2 Mixed agricultural and estate landscapes

2.1 A medium-sized new woodland of native species on a gently rolling agricultural landscape

This example presents the design of a new broadleaved woodland to meet a range of objectives such as might be found in the National Forest or promoted by organisations such as the Woodland Trust or other public bodies as well as carried out by some private estates. These objectives include landscape enhancement, improving biodiversity, timber production, education and some community engagement. The local landscape character, the historic landscape of field patterns and the presence of archaeological features are likely to be significant factors in how the woodland is developed. Soils are agricultural and fertile, often with large amounts of arable weed seeds. Small woodland elements such as copses, old hedges and hedgerow trees are valuable features to be included. The area has many rights of way and is already used for informal recreation. The landscape is open with extensive views from roads and settlements as well as from the rights of way running through the area. Service corridors are also present and create constraints.

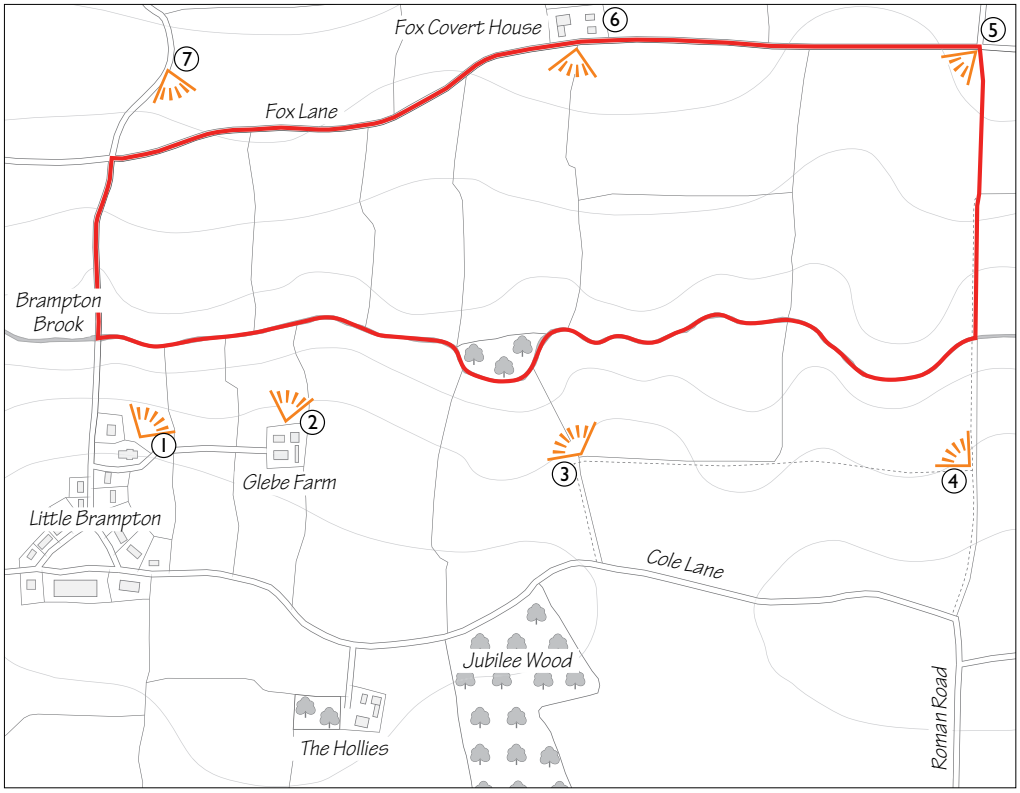
Objectives

Resource	Objective	Indicator of objective being met
Landscape	To design a new woodland which relates to the landscape character	The new design is unified with the surroundings and the main elements of character are retained
Timber	To grow stands of trees which will yield good quality timber	The matrix of denser woodland is managed to produce well-formed trees through sufficiently dense planting and keeping the canopy closed
Biodiversity	To restore and improve the habitat and wildlife values of the site, including woodland edge and grassland habitats	A range of habitats are created and many species of wildlife colonise it. The old hedges and hedgerow trees are maintained and managed
Recreation	To provide a range of recreational activities suitable for the local community and visitors	A diverse group of local residents use the site frequently for recreation purposes and visitors also come from wider afield
Historic environment	To protect and enhance the historic landscape values	The main elements of the historic landscape are identified, retained and protected within the design

Base – perspective

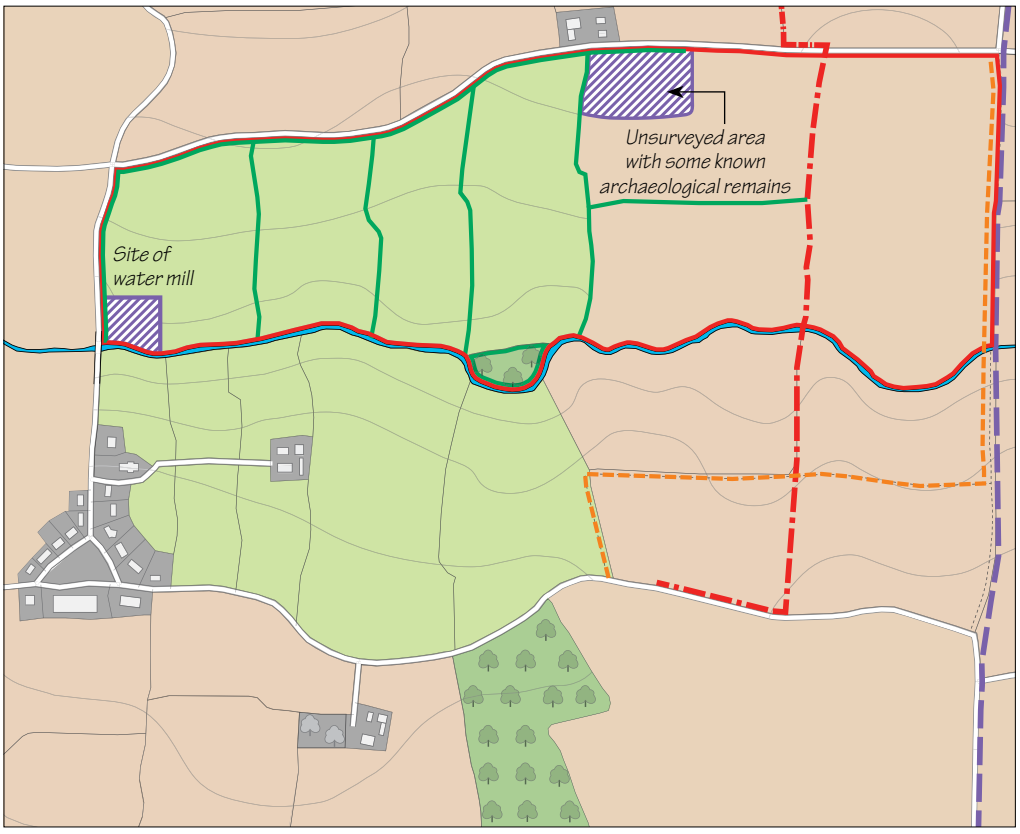
Base – plan

Location and viewpoints



- Boundary of proposed planting
- (1) Agreed viewpoint
- Direction and angle of view

Survey



- Boundary of proposed planting
- Ancient enclosure of irregularly shaped fields
- Later, planned enclosures of a more regular pattern of fields
- Plantation woodland of 19th C
- Existing woodland plantation
- Archaeology (from survey)
- Stream
- Hedges and trees of value
- Public footpath
- Line of Roman road
- Gas main

The survey of the area includes physical aspects such as services, biodiversity, historic land use, archaeology and accessibility. The constraints and opportunities analysis highlights the field patterns and historic aspects as being particularly important.

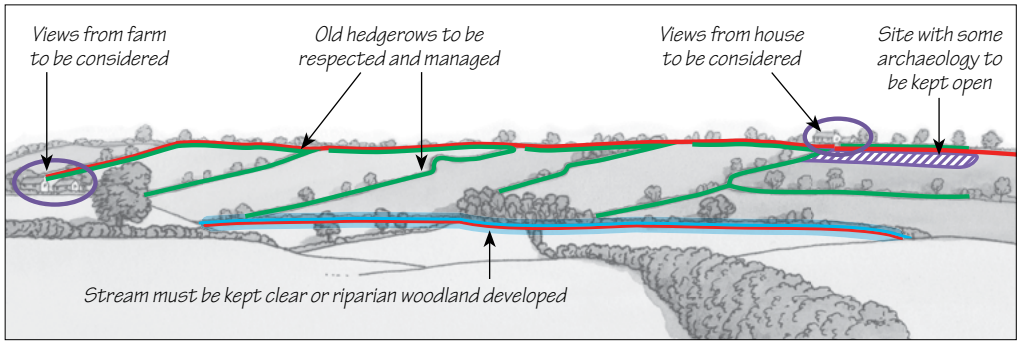
Constraints and opportunities analysis

Factor	Constraint	Opportunity
Soil depth and quality	Arable weeds are likely to be a nuisance for establishment, while high levels of fertility make the development of wild flower meadows difficult	To plant trees which require fertile conditions and make good timber
Hedges and hedgerow trees	The old historic hedges and the old valuable trees must be kept but they break up the site	To incorporate them into the design and to use the structure positively while ignoring the least interesting field boundaries. The old hedges and hedgerow trees are maintained and managed
Technical installations	Gas pipeline wayleave must be kept open	A range of habitats that do not affect the integrity of the pipeline are created and many species of wildlife colonise it
Historic environment	Areas of archaeological interest and the Roman road must be kept open and protected from damage	To incorporate the open area into the design
Access	Rights of way must be kept open	To incorporate more public access into the design linked to the rights of way
Watercourse	Must be kept mainly open	To develop riparian woodland along it

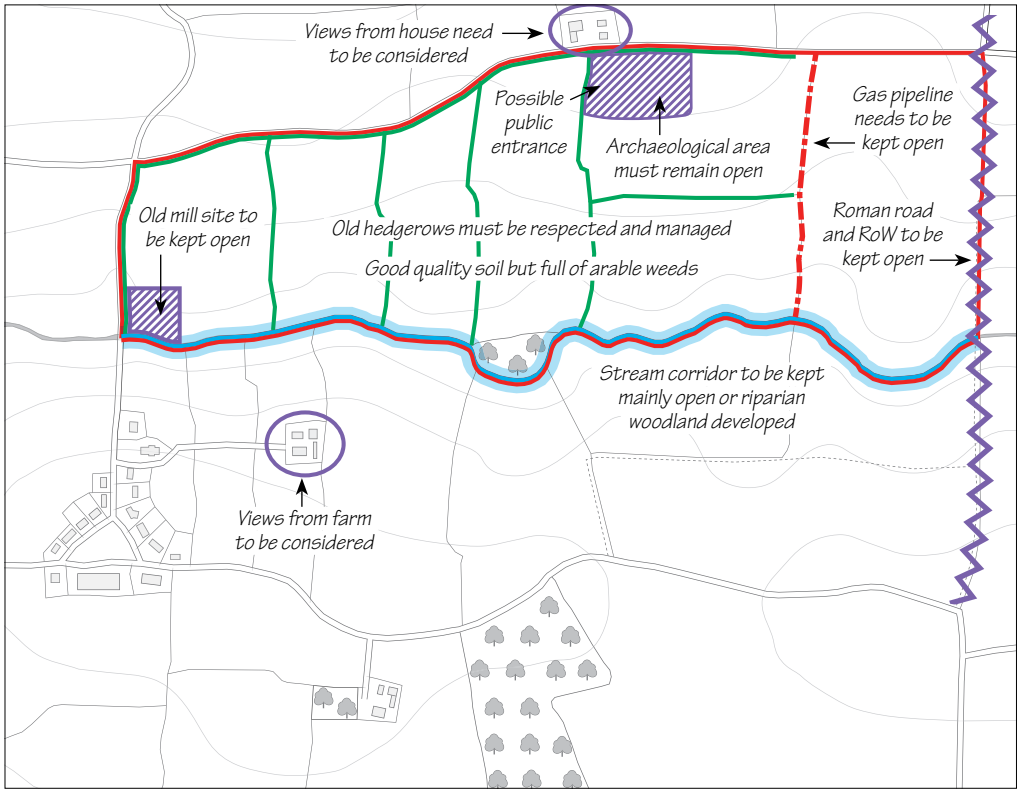
The landscape character is a particularly important aspect here, especially as the landscape will change significantly from mainly open to quite wooded. The county level landscape character assessment is consulted and a local level character analysis is also carried out. Landform is not dramatic but it does exist and exert some influence.

The design concept is based around three zones of different character, one along the stream, a second with a much more open character which incorporates the ancient field pattern and a third related to the larger scale, planned field enclosures. The design develops this and uses careful placement of patches of planting so that the proposals do not appear fragmented from the various views. The internal open spaces are also considered in the design.

Constraints and opportunities – perspective



Constraints and opportunities – plan

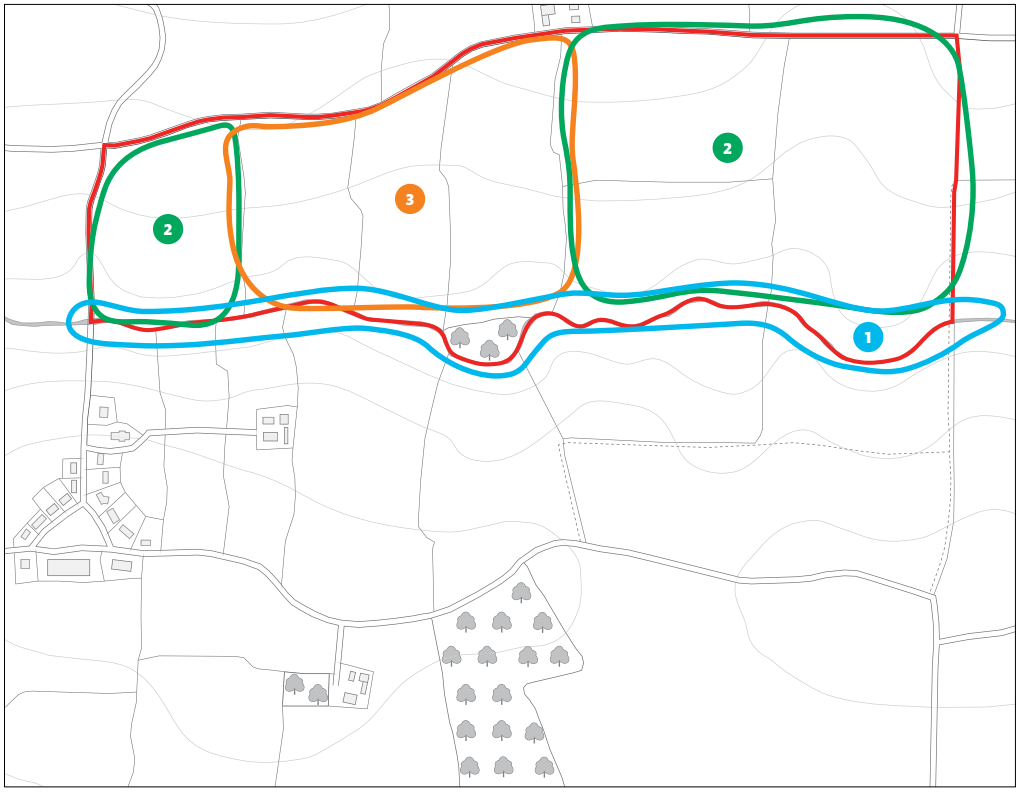


Design strategy

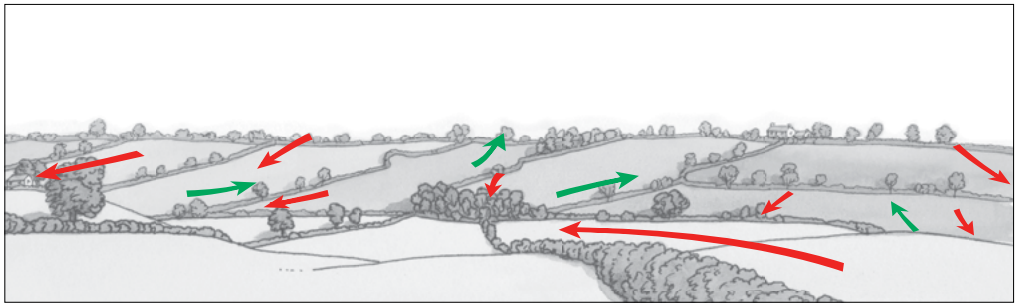
Boundary of proposed planting

Strategic zones

1. *Riparian zone*
   Woodland and open patches
2. *Denser woodland with glades*
3. *Mixed woodland and open spaces. Diverse and protecting hedgerows*



Landscape character analysis – perspective



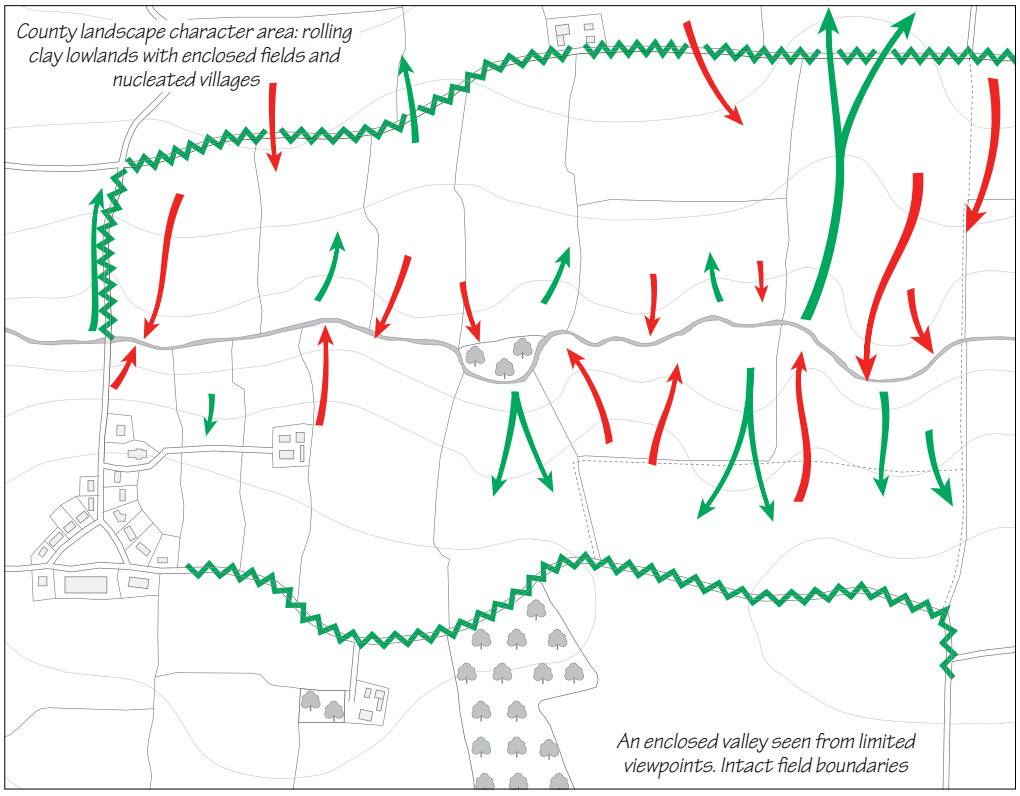
Visual forces running down ridges and spurs

Visual forces running up valleys and gullies

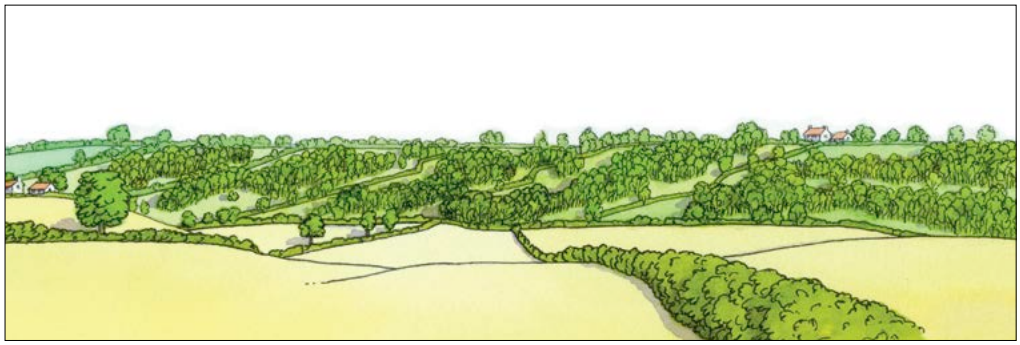
Enclosed lanes with high hedges

A medium to small scale, enclosed and intact agricultural landscape. Undulating slopes with strong field pattern and dense hedges. Stream along valley floor is small and hardly visible. Skyline is quite densely treed. Landform does not present much structure in this view.

Landscape character analysis – plan

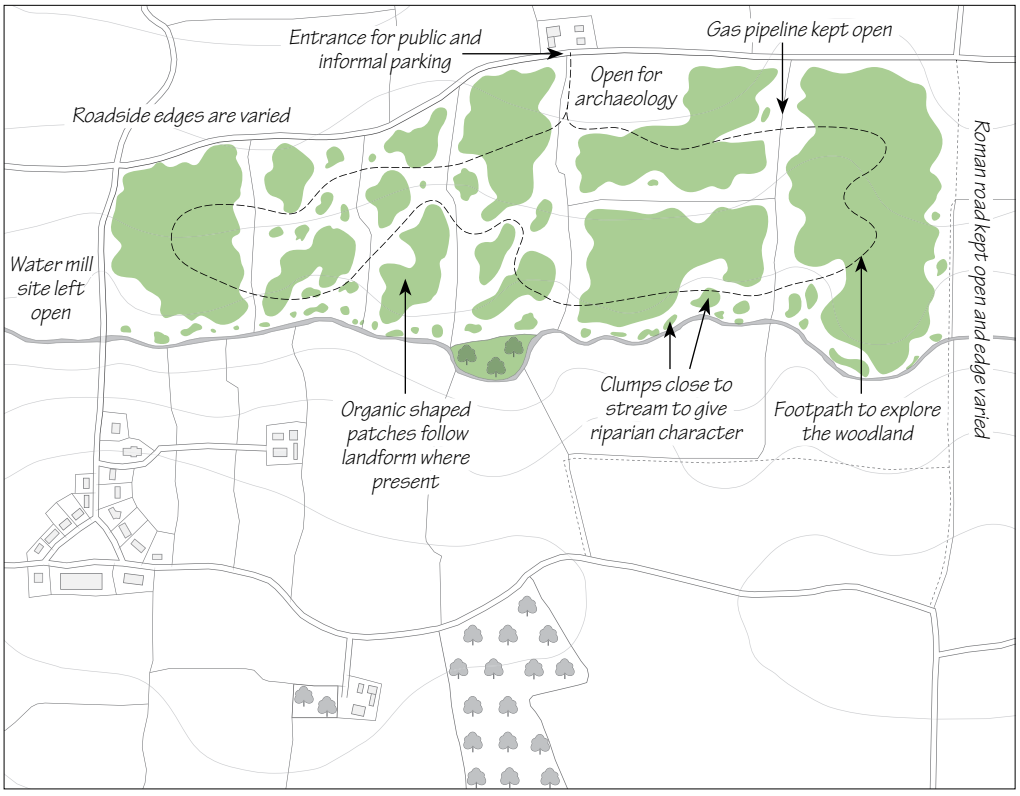


Sketch design – projection (20 years)



The height of the trees and the angle of the view means that the fragmented patterns of woodland needed to preserve the hedges appears more connected as they visually coalesce. Although the scene is more enclosed, the open spaces provide a diversity of visitor experience and opportunities for views of the external landscape and features.

Sketch design – plan



The design works around the various constraints and by creating a varied pattern of wooded and open areas of organic shapes, all sense of geometry is avoided. Internally the path enables visitors to experience different woodland and open habitats. The hedges are retained and waterside views varied.

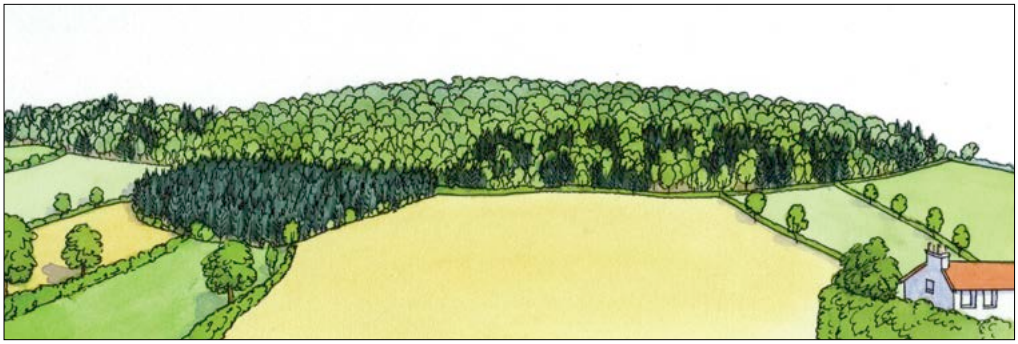
2.2 A small to medium-scale predominantly broadleaved woodland in a rolling, enclosed landscape

This is an example of a mainly broadleaved woodland on the summit of a low hill in an estate landscape typical of central and western England, the Scottish Borders or the Welsh Marches and parts of Northern Ireland. It partly consists of ancient semi-natural woodland with later plantings including some mixed conifer areas from the 1950s or 1960s. The design requires less in the way of restructuring and redesign of poor shapes but concentrates more on the effects of management by low-impact silvicultural systems (LISS) as well as clearfelling in places. The objectives are mainly to obtain timber and regenerate the woodland but the landscape is quite sensitive since the woodland is prominent on the skyline and seen from many roads and settlements. Biodiversity is also important given the ancient semi-natural woodland (ASNW) status of the area and there is also substantial archaeology.

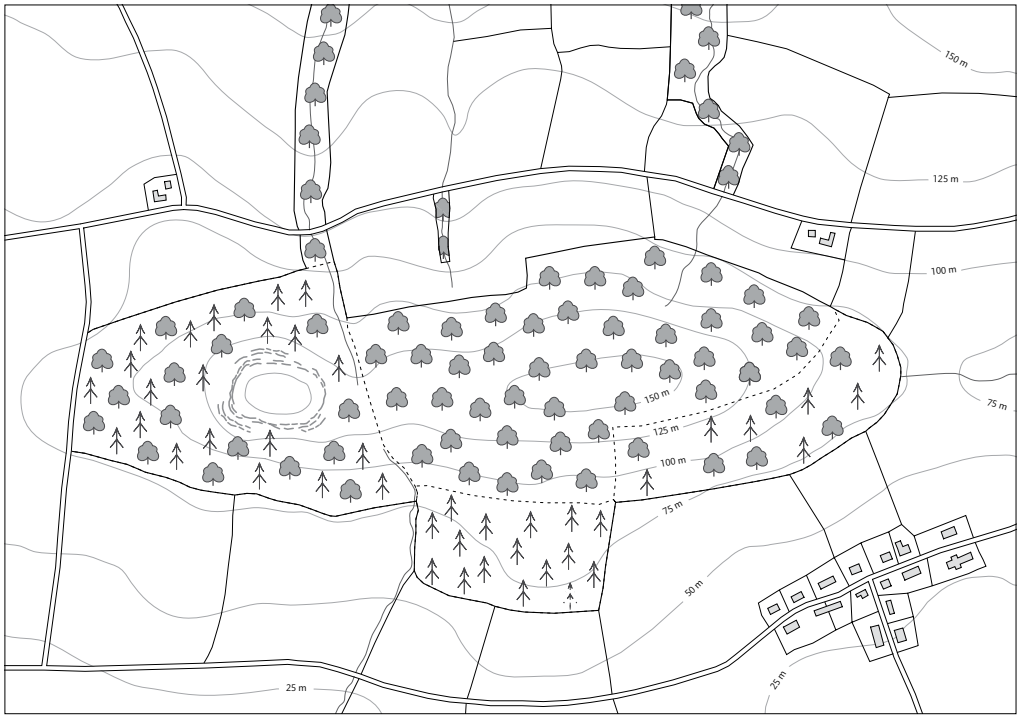
Objectives

Resource	Objective	Indicator of objective being met
Timber	To produce timber on a regular basis after the initial clearance of conifers	A steady flow of good quality timber as a result of the ongoing silvicultural operations
Landscape	To protect and enhance the landscape	All geometric shapes are rectified and the skyline remains intact over time
Biodiversity	To restore and improve the woodland habitat and wildlife values of the woodland	The conifers are removed and the silvicultural operations improve the biodiversity of the woodland
Public access	To maintain accessibility	The rights of way are protected during operations
Historic environment	To protect and enhance the historic landscape values	The hill fort is cleared and managed to retain its integrity and character

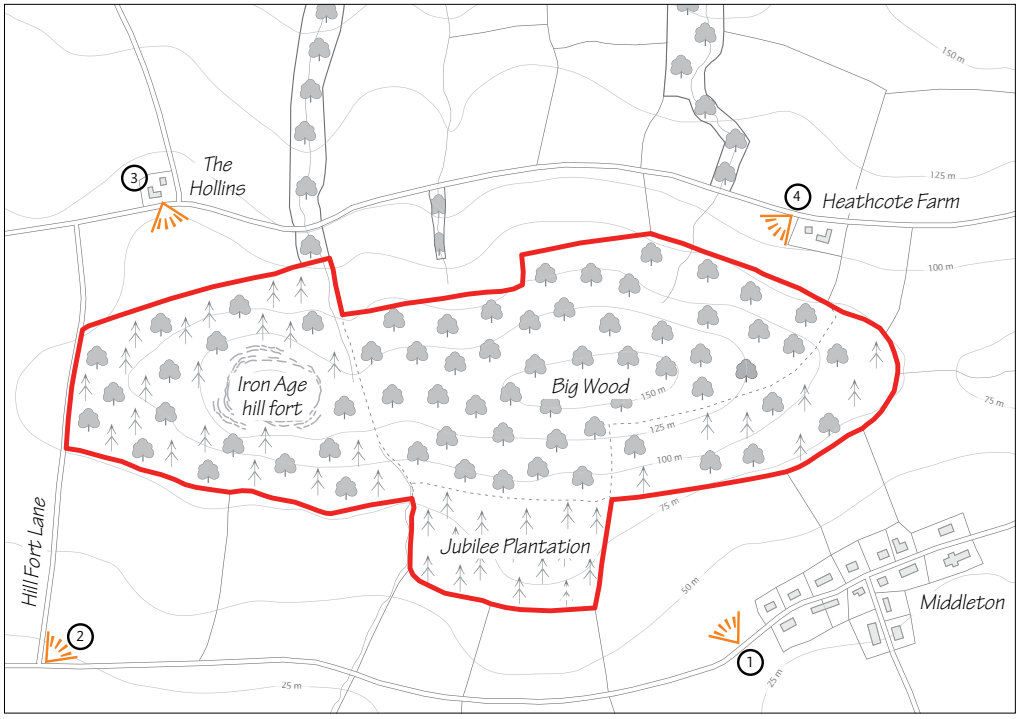
Base – perspective



Base – plan



Location and viewpoints – plan

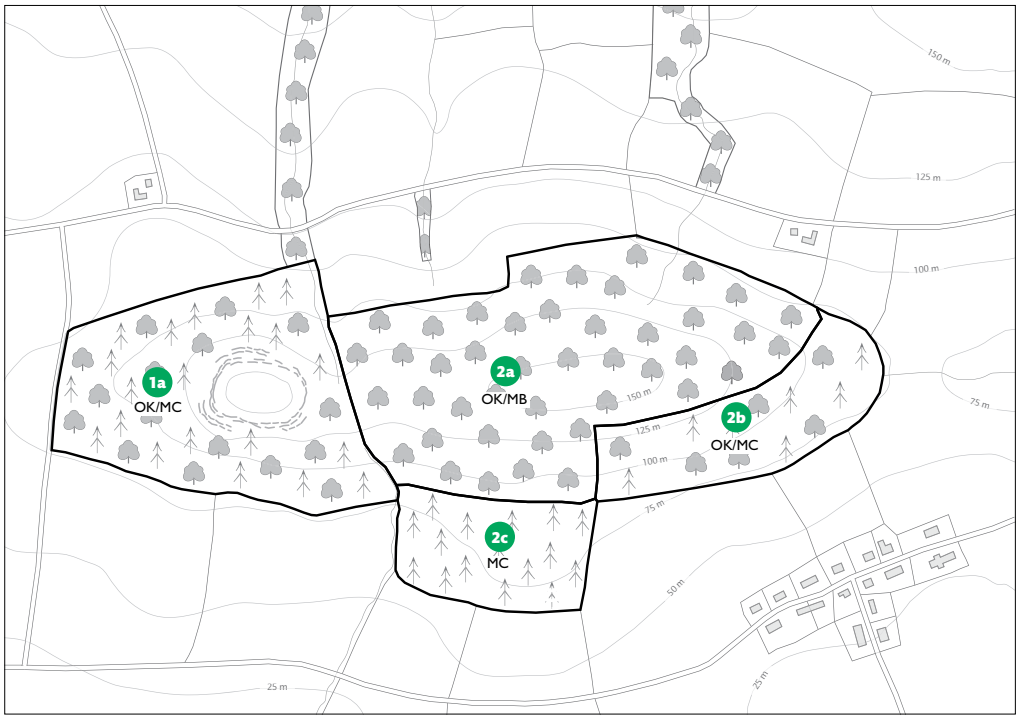


Boundary

Agreed viewpoint

Direction and angle of view

Woodland survey



Compartments

1a *Ancient woodland felled in WWII and replanted with oak and nurse crop of Norway spruce and some Douglas fir. Dense and under thinned*

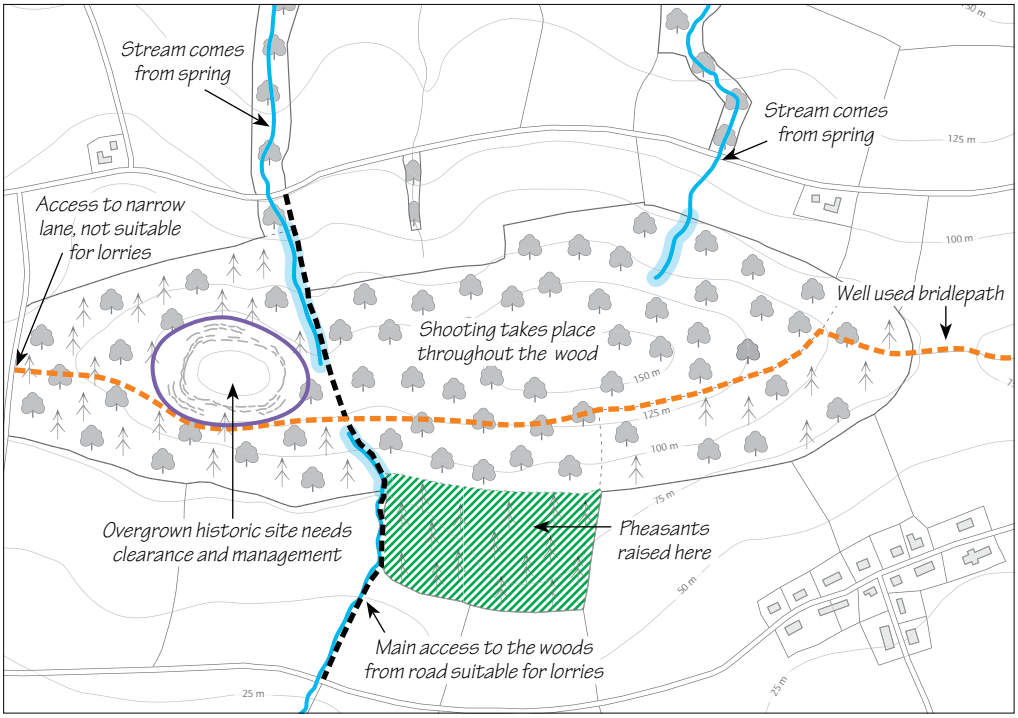
2a *Oak with beech, ash and birch. Planted after WWI on previous woodland. Contains some old remnant trees. Ancient woodland site*

2b *Ancient woodland site felled in WWII and replanted with oak and Norway spruce as a nurse crop*

2c *Mixed conifer planted on ancient woodland site after WWII. Has been thinned, now mature*

Site survey

- Stream
- Bridlepath
- Iron Age hill fort
- Plantation on ancient woodland site



The survey of the area reveals a long-established woodland linked to the surrounding landscape by linear features. It sits comfortably in the scene and is used by local walkers. The conifer areas and mixes are the main management problem but can be removed and broadleaves restored.

The constraints and opportunities highlight the streams and archaeology as being important and sensitive.

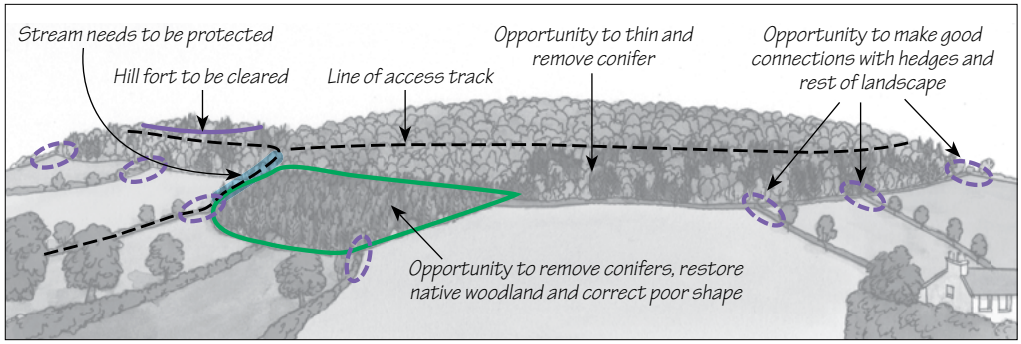
Constraints and opportunities analysis

Factor	Constraint	Opportunity
Conifer block	It must be removed at once but the shape is geometric	To obtain timber and to reshape the edge to remove any geometry
Hedges and hedgerow trees	The old historic hedges around and linking with the woodland need to be protected	To maintain the links of the woodland with the surrounding landscape
Rights of way	These must be protected while new access tracks are installed and used	The rights of way are protected during operations
	To increase public accessibility and visitor experience	The conifers are removed and the silvicultural operations improve the biodiversity value and woodland experience for people
Historic environment	The hill fort must be protected from machinery and avoided during track construction	To incorporate the area into the design and to present it to the public
Watercourses	Must be protected from damage	To develop riparian woodland along them

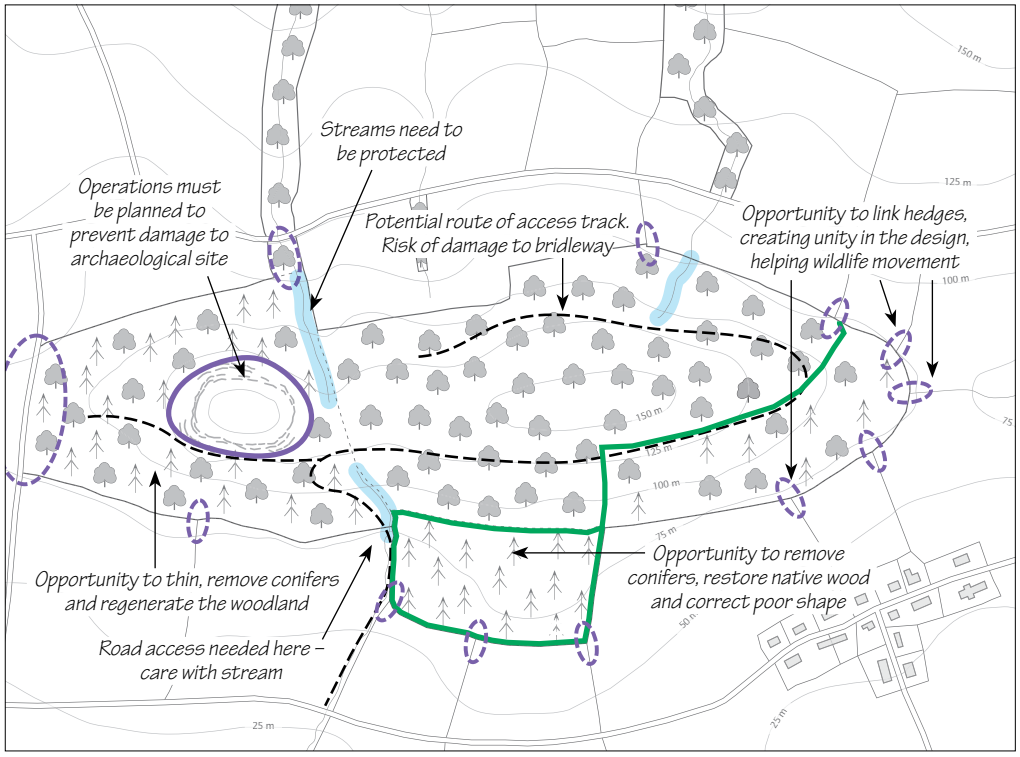
The landscape character shows a prominent woodland in the landscape, well integrated and unified but with some negative elements, in particular the rectangular patch of conifers which needs to be redesigned. If LISS is to be used then the main issue will be the change in texture (once the conifers are removed and replanted) and the way the skyline might change.

The design concept is quite simple and no zones are needed. Three main actions are needed, which relate to three distinct coupes. The sketch design and eventual plan is also simple: removal of the pure conifers and the redesign of the coupe, removal of conifers from the mixed areas and regeneration of the pure broadleaved area. Over time the woodland regains its integrity as a broadleaved element in a broadleaved landscape and the continuous management ensures that biodiversity is enhanced. The archaeological site is also brought into positive management. The time sequence of sketches from the main viewpoints shows how the landscape evolves over the first 10 years when the major changes take place.

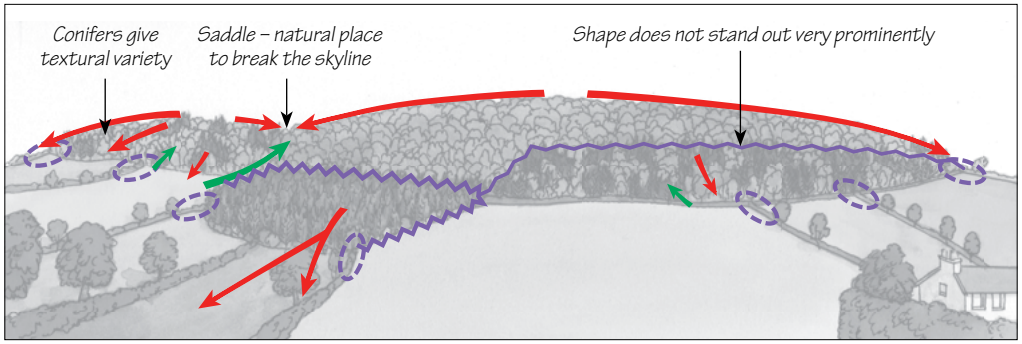
Constraints and opportunities – perspective



Constraints and opportunities – plan



Landscape character analysis – perspective



Visual forces running down ridges and spurs

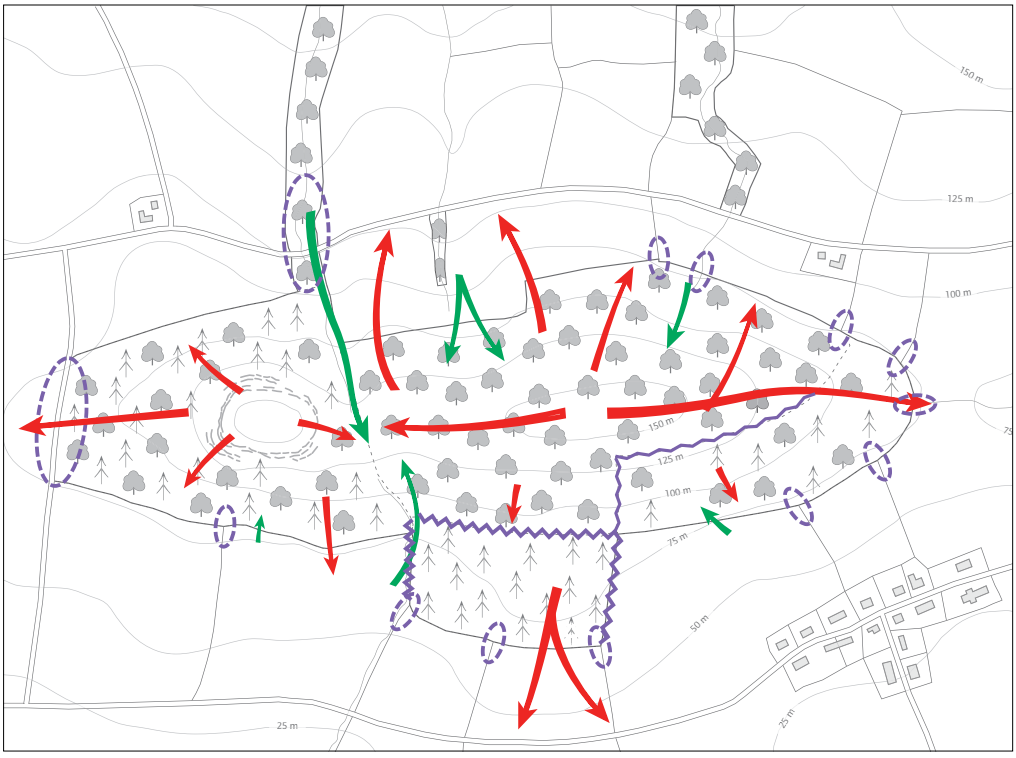
Visual forces running up valleys and gullies

Intrusive geometric shape

Hedgerows link with woodland edges

A prominent wooded ridge clothing the skyline with an intact profile. Well connected to the hedges in the surrounding fields. The rectangular conifer block contrasts negatively with the mainly broadleaved character in shape, colour and texture. The landform is simple and lacks features for use in design of woodland shapes. Sensitive to any breaks in the skyline.

Landscape character analysis – plan



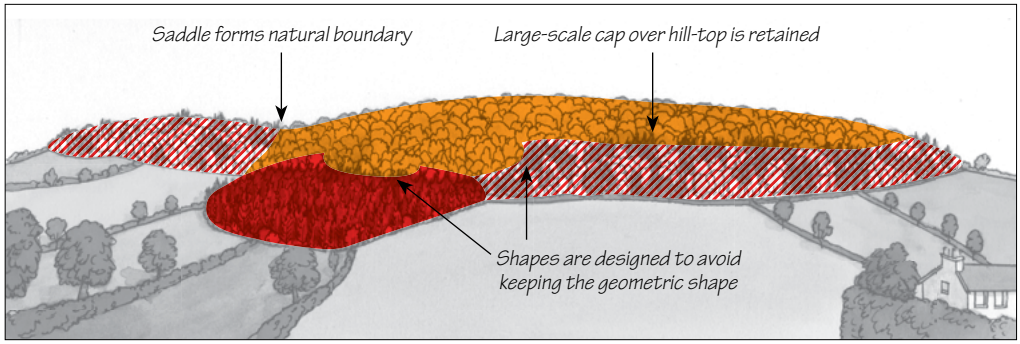
County landscape character area: hilly enclosed landscape with estate woods.

Phase 1
Clearfell
Replant with native broadleaves

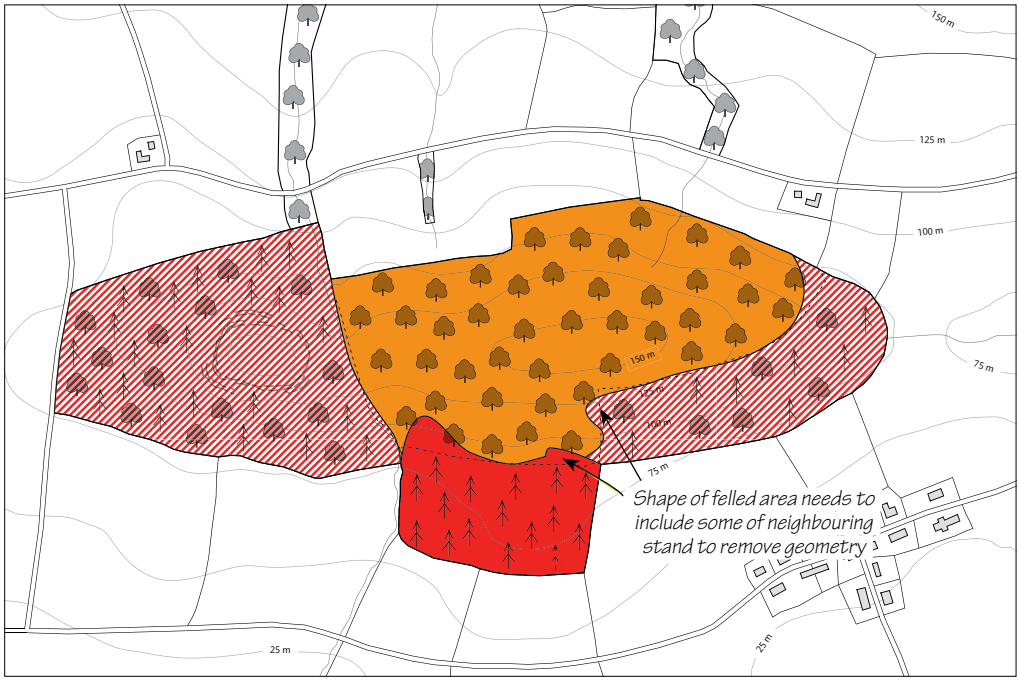
Phase 1
Thin and remove conifers, then regenerate

Phase 2
Selective fell to start regeneration

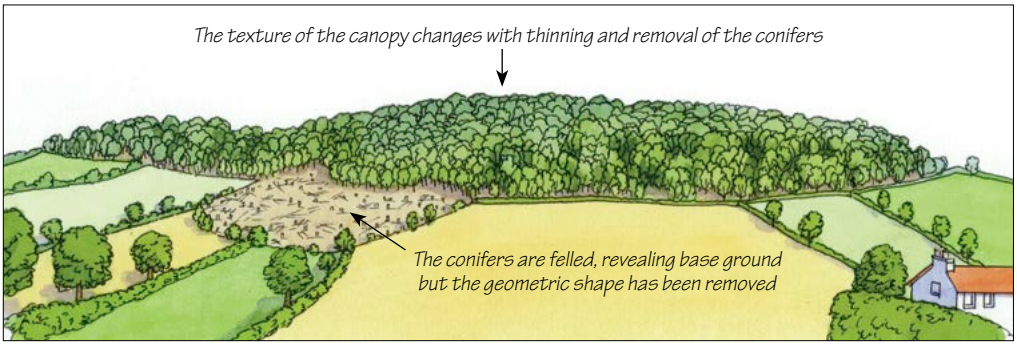
Silviculture – perspective



Silviculture – plan



Sketch design – projection (at first felling)



Sketch design – projection (10 years)