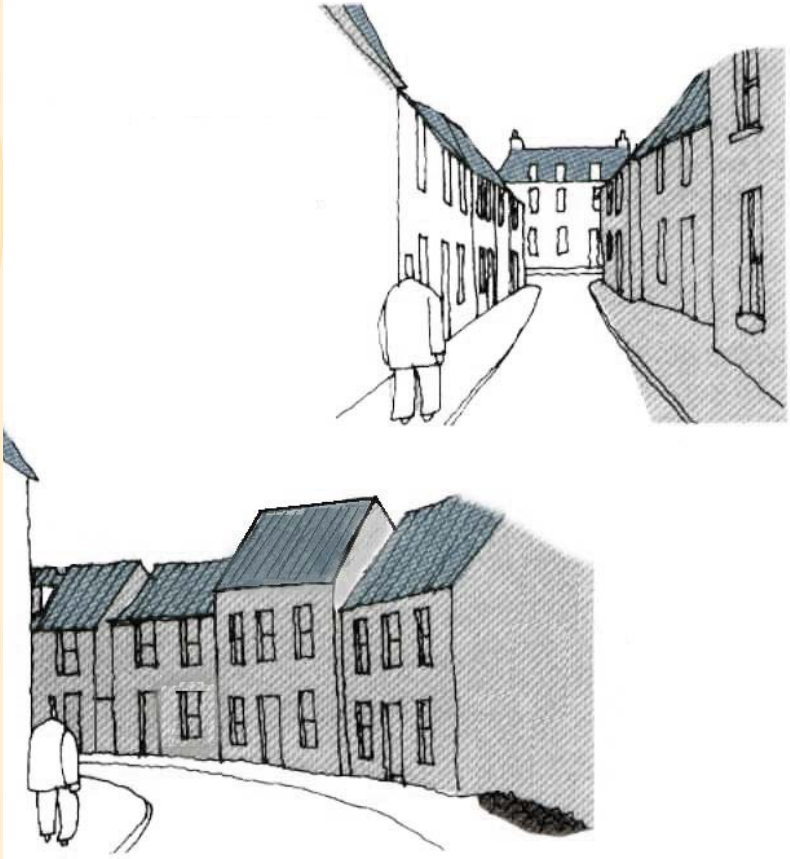
well enclosed space



poorly enclosed space

To reinforce visual character, define spaces and help encourage walking, public areas should be faced by the front of buildings. This also assists in crime prevention by allowing informal supervision of public spaces by residents.

The inclusion of static, more peaceful spaces is also important. Small squares and parks enclosed by buildings, for example, can provide this.



Length of spaces

An overly long space can be daunting, and this can be overcome by limiting how far one can see. This can be achieved by a curve in the street, the location of a terminal building or a change in building line.

A variety of characters can be obtained by breaking the linear space up into a series of smaller linked spaces. These can be created by relatively small changes in the height-width relationship, breaks in frontage line and the more detailed design of buildings.

Character of space

A balance should be created between diversity and unity and between formality and informality. This can be seen in many historic towns and villages where spaces and architectural detailing will vary, but an attractive unity is created through consistency in materials and elevational openings. Other settlements owe their character to a variety of materials but with a consistency of street frontage and plot width.

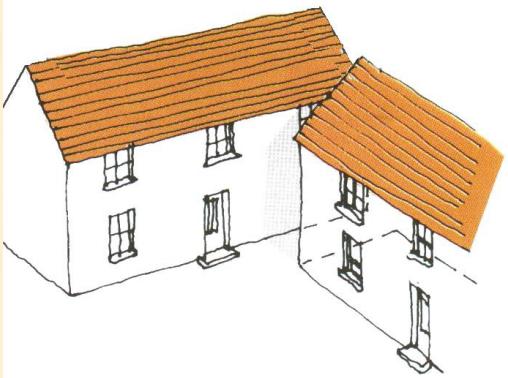
A formal space is unified and symmetrical in its treatment. An informal space is more diverse and complex. It is desirable to provide a mix of formal and informal spaces through the development. The repetition of similar spaces should certainly be avoided.

Informal space : informal pattern

Continuity of frontage

A continuity of frontage helps to enclose space. This can be achieved in a variety of ways.

- Having a high proportion of houses sharing main walls
- Where space for access of cars is required, continuity can be maintained by bridging over at first floor level.
- At the ends of rows of linked buildings, or in the case of a detached building, an illusion of continuity can be created by forming an overlapping corner which, when approached, conceals the gap.
- The rear garden of an end house can break continuity. Either these should be located discreetly, or else the house should be a corner turning building that screens some of the garden, with the remainder screened by a wall. The length of such walls should, however, be kept to a minimum.



Lower density housing

In areas of lower density housing on the periphery of the Shawfair community, a sense of enclosure can be achieved by the careful combination of buildings and landscaping. This can provide a legitimate context for detached housing. The success of this approach relies upon the use of common architectural style and detailing, locating garages to the rear, and linking houses into a single composition through the use of gateways, railings and fencing. A formality of lay-out should be achieved. The composition relies upon enclosing spaces by trees and hedges.

Such layouts are only suitable at densities between 15 – 20 units/hectare net.

High density, hard urban edges should be avoided on the periphery of the Shawfair community. Lay-outs should be designed to allow glimpses of buildings between trees, and in some locations it may be appropriate to have housing densities as low as 8 units/hectare to achieve a gradual blend into the countryside. Such development might be conceived as small-holdings, albeit all housing should be within land allocated for residential uses in the Local Plan.

Garden size

A usable garden area of about 100 square metres is an acceptable minimum size that accommodates most household activities and allows visual variety, adequate sunlight and plant growth. As far as possible, well proportioned rectangular garden shapes should be provided. For one-bedroom houses, the minimum useable garden area can be reduced to 50 square metres.

Reductions in garden area below these levels will only be allowed where accessible private communal landscaped gardens are provided.

The use of garden area for a house extension will only be allowed if either the minimum size of garden space referred to above remains, or there are communal gardens nearby.

There may be certain houses, which because of townscape requirements, do not warrant strict adherence to these minimum size requirements.

Relationship of house to road

The centres of historic towns and villages in Lothian tend to be characterised by housing that fronts on to the back edge of the pavement, and it is this relationship between house and road that often creates a sense of intimacy and comfort for the pedestrian. However, although this can produce an attractive urban form, residents may often desire both front and back gardens. It is important that the right balance is struck in this respect. For example, a careful mix of houses, some fronting onto the pavement, others with small front gardens, and a few with larger front gardens, can be integrated to create a reasonably enclosed urban environment.

Privacy and light

Privacy can be achieved by a combination of layout, design and landscaping. There should usually be an above eye-level barrier between rear facing ground-floor windows and no upper-storey rear facing living rooms. Where rear facing habitable rooms (including kitchens) are approximately parallel and there is an above eye-level visual barrier, a minimum of 25 metres between the backs of houses will normally be required. Between a gable and the rear of a property, a minimum distance of 16 metres is required.

Where housing is built across steeply sloping ground, the distance between buildings requires to be extended, although split-level housing could reduce this need. The key issue is that there should be no loss of privacy from overlooking windows.

The length of rear gardens will vary, but will normally be at least half the minimum back to back distance. Exceptions to this may be acceptable where distance standards are met, mimimum garden size is achieved or where houses back onto an open aspect.

Appropriate exceptions to the above guidance will be considered if in the interests of good planning.

The availability of natural light makes dwellings more pleasant and energy efficient. Housing layouts should therefore be designed to optimise levels of daylight and sunlight.

Car dominated street scene with lack of enclosure

Car parking and garages

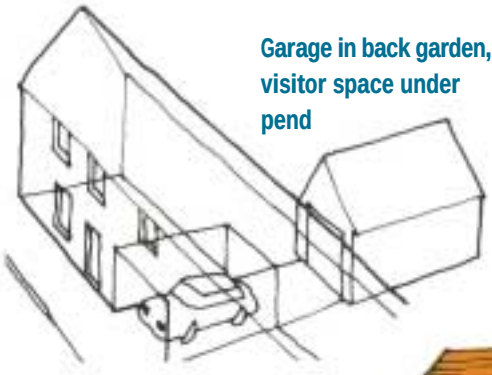
Enclosure of space can be impossible to achieve if the fronts of houses are all set back from the road with parking to the front. A careful balance requires to be struck between the expectations of car owners to park as closely as possible to their home/destination and the need to ensure an attractive street-scene.

Car parking should be sited between houses, beneath upper stories, within garages to the rear of the house, or in discreet courtyards. Such courtyards can be located at the end or behind a row of houses. To avoid parked cars dominating the surroundings, there should generally be no more than 10-15 spaces in a courtyard. Shared surface treatments can be effective, although it is important to ensure that pedestrian routes are clearly defined, particularly in terms of teaching children about road safety and the retention of the pavement as a 'safe' area.

On the street, a certain amount of parking can have a beneficial traffic calming effect. For example, parallel parking in lay-bys within a structure of avenue tree planting can be reasonably accommodated.

For commercial developments, larger parking areas should be located as discreetly as possible, and designed as an integral part of a substantial landscape treatment. Delivery and storage areas should be hidden from view.

Generally, car parking provision should be in accordance with requirements detailed in Midlothian Council's 'Standards for Development Roads'. However, exceptions may be necessary to achieve townscape objectives, provided road safety and other transport objectives are met.

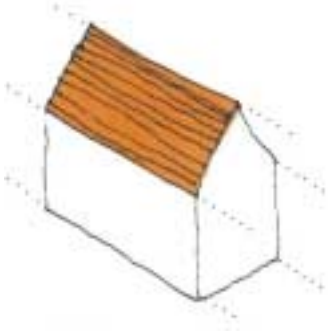


Garage in back garden, visitor space under pend

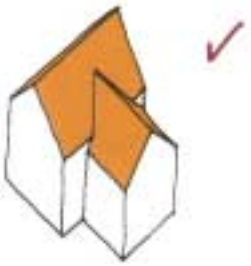
Timber garage door inset within opening. Front door dominates

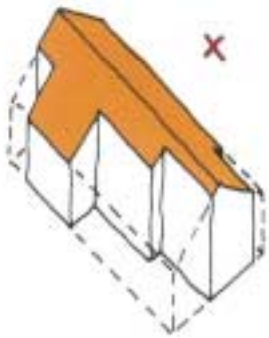
Building Form and Materials

Midlothian's traditional buildings tend to have symmetrical pitched roofs spanning the narrower plan dimension, with the dominant ridgeline usually parallel to the road. This shape creates a simple but attractive form, and new housing should therefore derive from this basic concept. Hipped roofs should be used sparingly, for example, at the end of a terrace.



More complex forms can be created by, for example, using "L" or "T" plans. In all cases, each element of the plan should have the roof pitched over the shorter dimension. Buildings should comprise roof pitches not less than 35 – 45 degrees, and should exclude discordant flat-topped features. In a building with groupings of forms, there should be a principal element to which subsidiary forms are added. Complex building plans should not be derived from an enveloping shape out of which pieces are 'cut'.





Materials

Buildings should be finished with materials of a type similar to those used traditionally in the Lothians. Walls should be wet dash rendered or stone finished in most cases, and roofs should generally be clad with natural slates or clay pantiles or similar. Alternatives may be acceptable, particularly for innovative design schemes or where they would result in significant energy savings compared to conventional solutions. A variety of finishes within groups of buildings should generally be avoided.

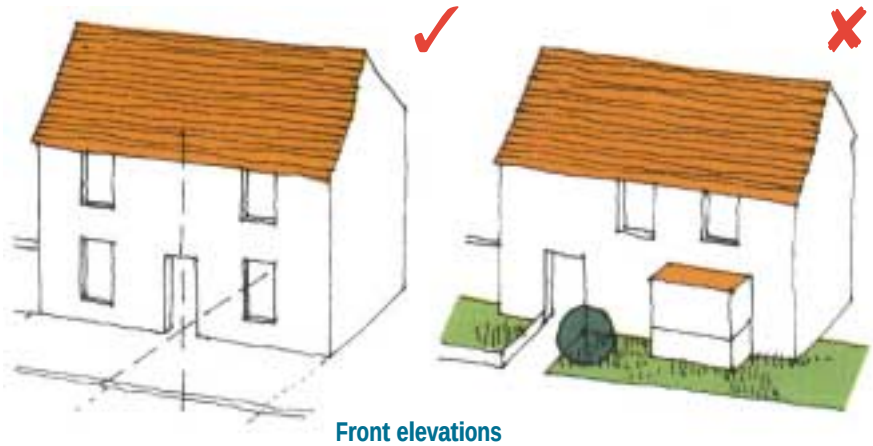
Under-building should be kept to a minimum. Base courses should not be obvious if built from materials different to the rest of the building.

Windows and doors

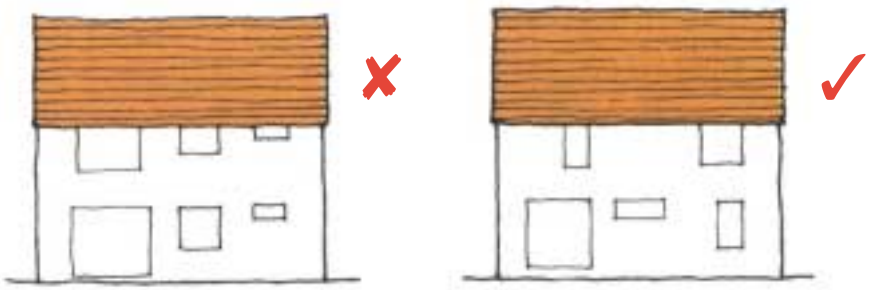
On the front elevation of a house, there should be a simple, regular and orderly arrangement of windows and doors.

This creates a simple but strong visual presence, and can be achieved by a symmetrical pattern of windows around a centrally placed door. A house frontage that is not quite symmetrical can be visually irritating, particularly when repeated on a number of houses.

In the case of a wide frontage elevation or a terrace, the need for a strongly centralised composition is less great, and asymmetrical arrangements can be attractive. However, front doors remain an important element, and should form the basis of the pattern.



Front elevations

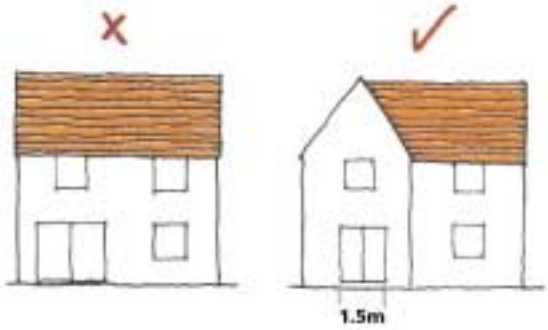


Rear elevations

Midlothian's traditional buildings are characterised by vertically proportioned windows, and this should generally be reflected in new housing development. The windows themselves should not be unevenly subdivided. Large, un-subdivided windows should not be used as this can distort the visual scale of the building. A style of window that replicates or mimics the traditional vertically sliding sash and case window is likely to prove most acceptable.

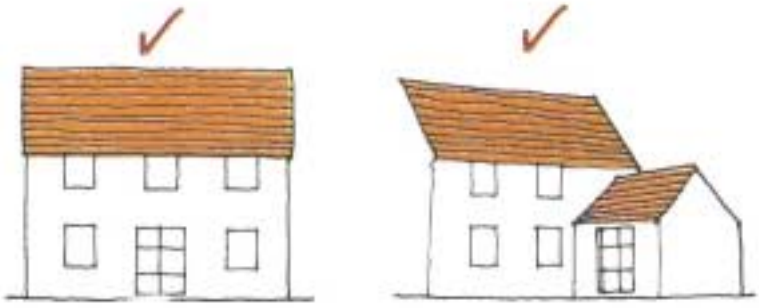
Windows are often selected for a particular room type without regard to external appearance e.g. high level window for toilet, raised sill for kitchen, patio doors for living room. This can create unbalancing effects such as false perspective. Random size and positioning should therefore be avoided unless part of a considered composition.

Wide patio doors can be a disruptive element, creating the effect of a void and should be avoided, particularly on front elevations. Subdivided french doors are preferable, and are best located centrally on the elevation or on a projecting or receding part of an elevation not shared with another window.



Wide patio doors create the effect of a void

Patio doors on gable



Subdivided french doors on central axis

Subdivided french doors on projection not shared with another window

Simplicity

It can be disruptive to group too many single storey elements outside the main two storey volume of the house. Such an approach should therefore be avoided, particularly on frontages.

Variation in height

Houses, or parts of houses, that rise a storey above their neighbours can provide attractive variation in the street scene.

Public Buildings

Particular emphasis should be placed on the design of public and other major buildings within Shawfair (e.g. schools, sports centre, supermarket). Community focal points such as these need to be attractive as well as functional and good architecture is therefore a necessity.

Economic Development

Large-scale business and industrial buildings do not lend themselves to design rooted in the local vernacular. Given the prominent locations for economic development identified in the Local Plan, it is essential that such buildings blend into the landscape and exemplify good architectural practice.

Crime prevention

Careful consideration requires to be given to laying out and designing new development in a manner that discourages criminal activity and vandalism. Government guidance contained in PAN 46 (Planning for Crime Prevention) contains useful advice, and its principles should be applied to the proposed new development. Such factors as allowing natural surveillance from houses and the clear

definition of public and private space can help deter crime. Good lighting and the absence of hiding places on pathways can reduce the risk of attack.

The early involvement of the police to advise on the master-planning and subsequent detailed development stages is essential.

Innovative design

This document advocates a general development form rooted in Lothian's traditional vernacular. Not only has this style proved to have a lasting appeal, but it will also help to create a sense of place related to the area's history and culture.

However, it is not intended that innovation be stifled. The Council will encourage modern architectural and design concepts, particularly if promoting environmentally sustainable living and working environments. For example, there may be opportunities for small 'demonstration areas' within the new Shawfair community where the emphasis would be on the development of buildings and spaces that incorporate emerging technologies and concepts.

The Shawfair Town Centre

The Shawfair Local Plan acknowledges that it is important that the new community has a central, viable and vibrant focus of activity, easily accessible to the whole population. It therefore proposes a town centre at the heart of the new community. Its exact location and boundaries will be established through the master-planning process, following detailed consideration of such factors as the transport network, the overall design concept and the proportion of any residential component. The Indicative Development Framework Plan shows a preferred general location for the town centre.

The delivery of the highest quality environment in the town centre is key to the success of the overall development.

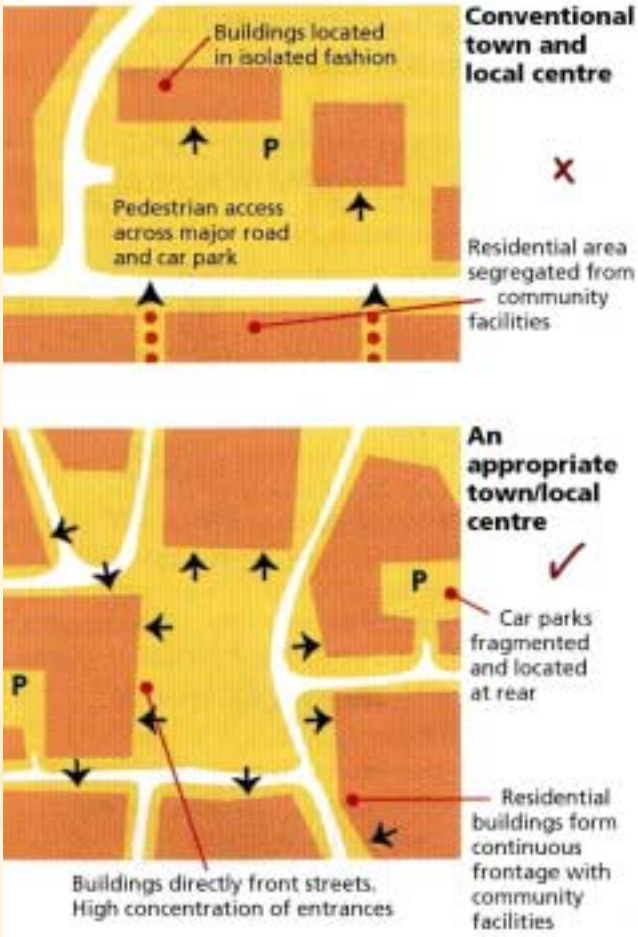
Facilities

It is anticipated that the town centre will comprise a range of facilities, including a supermarket, some smaller shops, community meeting rooms, a health centre, pub(s) and café(s), a police point and a public park. A sports centre will be located either in the town centre, or further west, closer to the proposed sports pitches.

Function and form

In the past, mistakes have been made in creating town centres, some having failed to provide a genuinely attractive focus for the community. Particular attention should therefore be paid to the design of the town centre, and the Development Masterplan is required to show the detail of how it will be developed.

Although town centre buildings may be, and in some cases should be, of a grander scale than the rest of the new community, the form and design should follow the principles outlined previously in this document. In particular, the town centre should be characterised by buildings with their entrances directly off the street. Buildings should not be located in an isolated fashion, separated by large car parks and access roads. Large stores and other 'big-box' units that stand alone, with exposed 'dead' frontages do not assist in creating an active and attractive street designed to a pedestrian scale, and should therefore be avoided. As far as possible, residential development should be integrated into the town centre.



Accessibility

Particular care must also be taken to ensure that the town centre is accessible by foot and by public transport, and the community's path and road network should therefore focus on the centre. Internally, the town centre should be laid out to optimise pedestrian use and ease of movement. Arrangements for delivery vehicle access should also be considered. The road network must be designed with pedestrian safety as a priority.

Landscape

The countryside in the Shawfair area is currently designated as Green Belt. A principle objective is to integrate new development into the landscape in such a way as to minimise any harmful impact on the character of the area. At the very outset, therefore, in considering the development potential of the area, extensive landscape survey work was undertaken to establish how best to achieve this, whilst securing other community development objectives. The location of development proposed in the Local Plan reflects this consideration. The remaining countryside continues to be designated as Green Belt.

The South East Wedge Joint Development Study describes the role of the Green Belt as:

"Providing an appropriate setting for development within a strong and coherent landscape framework which acknowledges the landscape setting of the city, protects important natural features and views and opens up new opportunities for public access, woodland planting and nature conservation."

The proposed development requires a substantial landscape framework to be established around and within it in order to create an environment which is both attractive to look at and to live in. The approach to landscape in the Shawfair area is therefore based upon 3 main principles:

- Providing a well defined, sustainable and flexible landscape framework in which to establish the areas for development.
- Providing a hierarchy of open space and woodland incorporating outdoor recreational uses, integrated into development areas and the countryside.
- Protecting important landscape features such as ridgelines and existing trees and hedges.

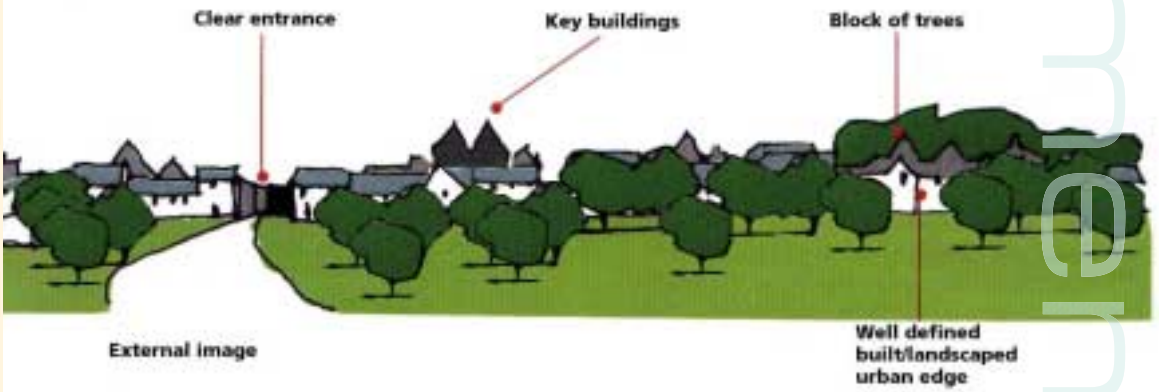
Structural landscaping

The Indicative Development Framework Plan shows a 'structural' landscape framework. This indicates the main areas of woodland and tree belt planting. However, it should be recognised that the aim is not to hide development but to help blend it with surrounding development. The landscape framework will comprise everything from large-scale woodlands and tree belts to intimately designed landscaped spaces within housing areas. In certain specific locations on the urban edge, for example around main entrances into developed areas, it may comprise smaller groupings of trees that 'soften' the urban edge, providing contrast between built form and the surrounding countryside.

The design of woodlands and open spaces should create bold and simple sequences of views, and reflect the existing landscape character.

The development of the landscape structure should follow the principles contained in the Government advice documents PAN 36 (Siting and Design of New Housing in the Countryside) and PAN 44 (Fitting New Housing Development into the Landscape).

The Masterplan will seek to ensure the full integration of settlement edges and the adjacent landscape framework.



Ridges and skylining

Building on the top, or close to the top, of a ridge is visible on the skyline and this can be very disruptive to the appearance of the wider landscape. Although development in the Shawfair area has been located to avoid the main ridges, there are some sensitive landscapes close to where building is proposed e.g. the Hilltown ridge to the north of Shawfair. Development in such areas should obviously respect this sensitivity. Building on the skyline, for example, will not be permitted. Building on slopes must be approached with great care, and be set within a substantial backdrop and surrounding landscape setting to absorb its impact.

The landscape and green space framework

The landscape framework should build on the existing pattern of the landscape, incorporate existing features, and reinforce historic associations in the landscape e.g. hedgerows, trees, woodlands, shelterbelts and stone walls. Development within the framework should seek to enhance and retain attractive views.

Structure planting should be used to create and enclose a variety and hierarchy of green spaces and create visual separation from built up areas, although links between the two must be provided.

Trees, woodlands and hedgerows should be used to hide clutter and relieve monotony. Such features should be integrated with each other to form a continuous habitat and a cohesive framework for development. Trees should be the most dominant visual element.

Where possible, the rail, road and path network should be fully incorporated into the landscape framework. These routes should be in harmony with the existing topography, rather than creating unnatural landforms through unnecessary 'cut' and 'fill'.

Broad edge zones should be created to separate urban character areas and conflicting uses. Particular attention should be paid to integrating urban edges and creating defensible Green Belt boundaries.

The development of an integrated hierarchy of path network for pedestrians, cyclists and horse riders is essential to providing public access to large parts of the landscape framework and green spaces. A hierarchy of paths will be created according to their function and location.

Indigenous trees, shrubs and herbaceous species should be used, although some ornamental species will be acceptable in housing areas.

Areas allocated for formal recreational provision, such as football pitches, require to be fully integrated with other open space uses, the landscape framework and the path network. Large, unbroken areas of green 'desert' must be avoided.

Consideration will be given to applying 'Country Park' status to parts of the Shawfair area.

Urban landscaping

The use of soft landscaping can greatly enhance the attractiveness of an urban area, and development should therefore be integrated into a comprehensive landscape structure.

Trees, hedges and shrubs can be incorporated into the built frontage, or used by themselves to create spaces, in the form of a barrier or screen. A tree may be used as a focal point to punctuate and reinforce the character of a space. Rows of trees can give directional emphasis to a dynamic space. The proportion of vegetation will affect the identity of a space, giving it a hard or soft character.

The built form and landscape framework should be used to create a strong identity and sense of place and space.

Habitat enhancement and creation

The creation of a new landscape and open space framework presents an excellent opportunity for habitat enhancement and creation. For example, the possibility of creating 'ecozones' should be explored. These are specific areas subject to design and management principles that aim to encourage and benefit wildlife.

'Wildlife corridors' provide habitat as well as the opportunity for animals and birds to move freely and breed. Continuity of habitats is therefore important in countryside and urban areas to allow for such movement.

The ecological diversity of existing and new roadside verges should be maximised by the use of low fertility grassland and sympathetic grass cutting regimes.

The implementation of Sustainable Urban Drainage Schemes (SUDS) provides particularly good opportunities for creating wildlife habitats.

Phasing of landscaping

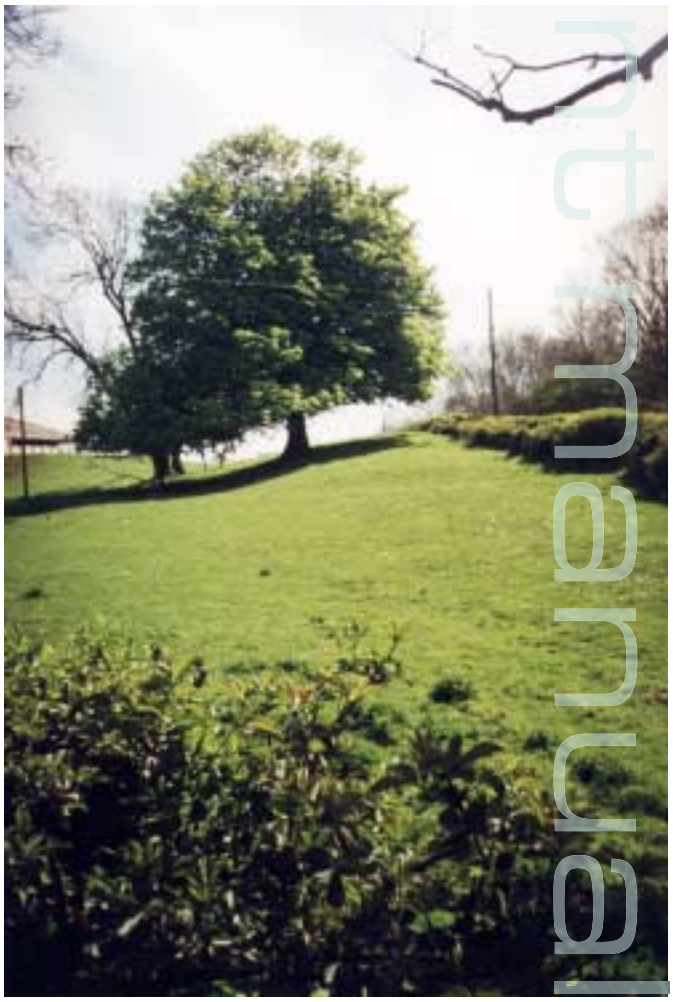
The whole of the structural landscaping scheme shown on the Indicative Development Framework Plan shall be implemented as soon as practicable. It is particularly important that advance planting is undertaken to allow later development phases to be integrated into an already maturing landscape.

Issues relating to funding, implementation, ownership and future management of the landscape and open space framework will be addressed in future additions to the Development Manual, as necessary.

Management

The Development Masterplan should include consideration of how the landscape will be managed in perpetuity to ensure that an attractive environment is maintained. Similar consideration should be given to other "public" facilities e.g. open space, play space, SUDS.

On landscape issues generally, reference to the research document "Rethinking Open Space Provision and Management" (Scottish Executive 2001) is recommended.



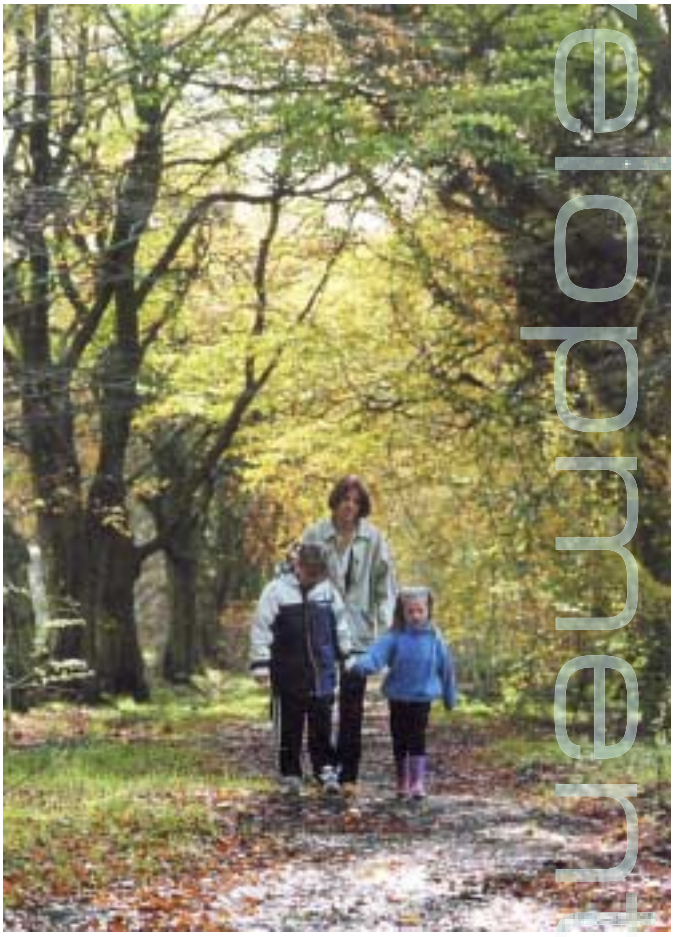
Outdoor recreation

The availability of outdoor recreational opportunities can add greatly to the quality of life of people living in urban areas, and there is a range of provision that requires to be made.

Urban parks

Parks can vary considerably in their nature. Within urban areas they can comprise larger and smaller areas, laid out in a formal or informal manner. They can provide passive and active recreational opportunities. A comprehensive network of landscaped parks will be required in accessible locations in the new development areas. Specifically, as shown on the Indicative Development Framework Plan, a formal park should be provided in association with the proposed Shawfair town centre. Its design and recreation facility provision will need to be to the highest standards, so that it can fulfil its function as a genuinely attractive focal point for the community.

The provision of parks and recreational facilities should follow the national guidance contained in NPPG11 (Sport, Physical Recreation and Open Space) and the National Playing Field Association Standards.



Countryside parks and community woodland

Opportunities to access and enjoy the countryside will also be provided. The Indicative Development Framework Plan shows the provision of country parkland and community woodland accessible to urban areas through a comprehensive path network. The main area of parkland will be developed through the further enhancement of Woolmet Memorial Park, and this will be linked to woodlands to the north and south. Overall, the aim should be to create surroundings that are based around the appreciation of the natural environment, although there should also be discreetly located formalised recreation provision such as children's play facilities.

Children's play facilities

Within urban parks, there should be comprehensive and accessible provision for children's play, designed to meet the needs of all age groups. In general terms, their design, size and location should accord with the advice provided in NPPG 11 (Sport, Physical Recreation and Open Space), National Playing Field Association Standards and PAN 46 (Designing out Crime).

Generally, play areas should be overlooked by housing to provide passive supervision. Within this context, however, their design and location should minimise disturbance to residents. Areas should be fenced in to prevent small children running out and dogs going in.

The Development Masterplan shall indicate the distribution and nature of play facilities.

Sport

Sports facilities are required for more formalised recreation. The most suitable location for these is considered to be between Danderhall and the new Shawfair community, easily accessible to both areas. Their approximate location is shown on the Indicative Development Framework Plan.

Provision will include the following:

- 4 full size grass pitches
- 1 full size synthetic floodlit pitch
- 1 synthetic multi-sport pitch
- 1 cricket square
- 2 bowling greens
- changing facilities

Movement

Walking and Cycling

The path network

The aim is to maximise opportunities for people to walk and cycle, and encourage them to do so rather than using their cars to access local facilities. To achieve this, the provision of a comprehensive path network is required. The Indicative Development Framework Plan shows the main elements of the network.

Paths should be convenient, safe and pleasant, and provide direct links from residential areas to shops, community facilities, schools, employment areas and public transport stops. Urban paths should link into a network of countryside paths, which will connect with neighbouring communities as well as the wider path network. In the countryside, provision should be made for horse riding, which may include a small number of dedicated paths.

There are a number of existing paths and rights of way within the area that, where possible, should be retained and integrated with the extended network.

The surface treatments of paths are required to be durable, low maintenance and sympathetic to their location.

Urban areas

Pavements will obviously provide the main routes for pedestrians, but there should also be exclusive pedestrian and cycle links through residential and mixed use areas that provide more direct access to destinations than the road network. Multiple accesses should be provided to residential areas from major roads, rather than funnelling pedestrians and cycles into the area at one point shared with cars. Within developed areas, pedestrian and cycle links should generally be fronted by housing.

Pedestrian and cycle link with private drive serving houses

The Road Network

The design of roads should generally be in accordance with the requirements of the Scottish Executive's "Design Manual for Roads and Bridges Vol. 6 – Road Geometry" and Midlothian Council's "Standards for Development Roads". However, in order to encourage innovation in the delivery of a safe, sustainable and attractive environment, the Council will consider departures from the requirements specified in these documents, so long as they are beneficial overall. For example, strict adherence to certain standards may preclude good relationships between buildings and space.

The proposed primary road network is shown on the Indicative Development Framework Plan at the end of the document.

Giving priority to urban form - tracking

Rather than giving road engineering priority and designing a community around that, the starting point should be the arrangement of buildings and enclosure to create an attractive urban form. Footways are laid out in front of the buildings to reinforce this. The road width within this arrangement can then be checked by determining vehicle "tracking" paths. A street designed on the principles of tracking will tend to be traffic calmed by its nature and does not need additional measures. The arrangement of building frontages, and the sight lines created, induce drivers to go slowly.

Although the primary and secondary road network should pay regard to the principles of tracking, certain technical requirements may mean that they are not appicable in all cases.

Arrange buildings to form street enclosure

Design footways to reinforce this

Plot vehicle tracking path, to check carriageway width is sufficient

The primary road network will be laid out in a way that discourages speeds above 30mph. All connections on to it should be controlled by roundabouts or traffic signals. Within the town centre, it may be desirable for shops and facilities to be directly accessible to the main road, thereby creating an "active frontage".

The secondary road network connects the primary roads to residential neighbourhoods, and should also be designed to discourage speeds above 30mph.

The tertiary road network provides direct access to houses and parking areas. As described above, urban form should dictate the road layout and not the other way round. The road design should be such that speeds in excess of 20mph are discouraged.

Consideration should be given to the implementation of "Homezones" or other specific initiatives which seek to avoid conflict between traffic and pedestrians.

Public transport

A key aim is to facilitate the provision of an efficient and frequent bus service through new and existing residential areas. The primary road network and its relationship with land uses should therefore be designed to achieve this. The routeing of the network should ensure that major destinations are served as directly as possible. Bus stops, with high quality shelters should be provided in locations that are accessible to most people, and there should be clear and direct routes to them.

Transport interchange

The transport network should be designed to allow easy movement between transport modes. In practice, this means that bus and rail stops, car parks and the path network should converge at points through the development. Such an approach allows practical alternatives to whole journeys being undertaken by car. The rail stations and associated Park & Ride sites proposed close to the Shawfair town centre and south of Danderhall will provide particular opportunities for interchange.

Consideration should also be given to how any future light rail scheme would interchange with heavy rail and road.

Road closures

The road network should be designed in a manner that prevents the new communities being used as a rat-run to and from Edinburgh (e.g. from Sheriffhall to Fort Kinnaird). The new road network should therefore be designed to make such movements unattractive or impossible. As development of the area progresses some existing road closures are likely to be required. The precise locations of where such closures might occur is not yet known, as it will depend on a number of factors, including:

- the detailed road layout in the new development;
- the extent of public transport provision;
- the implementation of Park & Ride schemes;
- the travelling habits of new residents;
- the introduction of a passenger rail service; and
- the travel mode preferences of the existing and new population.

Consequently, before any decisions on road closures are taken, analysis of traffic volume and movement will be undertaken and the public consulted.

Those routes that may be closed, subject to further analysis, are shown on the Indicative Development Framework Plan at the end of this document.

Safer routes to school

Midlothian Council has played a leading role in promoting 'Safer Routes to School'. Obviously, child safety is a paramount consideration, and schools should therefore be integrated into the community and the transport network in a manner that reflects this. Measures that should be taken include:

- Traffic calming/20mph zones around schools.
- Dedicated pedestrian and cycling routes leading to schools.
- Good lighting of paths.
- Safe crossing points on roads close to schools.

Sustainable urban drainage systems

Sustainable Urban Drainage Systems, or SUDS as they are more commonly known, are concerned with the manner in which surface water is dealt with in new development. The use of SUDS improves the quality of surface water run-off, as well as reducing peak flows and flooding in downstream watercourses. At the same time, the techniques used can provide attractive landscape features and wildlife habitats.

The detailed design principles of SUDS are contained in the document “Sustainable Urban Drainage Systems: Design Manual for Scotland and Northern Ireland” (published by CIRIA and the SUDS Working Party). This Manual summarises the main principles contained in that publication, and has also been developed in the context of the following documents:

- Watercourses in the Community (SEPA)
- Ponds, Pools and Lochans (SEPA)
- PAN61 Planning and Sustainable Urban Drainage Systems
- Sustainable Urban Drainage Systems and Watercourse Enhancement in the South East Wedge Development (Fairhurst and Partners).

The Shawfair Local Plan requires that development is drained on a separate system with surface water discharges being directed through SUDS. Surface water run-off must receive biological treatment before it enters waters covered by SEPA regulations.

SUDS features are used to slow down surface water flows and provide varying degrees of treatment. They are most effective when comprising a comprehensively planned series of linked features. Such features should be fully integrated into the proposed development and the landscape framework. Examples of particular features include:

- Porous surfaces, used on car parks for example, can control surface water at source, preventing immediate run-off.

- Filter drains drain water off impermeable surfaces, help to remove pollutants and allow infiltration into the soil.

- Filter strips are gently sloping areas of vegetation that are used in association with the drainage of roads and public open space, again helping to remove pollutants. These often feed water into adjacent 'swales'.

- Swales are long shallow grass lined channels which drain and control the flow of water from a site, as well as removing fine solids. They can be used to link a series of SUDS features.

- Balancing ponds are features which slow down water flows by storing run-off at peak times, and releasing it after the flood has peaked.

- Detention basins are relatively small gravel or grass lined hollows used to temporarily store water and slow down its rate of flow. In dry conditions they are empty of water.

- Retention ponds are larger permanent features which allow run-off to be retained for up to 3 weeks to allow settlement and biological treatment of pollutants before discharge into watercourses. They are usually situated at the end of a series of linked SUDS features.

- Wetlands are permanent large, shallow ponds which allow water to flow slowly through aquatic vegetation. They have a high proportion of emergent vegetation in relation to open water, but function in a similar way to retention ponds.

The recently published report “SUDS and Watercourse Enhancement in the South East Wedge Development”, commissioned by Scottish Institute of Sustainable Technology (SISTech), provides a detailed technical framework for the implementation of SUDS, and is therefore a key reference for developers. The possible location of water features is shown on the Indicative Development Framework Plan. As explained below, there is the opportunity for these to form an attractive component of the development proposed in the area.

SUDS and the landscape

As well as providing a proven engineering solution to the treatment and disposal of surface water, SUDS offer an excellent opportunity for the enhancement of the proposed urban areas, and as part of the surrounding landscape/recreational framework. They can also provide an educational resource.

SUDS can be used in both formal and informal settings. They can form part of the structured recreational landscape setting of urban parks, or can provide more ‘natural’ features in the surrounding countryside. Water features provide opportunities for recreation and open spaces, and cycle/foot paths should therefore be planned around the SUDS network.

SUDS and wildlife habitat

The introduction of water into the landscape can be tremendously beneficial in terms of promoting ecological diversity. The proper implementation and management SUDS can achieve this.

The extent of the area involved provides the opportunity to create a diverse mosaic of features, including permanent and intermittent water bodies, long grassland, reed-beds, wet woodlands and marshes. Such features should be fully integrated into the landscape framework.

Richness and diversity of wildlife can only properly be achieved by the interconnection of 'wet' SUDS features with each other and with existing on and off site habitats such as hedgerows, uncut and managed verges, road or railway embankments and woodlands. This will help create a network of wildlife corridors for insect, bird and mammal populations to move and reproduce.

Details of habitat retention and provision

- Maintaining existing tree lines along watercourses.
- Using wetland grass and wildflower seed mixes rather than grasses alone.
- Using native species, with plants of local provenance.
- Creating and maintaining buffer strips of shrubs, herbs and grasses next to SUDS features.
- Using swales to link wetland and woodland habitats to create wildlife corridors. Long vegetation in swales is encouraged.
- Avoiding cultivation around SUDS ponds as this can increase levels of sediment and nutrients entering them.

Habitat creation and management should be closely linked to the developing Midlothian Biodiversity Action Plan (LBAP)

Safety

It is of paramount importance that SUDS features are safe, particularly for children. There is evidence to indicate that more traditional surface water drainage techniques are themselves dangerous with incidents, for example, of children becoming trapped in flooding culverts.

Nevertheless, some SUDS features comprise open water, and it is vitally important that these are designed to minimise any danger. The following measures require to be taken:

- Ponds will have wide, shallow margins with no submerged ledges. Their maximum gradient shall be 1:5.
- Ponds will have 'barrier planting' such as reed-beds and other wetland plants to make access difficult.
- Where appropriate, urban ponds should be overlooked by housing.
- All SUDS features will have a health and safety risk assessment.

Implementation

The implementation of SUDS features will be carefully co-ordinated with the phasing of development, with the main elements constructed at the beginning of the relevant part of the development programme.

Construction site run-off must be prevented from entering the SUDS network as this may result in siltation and contamination.

Further work is currently being undertaken to establish more detailed technical matters in respect of integrating SUDS into the Shawfair area. As necessary, the results of this work , as well as issues relating to the ownership and future maintenance of SUDS, will be incorporated in future additions to the Development Manual.

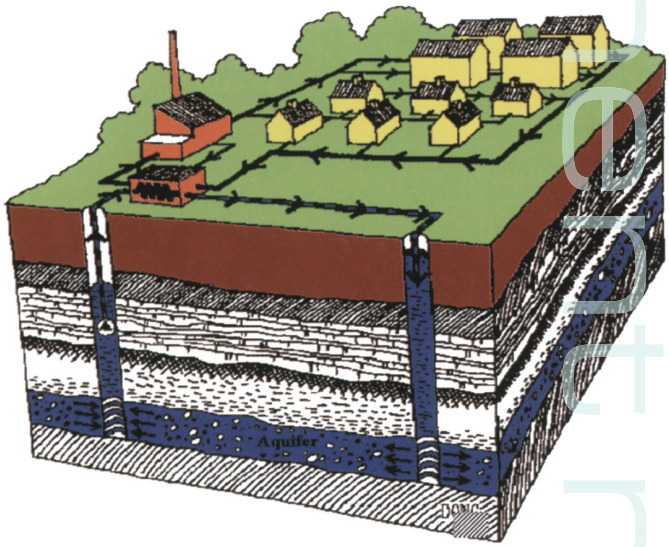
Energy, district heating and combined heat & power

Combusting fossil fuels for energy is widely accepted as contributing to global warming. It is therefore desirable that development in the Shawfair area provides the opportunity for the efficient and sustainable use of energy. It is hoped this will be partly achieved by providing alternatives to car use through the creation of a 'walkable', compact urban form, served by good public transport. However, there may also be opportunities for more direct measures, specifically in respect of the way that power and heat are produced and distributed.

Energy Supply

It is inefficient to install normal size boilers and central heating systems for well-insulated individual dwellings. A common heat source can greatly reduce the number of boilers required and subsequent maintenance. This form of supply is highly flexible in terms of fuel source. Renewable energy, waste heat, gas or electricity can all be used. The application of such principles over a large area is known as **District Heating. Combined Heat and Power (CHP)** goes one step further than District Heating by maximising the efficiency of the production of electricity as well. The waste heat produced by an electricity generator is used to provide the hot water for heating. CHP works best where there is a constant demand for both heating and energy and typically achieves a 35% reduction in primary energy usage compared with power stations and heat only boilers.

As well as the environmental benefits that accrue from the use of such systems by reducing resource exploitation and emissions, there are also economic benefits. Household power bills are reduced and businesses can be exempt from the Climate Change Levy.



In geothermal district heating systems, warm water is pumped from underground

District heating and CHP in Midlothian

Midlothian Council is at the forefront of the development of District Heating and CHP technologies. Feasibility studies have shown the economic viability of using CHP in the Dalkeith Schools Community Campus PFI project and the Bonnyrigg District Heating scheme. The Council has also participated in a feasibility study on CHP/District Heating specifically for the South East Wedge. Further study of the area is to be undertaken, but there is evidence to indicate that the technology is viable. Grants from the Carbon Trust and Community Energy Funds may also be available.

Warm water from mine workings

An exciting prospect is the possibility that warm water from underground mine workings in the area could be used in the District Heating network. Not only would this be a sustainable energy source, but could also improve overall viability. Further research into this is required.

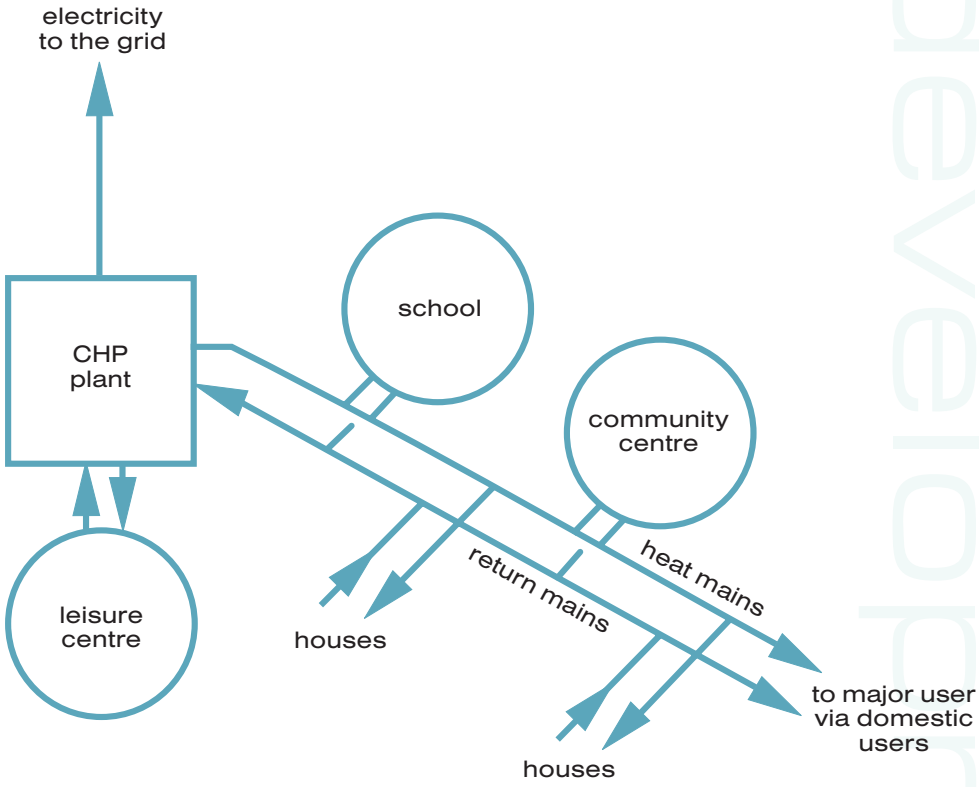
An energy centre

A further possibility is the development of an associated "Sustainable Energy Centre/Park" in the vicinity of the former Monktonhall Colliery. Such a facility would focus on the exhibition and development of sustainable energy technologies and their practical application in homes and businesses. The location on the site of an academic institution, specialising in sustainable technologies, would be desirable. The site could also accommodate businesses in this field.

Planning and design for District Heating/CHP

Policy UTIL4 of the Finalised Shawfair Local Plan requires a comprehensive as possible scheme of CHP/District Heating to be implemented in conjunction with proposed development. The Development Masterplan is required to identify those areas to be served by the scheme, with justification given for any areas being omitted. Areas not to be served by the scheme shall be laid out to facilitate passive solar heating.

District Heating/CHP systems require to be integrated with a compact development form to work efficiently, and the development form promoted in this Manual lends itself to this. However, there may be more dispersed development, for example, on the periphery of the Shawfair community, where the technology is not viable. In such cases, development should be designed and laid out to optimise solar gain, albeit within the context of an acceptable urban form.



Efficiency of District Heating/CHP can be maximised by developing a land use pattern that balances energy demand over the day and night (e.g. housing, business, leisure uses).

It is also economically efficient to have "common trenching" of pipes and cabling associated with District Heating/CHP with other utility conduits (e.g. water, gas, telecoms).

District Heating/CHP should be planned from the outset as retrospective introduction may not be feasible.

The Development Masterplan will incorporate a detailed energy strategy that identifies how District Heating/CHP or solar gain is to be implemented.

References and further reading

"Places, Streets and Movement: A Companion Guide to Design Bulletin 32. Residential Roads and Footpaths"
Alan Baxter & Associates for DETR (1998)

"A Process Towards the Design of Sustainable Urban Communities"
Andrew Wright Associates et al for DETR (forthcoming)

"Handbook of Sustainable Building. An Environmental Preference Method for Selection of Materials for Use in Construction and Refurbishment"
Anink, D., Boonstra, C., and Mak, J. (April 1996)

"Sustainable Communities. The Potential for Eco-Neighbourhoods"
Barton, H (ed.) (2000)

"Sustainable Settlements: A Guide for Planners, Designers and Developers"
Barton, H., Davis, G., and Guise, R. (1995)

"Responsive Environments"
Bentley, I (et al) (1985)

" Places for Living. Revised Residential Design Guide for Birmingham (Draft)"
Birmingham City Council (2000)

"Supplementary Planning Guidance. Energy Efficient Design for New Residential Development"
Cardiff County Council (December 1995)

"South East Wedge Joint Development Study"
City of Edinburgh Council and Midlothian Council (December 1998)

"Key Sites Appraisal Methodology for Development Planning. Final Report"
Colin Buchanan and Partners for the Scottish Executive (May 2001)

"Millennium Villages and Sustainable Communities"
DETR (2000) Available at www.regeneration.detr.gov.uk/research/mvsc.

"Planning for Sustainable Development. Towards Better Practice"
DETR (1998)

"By Design: Urban Design in the Planning System. Towards Better Practice"
DETR and CABE (2000)

"The Essex Design Guide for Residential and Mixed Use Areas"
Essex Planning Officers Association (1997)

"Energy Conservation and Planning"
Gaia Planning for the Scottish Office (1996)

"Design Manual for Roads and Bridges Vol. 6 – Road Geometry"
Highways Agency (May 2001)

"Kent Design. A Guide to Sustainable Development."
Kent Association of Local Authorities (2000)

"The Planning of A New Town"
London County Council (1961)

"The Use of Density in Urban Planning"
Llewelyn-Davies for DETR (1998)

"Urban Design Compendium"
Llewelyn-Davies for English Partnerships and the Housing Corporation (2001)

"The Buildings of Scotland: Lothian Except Edinburgh"
McWilliam, C (1978)

"Shawfair Local Plan (South East Wedge) Consultative Draft"
Midlothian Council (May 2000)

"Buildings of the Scottish Countryside"
Naismith, Robert J (1989)

"Standards for Development Roads. A Guide to the Design and Construction of Roads for Adoption"
Scottish Borders Council, Midlothian Council and East Lothian Council (November 2000)

"Improving Town Centres. Planning Advice Note. PAN 59"
Scottish Executive Development Department (October 1999)

"Planning for Natural Heritage. Planning Advice Note. PAN 60"
Scottish Executive Development Department (August 2000)

"Ponds, Pools and Lochans. Guidance on Good Practice in the Management and Creation of Small Waterbodies in Scotland"
Scottish Environment Protection Agency (June 2000)

"Watercourses in the Community. A Guide to Sustainable Watercourse Management in the Urban Environment."
Scottish Environment Protection Agency (June 2000)

"Planning in Small Towns. Planning Advice Note. PAN 52"
Scottish Office Development Department (April 1997)

"Fitting New Housing Development into the Landscape. Planning Advice Note. PAN 44"
Scottish Office Environment Department (March 1994)

"Planning for Crime Prevention. Planning Advice Note. PAN 46"
Scottish Office Environment Department (October 1994)

"Preliminary Outline Master Plan Siting and Sizing of Sustainable Urban Drainage Systems (SUDS) for Midlothian Council's Shawfair Local Plan Sector of the Southeast Wedge Development Area. Draft"
Sir Frederick Snow & Partners (Scotland) Ltd. And Derek Carter Associates (11 April 2001)

"Stevenage West Development. Masterplanning Principles"
Stevenage Borough Council (19 July 2000)

"Sustainable Housing Design Guide for Scotland",
Scottish Homes and Scottish Natural Heritage.
Stevenson, F and Williams, N (2000)

"Sustainable Urban Drainage Systems. Design Manual for Scotland and Northern Ireland"
Sustainable Urban Drainage Scottish Working Party/CIRIA (2000)

"Towards an Urban Renaissance. Final Report of the Urban Task Force"
Urban Task Force (1999)

"Urban Villages"
Urban Villages Group (1992 and 1998)

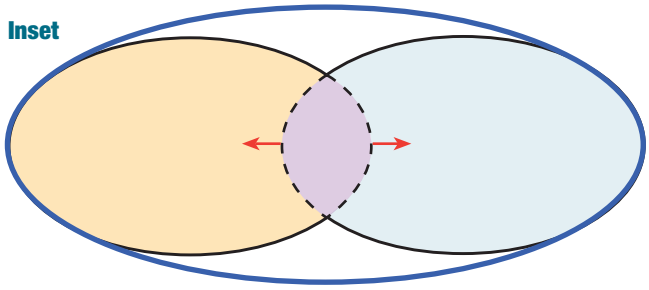
"Green Building Handbook. A Guide to Building Products and Their Impact on the Environment"
Woolley, T et al (1997)

Indicative development framework plan

Key

- Existing villages
- New housing
- Structural landscaping/woodland
- Outdoor recreation
- Countryside
- Business/industry/distribution*
  see the Finalised Shawfair Local Plan for more detail on the uses to be permitted on these sites.
- Possible no through road for cars (except for private access)
  the need for closure to cars will be determined following further traffic analysis and public consultation. Bus access will still be permitted on primary roads.
- Ponds and wetlands
- Strategic path network
- Primary road network
- Primary road network (safeguard)
- Road access to development areas
- Railway and rail station
- Park & Ride*

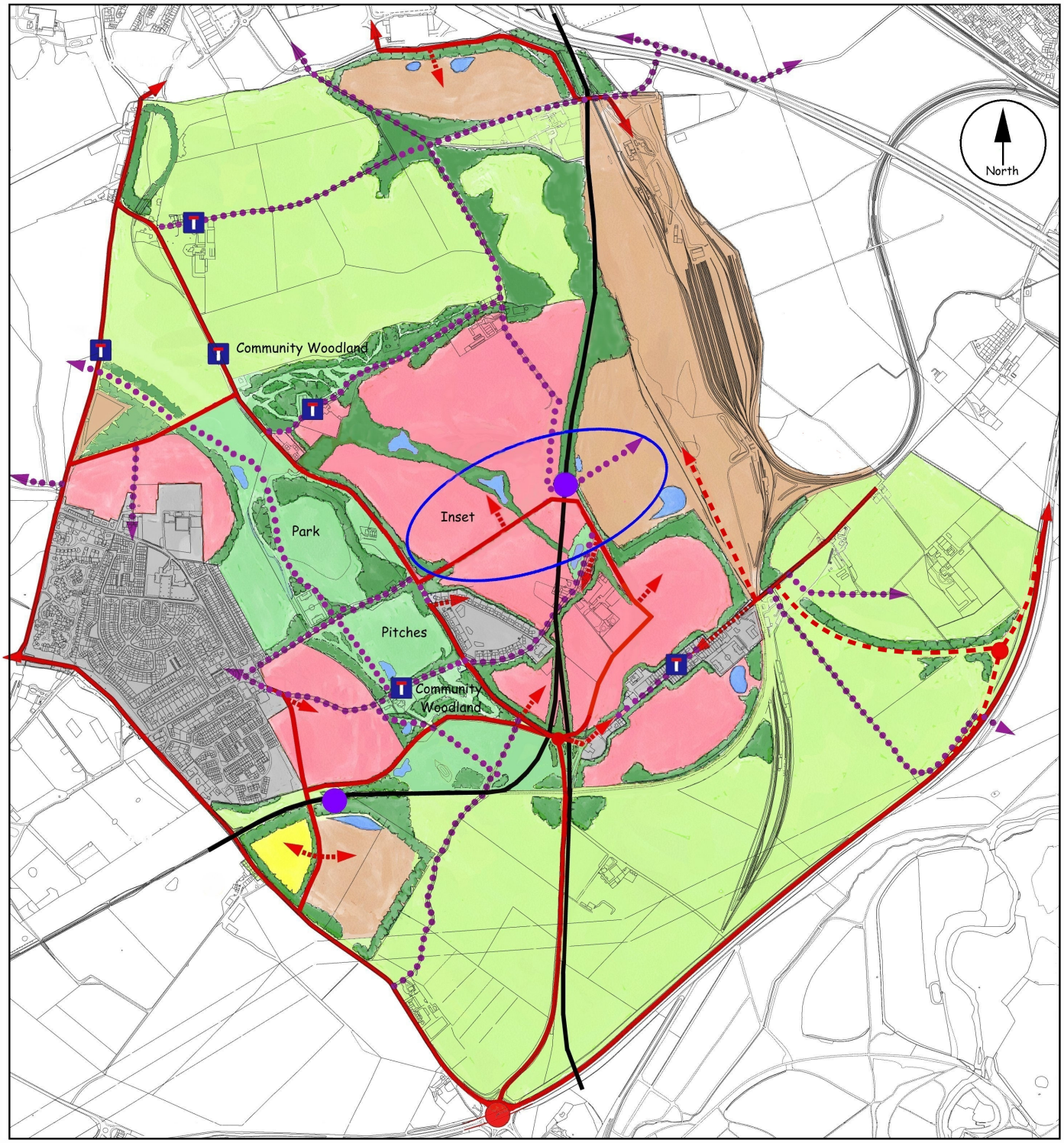
Inset



- Town centre:
  supermarket and shops
  community centre
  library
  health centre
  banking / post office
  pub/café
  The town centre may extend into the neighbouring mixed use areas.
- Mixed uses:
  primary school campus
  sports centre
  housing
- Mixed uses:
  economic development
  park & ride
  possible 'energy park'

a more detailed explanation of the relationship between the various land uses proposed in and around the Shawfair town centre is given in Section 2.2 of the Finalised Shawfair Local Plan.

* The disposition of uses within the Todhills allocation is subject to ground conditions.



NOT TO SCALE