

## Chapter 8 Landscape and visual

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### Introduction

- 8.1 Terence O'Rourke has been appointed by Countryside Properties to undertake a landscape and visual assessment of proposals for a new mixed used development and perimeter road on land south-west of Bicester, Oxfordshire.
- 8.2 This chapter should be read in conjunction with chapter 3, the proposals, and technical appendix 4 (which contains a complete set of figures).
- 8.3 Landscape and visual effects were identified as a primary issue during the scoping process. This chapter evaluates the significance of potential effects of the proposed development on the landscape character and visual resources.
- 8.4 For the purpose of the landscape and visual assessment, the site includes the land proposed to remain in agricultural use within the ownership of the applicant. The planning application boundary does not include this agricultural land, as illustrated on figure 3.1.

### Legislation and policy context

#### *Regional policies*

*Oxfordshire Structure Plan, 2016*

- 8.5 The Oxfordshire Structure Plan, adopted in 2005, covers the majority of the study area, including the site. Policy EN1 relates to landscape character and states: "*Local planning authorities will ensure that proposals for development contribute to the protection, maintenance and, where possible, enhancement of Oxfordshire's landscape character.*"

#### *Local policies*

*Cherwell Local Plan 2011, Revised Deposit Draft.*

- 8.6 The site and the majority of the study area are covered by this local plan (which is a non-statutory document). **Policy H13 covers the site. Item (xix) of the main policy requires the proposals to:**  
*"incorporate structural planting and landscape proposals within the site and in the area to the south west of the perimeter road to mitigate the visual impact of the development, particularly from the south and west."*
- 8.7 **It is also stated in the supplementary text to the policy that land around Pingle Brook should be developed as public open space. Copse and, as far as possible, hedgerows should also be retained.**
- 8.8 Policy EN34 relates to landscape character and states, "*The council will seek to conserve and enhance the character of the landscape through the control of development*". The policy goes on to state, "*Proposals will not be permitted if they would:*

- *cause undue visual intrusion into the open countryside;*
- *cause undue harm to important natural landscape features and topography;*
- *be inconsistent with local character;*
- *harm the setting of settlements, buildings, structures or other landmark features;*
- *harm the historic value of the landscape.”*

8.9 Policy EN 35 states, “ *The council will seek to retain woodland, trees, hedges, ponds, walls and any other features which are important to the character or appearance of the local landscape.*” Policy EN 36 relates to landscape enhancement and states “*The council will seek opportunities to secure the enhancement of the character and appearance of the landscape, particularly in urban fringe locations*”

8.10 Policy EN37 mentions that the council will welcome opportunities for countryside management projects where all important trees, woodland and hedgerows are retained and enhanced by new planting. Conservation areas and listed buildings are covered by policy EN 39 which states, “*Development should preserve listed buildings, their features and settings, and preserve or enhance the character or appearance of designated Conservation Areas.*”

*Aylesbury Vale District Local Plan, Adopted 2004*

8.11 The eastern edge of the study area is covered by this local plan. The principal policy designation of relevance is the Area of Attractive landscape (AAL). These broad areas have been identified in the Buckinghamshire Structure Plan, and the precise boundaries are defined in each of the local plans. These are important landscape areas that demand a high level of protection.

**Methodology**

***Baseline***

8.12 The assessment of the site and the surrounding area was undertaken by Terence O’Rourke, with reference to a number of documents shown in figure 8.1.

Figure 8.1: Data sources
Countryside Character Volume 7 – The Countryside Agency 1999
Cherwell Local Plan 2011- Revised Deposit Draft
Oxfordshire Wildlife and Landscape Study (OWLS)
Cherwell District Landscape Assessment November 1995
Buckinghamshire County Council Landscape Assessment
Cherwell Biodiversity Action Plan (BAP)
A Rural Strategy 2002-2006,Cherwell Community Planning Partnership
Recreation and Amenity Open Space Provision 2004, Cherwell District Council.
Aylesbury Vale District Local Plan, Adopted 2004

8.13 The site and surrounding area has been visited to obtain familiarity with the landscape. Field studies and desk studies of photographs, map information and local plans have enabled the recording of landscape elements such as topography, drainage, land-use, development, vegetation and other features. This has allowed an evaluation of the landscape character and

resources in and around the site, the recording of views and the establishment of representative viewpoints.

- 8.14 A combination of information from desktop topographical analysis and field studies has been used to determine the visual envelope of the existing site. This is defined as the extent of visibility of the site in the surrounding landscape.
- 8.15 The study area is shown on figure 8.2. Within this study area, the visual analysis has determined that the main area of potential impact on landscape resources and visual amenity is within the local area, defined approximately by a 2km radius from the centre of the site. Beyond this area, potential effects on the landscape are limited, being confined primarily to distant views from higher land. For this reason, and where considered appropriate, the mapping of baseline information has not always covered the full study area, much of which will remain unaffected by the proposals.
- 8.16 The visual envelope was plotted initially by assessing 1:10000 Ordnance Survey data and by conducting a computerized view shed analysis. This included height data in 5km x 5km tiles at 10m point intervals. The digital terrain model included broad areas of existing settlements at a height of 8m and large blocks of woodland plotted at a height of 15m. This information was then taken out into the field where it was checked for accuracy and refined to take into account other factors determining visibility such as woodland blocks, hedgerows and buildings.
- 8.17 Fieldwork was confined to the site, public rights of way and the highway network, with the extent of visibility across private land interpolated based on findings adjacent from publicly accessible areas. The visual envelope defines the extent of visibility of the site in the surrounding landscape. This is limited by the combined effects of topography, development, vegetation and distance.
- 8.18 Views and visual receptors within the visual envelope have been identified. A number of 'representative viewpoints' have been selected that best demonstrate the site, and how it interacts with the landscape. The viewpoints chosen provide a representative selection of views from all relevant directions. These were agreed through consultation with Cherwell District Council's landscape officer.

### ***Impact assessment***

- 8.19 The effects on landform and on existing landscape features such as vegetation are included, as are other factors relevant to this assessment. Proposals for landscape measures such as new planting and earth shaping are similarly set out.
- 8.20 The zone of visual influence (ZVI) defines the area that would potentially be affected by views of the proposals. As for the visual envelope, an initial digital terrain model was produced based on the EIA building heights plan (figure 3.2). A number of individual points within the development and along the perimeter road were plotted to provide a suitable coverage. Heights along the perimeter road were plotted at 4m to take account of traffic on the road. This digital information was then checked on site and refined as necessary.

- 8.21 Landscape and visual effects can be positive or negative and are therefore referred to as either beneficial or adverse. In some cases the nature of the effect may be dependent upon personal perspective, and there the effect can be recorded as subjective.
- 8.22 The effects identified during the evolution of the proposals are described as predicted potential effects. Adverse effects identified at this stage inform the mitigation measures.
- 8.23 Mitigation has been considered during all stages of design development with the purpose of avoiding or reducing predicted potential effects. Mitigation has not only been a secondary measure designed to address a specific adverse effect identified once a scheme is complete, but importantly has been an intrinsic part of the iterative design process. Mitigation has therefore been incorporated into a scheme from the outset and has influenced design decisions from inception, for example, determining an alignment for the perimeter road that follows the grain of the land and respects sensitive views. This primary mitigation is included as part the proposals and has therefore been assessed as part of the predicted potential impacts. Secondary mitigation is outlined in the mitigation section. Where adverse effects remain after secondary mitigation, these are referred to as residual effects.
- 8.24 In describing potential effects, account must also be taken of on-going changes to the area surrounding the site. These may include existing planning policy, allocations or planning permissions for new development. Equally, vegetation growth may progressively reduce the visibility of the development, or, conversely, views of the development may be opened up if, for example, vegetation is regularly coppiced or harvested as a crop.
- 8.25 The degree of landscape and visual effects can vary considerably between day and night, over time and with changing seasonal conditions. The descriptions of effects therefore include consideration of effects at completion of the development, during construction, in winter and summer conditions and at night. The period of time taken for proposed planting to reduce the effects significantly is also considered.

***Definition and classification of effects on landscape resource***

- 8.26 Landscape effects arise from changes as a result of development in the physical elements of the landscape, which may affect its features, character and quality. The significance of a landscape effect is determined by consideration of the importance of the landscape and the magnitude of the change.

***Landscape importance***

- 8.27 The baseline section identifies factors that can be used to assess the relative value society attaches to the landscape, often in the form of designation. The guidance set out in figure 8.3 has been used to arrive at an evaluation of landscape importance. This judgement may be moderated by reference to one or more of the additional criteria shown, such as landscape rarity or cultural and conservation interests. Evaluation of landscape importance is ultimately a matter of professional judgement and is defined in this report as high, medium, low or negligible.

*Magnitude of change*

- 8.28 The magnitude of change is a function of the degree to which the scale and/or nature and/or extent of the changes are at variance with the character and qualities of the receiving landscape. The guidance set out in figure 8.4 has been used for this assessment. Physical landscape characteristics such as topography, scale, vegetation and land use, which may affect the capacity of the landscape to accommodate change, should be taken into account. Evaluation of magnitude of change is a matter of professional judgement and is defined in this report as large, medium, small or negligible.

*Degree of significance of landscape effects*

- 8.29 The degree of significance of effects on the landscape resource (adverse, beneficial or subjective) is judged from a combined evaluation of the landscape importance and the magnitude of change. The matrix in figure 8.5 has been used to guide this judgement. The definitions used are listed below. They can be applied to potential effects pre-mitigation, and to residual effects post-mitigation.

**Very substantial**

The proposals become the dominant feature in, and fundamentally change the character of, a very important landscape, such that other elements become subordinate.

**Substantial**

The proposals form an immediately apparent feature in a moderately or very important landscape, such that they affect and change its overall character.

**Moderate**

The proposals form a recognisable new element within a moderately or very important landscape, but are of such a design or small scale that the change in character may not be readily noticed by a casual observer. Alternatively, the proposals cause an immediately apparent or fundamental change in character in a landscape of low importance.

**Slight**

The proposals form a recognisable new element of different character within a landscape of low importance, but to such a small degree that they may not be readily noticed by a casual observer.

**None**

No part of the proposals has any effect on the landscape, such that they are scarcely or not appreciated and the character remains substantially unchanged.

***Definition and classification of significance of effects on visual amenity***

- 8.30 Visual effects result from the changes in character and quality of people's views arising from the development. The significance of the effect on visual amenity is determined by consideration of the importance of the receptor and the magnitude of the change.

*Importance of visual receptor*

8.31 The importance of the visual receptors is determined by considering the following:

- the location and context of the viewpoint
- the number of people affected and the intervening distance
- the occupations/activity and consequent expectations of the receptor group and the degree to which that group is tolerant to change
- the consensual importance of the view including consideration of any consensus on the importance of the view. This can include cultural, historical and archaeological associations, tourist/leisure/recreational associations
- other factors such as specific, regular meteorological conditions at the site.

8.32 Views from community areas, houses or public footpaths might be considered more important than transient views from roads or views from workplaces, although transient views may include tourist routes, which are important. Views of attractive unspoilt landscapes might be considered more important than views of a rapidly changing area of development. Views which have cultural associations might also be considered important. The definitions in figure 8.6 have been used to guide the evaluation of importance in this assessment.

*Magnitude of change*

8.33 The magnitude of change in the view is determined partly by the degree of intrusion and obstruction of views in relation to the receptor, and partly by the degree to which the nature and scale of the proposals assimilates with or alters the character and quality of the existing view. The criteria in figure 8.7 have been used to determine the magnitude of change for this assessment.

*Significance of visual effect*

8.34 The degree of significance of visual effect (adverse, beneficial or subjective) is judged from a combined evaluation of the visual importance and the magnitude of change. The matrix in figure 8.8 has been used to guide this judgement. The definitions used are listed below. They can be applied to potential effects pre-mitigation, and to residual effects post-mitigation.

Very substantial

Dominating changes to views from the most important receptors.

Substantial

Major changes to views from important and very important receptors, or dominating changes to views from moderately important receptors.

Moderate

Major or dominating changes to views from receptors of low importance, or small changes to views from important and very important receptors.

Slight

Small changes to views from receptors of low importance.

None

No discernible change to views, or changes at such a distance or of such a small scale that a negligible component of wider views is influenced. Alternatively, no views of the proposal available from important receptors.

### *Illustrations*

- 8.35 All photographs unless otherwise indicated were taken with a 50mm lens. Viewpoints are located in public areas, except those within the site itself and Graven Hill, where access to private land was permitted by the MOD. Photographs have been included as they were processed without any modifications or enhancement using computer imagery.

## **Baseline**

### **Introduction**

- 8.36 The purpose of the baseline study is to record the existing landscape situation against which the effects of the proposals (beneficial, adverse and subjective) can be assessed. It describes and assesses the site, its setting and its main features. It examines the existing landscape elements, character, quality, potential opportunities and sensitivity of the landscape, allowing identification of the principal landscape issues and an evaluation of the visual and character sensitivity of the site to the proposed development.
- 8.37 This site record is achieved by a process of description, classification, and evaluation, achieved by a combination of desktop study, field survey and analysis using a variety of techniques for study and presentation.
- 8.38 The study area is shown on figure 8.2. It has been determined by the extent of the visual envelope and predicted zone of visual influence of the proposals (ZVI).

### **Landscape setting and site features**

#### *Location*

- 8.39 The extent of the site is shown on figure 8.2. The site is located between the village of Chesterton to the south and Bicester to the north. The Oxford Road (A41) connects Bicester with the M40 motorway and defines the eastern boundary of the site, except for the triangle of land located between the A41 and the old Roman road. Bignell Park and the A4095 border the site in the west. In the south-west corner, three privately owned fields lie between the site and the A4095. The northern boundary of the site is defined by Middleton Stoney Road (B4030) and by houses along the southern urban edge of Bicester. In the south, the boundary roughly follows the alignment of Gagle Brook; the shallow valley of the brook forms a physical barrier between the site and Chesterton. A petrol filling station and Little Chef are located on the eastern edge of the site, accessed from the A41 roundabout.
- 8.40 The M40 motorway crosses the study area to the west. Although audible from the site, it is not visible.

## Settlement

- 8.41 The largest settlement within the study area is Bicester, which has grown progressively through the last century from a small market town, (see 1885 map, figure 5.5). The centre of Bicester is about 0.5km from the closest part of the site. The transition between the urban edge of Bicester and the landscape is abrupt and, for the most part, characterised by two storey houses backing onto a perimeter road. The south-eastern edge of Bicester is surprisingly inconspicuous in views from the site, a combination of hedgerows along the B4030 and dense planting in rear gardens screening views of the urban edge. Bicester Village Retail Park (a factory outlet centre), and a large Tesco supermarket are located on the south-east edge of Bicester, separated from the main town by Pingle Recreation Grounds.
- 8.42 The village of Chesterton is the other main settlement in the vicinity of the site. The historic core is located in the south of the village and includes many fine buildings, several of which are listed. These include the St Mary's Church and Manor Farm House (both grade II\*). This part of Chesterton has been designated as a conservation area. Whilst the village has expanded to the west and east, development to the north (towards the site) has been restricted by Gagle Brook. The village lies just outside the Cotswolds Character Area (as defined in the Character Assessment for England by the Countryside Agency): however, the characteristic **limestone** walls and buildings of the Cotswolds, especially in the historic core, influence the vernacular.
- 8.43 To the south of Chesterton lie the settlements of Little Chesterton and Wendlebury.
- 8.44 The Ministry of Defence (MOD) owns several large defence complexes in the area, including Graven Hill located approximately 2km to the east of the site. The MOD industrial-type buildings are intrusive in views. The settlements of Ambrosden and Lower and Upper Arcott to the south-east include large areas of barrack housing. Other settlements in the area include Launton, Marsh Gibbon and Little Marsh to the east, and Bucknell to the north-west of Bicester.

## Landscape heritage/listed buildings

- 8.45 The landscape and visual assessment has been closely co-ordinated with the cultural heritage assessment; (refer to Chapter 5). The main settlement of Bicester is of Saxon origin, probably 6<sup>th</sup> century in date. The 'cester' refers to the Anglo Saxon name for Roman defences and is common to several place names locally. The land surrounding Whitelands Farm was utilised for agricultural purposes, with certain field parcels leased to the inhabitants of the neighbouring village of Bignell. The distinctive ridge and furrow marks are clearly visible today in the three field parcels to the immediate east of the farm buildings.
- 8.46 The Domesday survey (1086) refers to the town of Berencestra being spilt between two established manor estates. The boundary with the neighbouring manor of Chesterton is clearly shown on a map from 1753 and corresponds to the field boundaries surviving today. The site of a windmill is also shown in the north-west corner just outside of this named area (The windmill was destroyed in 1886).
- 8.47 The 1885 1<sup>st</sup> edition County Series (figure 5.5) shows the area in detail. The buildings of Whitelands Farm are shown surrounded by enclosed fields, with those in the south-eastern



and south-western corners matching the areas of early enclosure shown on the 1753 and 1793 maps. There are two long straight tracks shown crossing the fields of Whitelands Farm from Bicester to Bignell and to Chesterton corresponding with the surviving footpaths across the site. To the west is the small area of parkland surrounding Bignell House, built in 1864. The village of Chesterton is well established by this date.

- 8.48 Conservation areas have been designated at the historic village of Chesterton and at the centre of Bicester old town. The conservation area at Chesterton covers the village along Alchester Road and the park at Chesterton Lodge up to the old boundary with the manor of Bicester. Several of the most important buildings within this conservation area are included on the statutory list of buildings of special architectural or historical interest, a number of them at a high grade (figure 5.2).

### **Topography and drainage**

- 8.49 The topography of the study area is illustrated on figure 8.9. The geology of the study area has a marked influence on the landform and drainage of the area, as well as landscape character that is discussed later in this section. The geology can be sub-divided into three distinct zones, the site straddling two of them.
- 8.50 Running in a south-west to north-east alignment, an outcrop of Great Oolite creates a gently undulating landscape that divides the higher land to the west (outside the study area) from the low-lying land to the south. This belt of limestone rises gently to the west from 80m AOD at the site to 110m AOD in the north-west corner of the study area. Further west, the land continues to rise to approximately 130m AOD before falling steeply where the River Cherwell has formed a deep valley.
- 8.51 To the east of the limestone belt lies the Otmoor Basin that comprises Oxford Clays overlain by alluvial deposits associated with the rivers. The area is low-lying, flat and ranges in height from 70 to 80m AOD. Within this flat landscape, outcrops of higher land and isolated hills are features, including Graven Hill that rises steeply to 110m AOD.
- 8.52 In the south-west of the study area the clays are overlaid with Greensands and Portland Limestone that form the hills of the Midvale Ridge. The Midvale Ridge is the highest point in the study area rising to 190m AOD.
- 8.53 The drainage pattern can be seen on figure 8.9. A characteristic of the low-lying Otmoor basin is the network of rivers, streams and ditches that criss-cross the land. The River Ray is the principal river in the area joining the River Cherwell just south of Islip.
- 8.54 The site falls gently from 82m AOD in the north-west to 65m AOD in the south-east. A 'shoulder of land' runs along the south-western edge of the site following the alignment of the Gaggle Brook. The site falls more steeply from this shoulder of land down to the brook. A second subtler valley follows a drainage ditch to the east of Whitelands Farm in the centre of the site.
- 8.55 In the north, Pingle Brook crosses the site. Watercourses are highlighted in the Cherwell Biodiversity Action Plan as important 'species rich' resources that should be protected. Recreational areas in the south of Bicester are located along the brook forming a strategic green corridor.

### **Land use**

- 8.56 The site is exclusively in agriculture use. The majority of the land is farmed as arable, although sheep are kept on some of the smaller fields to the east. Whitelands Farm is located centrally and Whitelands Cottages (two properties) are situated to the north of the main farm along the same track. The triangle of land east of the A41 is currently unused, comprising scrub and grassland.
- 8.57 In the study area, the majority of the surrounding countryside is in agricultural use. In the vicinity of the site, other land uses include Bignell Park to the west, a large private estate with golf course. To the east, a variety of urban fringe uses including a garden centre, sewage and caravan park. The MOD complex at Graven Hill lies beyond this area to the east.

### **Vegetation**

- 8.58 The vegetation cover for the site and its local context is illustrated on figure 8.10. The principal areas of vegetation comprise woodland at Graven Hill and at Bignell Park. The parkland planting at Bignell Park includes a high percentage of evergreen trees that form a solid screen along its eastern edge. Gagle Brook is also well treed, especially north of the Chesterton conservation area. It can be seen from the plans that field boundaries are often hedged. The combined effect of the hedgerows is to filter and truncate views across the landscape, especially in the flat areas; this is discussed further under landscape character and visibility.
- 8.59 Within the site, vegetation cover is more fragmented, comprising, for the most part, poor quality and broken hedgerows with infrequent hedgerow trees. Three copses in the northern half of the site are prominent in views, Foxey Leys Copse being the largest and most visible of the three. **A fourth small copse in the north east corner of the site is of poor condition with many dead elm and elder.**
- 8.60 As part of the baseline assessment, Colin Bashford Associates undertook a full arboricultural survey of the site and the perimeter, in accordance with BS5837: 2005. **This arboricultural survey has been provided as part of the supporting documentation.**

### **Public rights of way and access**

- 8.61 The public rights of way network for the site and the local context is illustrated on figure 8.11. The public rights of way network for the whole study area has not been shown as very few footpaths beyond the local context are predicted to be affected by the proposal.
- 8.62 The alignment of the two footpaths crossing the site is illustrated on figure 8.11. The south-eastern footpath continues further north to link up with Pingle Recreation Ground, although walkers are required to cross the busy A41 dual carriageway at grade. To the south of the site there is a reasonably comprehensive network of footpaths, which, in combination with the country lanes, link the settlements in this area with one another. To the north there are very few public rights of way, a bridleway north of Bignell Park being the only designated route. A number of footpaths radiate from the centre of Bicester towards the surrounding countryside, although several terminate where the built development ends.

8.63 Whitelands Farm is accessed from Middleton Stoney Road.

### **Landscape character**

8.64 The landscape character area and types described below are illustrated on figures 8.12 and 8.13.

8.65 As part of the desktop assessment, previous classifications and evaluations of the landscape character for the study area have been considered.

### ***National***

8.66 The site straddles two national character areas as defined in the Countryside Agency's "*Countryside Character – The character of England's natural and made-made landscape*". The majority of the site lies within Character Area 108 'Upper Thames Clay Vale'. This area is characterised by open, gently undulating lowlands farmland of Upper Jurassic clays containing a variety of contrasting landscapes including enclosed pasture, wet valley bottoms and more settled open arable land. In Oxfordshire the landscape is dominated by the 18<sup>th</sup> century enclosure of small woodlands/copse and hedgerows.

8.67 The western edge of the site falls within Character Area 107 'Cotswolds'. This area is characterised by the underlying limestone geology, used extensively for the buildings and walls resulting in the well known attractive villages with unity of design and materials. The topography of the Cotswolds is complex, but in the study area is best characterised as a flat open landscape with extensive arable farmland.

8.68 The south-eastern edge of the study area falls within Area 109 'Midvale Ridge'. The area is characterised by irregular outcrops of limestone which rise from the clay vales below. In the study area vegetation cover is limited, the large geometric fields divided by regular patterns of hedgerows with isolated trees and mostly small copses.

8.69 A fuller description of each of the three character areas described above is provided in Technical Appendix 4.

### ***Regional***

8.70 In November 1995 Cobham Landscape Consultants produced a landscape assessment for Cherwell district. This subdivided the landscape of the district into a series of landscape character areas and types. In 2004 Oxfordshire County Council, English Nature, the Countryside Agency and the Northmoor Trust jointly produced the Oxfordshire Wildlife and Landscape Study, otherwise known as OWLS. This report subdivided the district into a series of landscape types.

8.71 Both studies have been referred to as part of this assessment. However, the more recent OWLS study has been used for the baseline assessment. Figure 8.12 shows the character types from the OWLS study with the study area. Of these, the baseline assessment has determined four that are potentially either directly or indirectly affected by the proposals. In addition to these four character types, the Midvale Ridge, which falls outside the OWLS study, has also been determined as potentially being affected. The section of the Midvale Ridge within the study area has been assessed as part of Buckinghamshire County Councils

landscape assessment. This study has been referred to and relevant extracts are provided in Technical Appendix 4.

- 8.72 The site's character, together with the five character areas/types referred to above are now described. It should be noted that the transition between one character area/type and another is rarely defined, and therefore the edges should be read as illustrative.

### *Character of the site*

- 8.73 The site straddles two wider character types; the Wooded Estatelands to the west and Clay Vale to the east. The change in character is due to the underlying geology and soils. The large, open arable fields to the west coincide with the limestone, whereas the smaller pasture grazing to the south-east are clay soils. The change in character, however, is not pronounced. Although the site's character is extensively rural, the southern edge of Bicester and the main roads have an urbanising effect especially in the north. This is less true in the south, particularly where the land slopes towards Gaggle Brook. The south-facing slope of Gaggle Brook, and the field to east of Whitelands Farm are more intimate in character.

- 8.74 The site has been assessed as being of medium importance.

### *Landscape type 1 - Wooded Estatelands*

- 8.75 This character type includes the western half of the site. The boundary is defined by the change in geology from Jurassic clays to the south-east to the Great Oolite limestone of this area. This character type closely coincides with the Cotswolds Character Area. Its primary characteristics are:

- rolling topography with localized steep slopes
- large blocks of ancient woodland and mixed plantations of variable sizes
- large parklands and mansion houses
- a regularly shaped field pattern dominated by arable fields
- small villages with strong vernacular character.

- 8.76 The area is primarily rural in character, farmed as arable with medium to large fields with limited hedgerows and some small copses. In the vicinity of the site the land is relatively flat. The hedgerow framework has been eroded progressively by arable farming methods and this can be seen in the western half of the site which is more open due to limited vegetation cover. Historic parks are common throughout this landscape. Many, such as those at Middleton Stoney and Kirtlington, are included on English Heritage's Register of Historic Parks and Gardens. Bignell Park is not designated.

- 8.77 The character type is not covered by any national or county level landscape designations. Chesterton conservation area lies on the south-eastern edge of this area. The M40 motorway passes through this landscape, degrading its character.

- 8.78 This character type has been assessed as being of medium importance.

*Character sub area 1a - Bignell Park*

- 8.79 This area has a distinct character of its own. Dense parkland planting, with a high percentage of evergreen trees, limits views in and out of the area. The western edge of this area is more open, its boundary being less well defined and influenced by the nearby M40. The manor estate is mentioned in the Domesday survey (1086). The park is not included in English Heritage's Register of Historic Parks and Gardens. Bignell Park Farm, located east of the manor house, is now a small business centre.
- 8.80 This character type has been assessed as being of medium importance.

*Character sub area 1b - Bignell Golf Course/Leisure*

- 8.81 Located to the south of the parkland, the recreational land uses gives this area a separate and distinct character from the surrounding agricultural land. The area's character is derived principally from the golf course, but also includes recreational pitches. The site is not visible from this area. It has been determined that the proposed development will also not be visible from here, therefore no assessment has been undertaken for this character area.

*Character type 3 - Wooded Hills*

- 8.82 This character type includes the prominent hills at Graven and Arncott. Its primary characteristics are:
- steep-sided isolated hills in otherwise low-lying areas
  - large blocks of ancient woodland
  - mixed land uses.
- 8.83 The large MOD depots that are intrusive in views significantly influence the character of Graven and Arncott hills. The quality of the landscape is degraded by the large industrial-type buildings, hardstanding and boundary fences. Public access to both hills is restricted. The hills are prominent landmark features in views from the surrounding landscape. The woodland at both hills is listed as Ancient and Semi-Natural Woodland.
- 8.84 This character type has been assessed as being of medium importance.

*Character type 4 - Clay Vale*

- 8.85 This character type includes the eastern half of the site. Its primary characteristics are:
- a flat low-lying landscape
  - mix of use dominated by pasture, with small to medium-sized fields
  - dense tree lined streams and ditches dominated by pollarded willows and poplars
  - small nucleated villages.
- 8.86 The heavy clays have made settlement difficult and the landscape remains sparsely populated and rural in character. There are no national or county landscape designations covering this landscape. The predominance of pasture farming has meant that the hedgerow pattern has remained largely intact; (refer to the aerial photograph technical appendix 4). Views tend to be limited by the hedgerow structure.

8.87 This character type has been assessed as being of medium importance.

*Character type 5 – Alluvial Lowlands*

8.88 This is flat landscape of lowland river valleys, rural in character, The low-lying land coupled with the strong hedgerow pattern, limits views in and out of this area. Tree cover is a notable feature but woodland is limited. Open ditches, brooks and streams often border fields.

8.89 Its primary features are:

- broad alluvial plains
- mixed farming pattern with regular fields with both arable and pasture
- hedgerow trees of ash and willow
- sparsely settled.

8.90 In the study area, views of the MOD depot at Graven Hill and the M40 motorway degrade the quality of the area. There are a number of Scheduled Ancient Monuments, including Alchester Roman Town to the south of the site. There are no national landscape designations covering this landscape. A large part of this area is designated as an Environmentally Sensitive Area, recognising high landscape, wildlife or historic value.

8.91 This character type has been assessed as being of medium/ high importance.

*Character area 10 - Midvale Ridge*

8.92 Lying approximately 8km to the south-west of the site, the elevated Midvale Ridge has distant panoramic views out across the low-lying areas towards the site. The landscape is largely unspoiled and rural in character, the most discordant element being the main roads. Its primary characteristics are:

- steep-sided ridges with very little tree cover
- panoramic views out across low-lying areas
- fields tend to be grassland for pasture with low and fragmented hedges
- designed parkland in low-lying areas.

8.93 This area is designated as both an Area of High Landscape Value and Area of Attractive Landscape (AAL). Both designations reflect the quality of this landscape that has an extensive network of public rights of way.

8.94 This character type has been assessed as being of medium/high importance.

8.95 The site and its immediate surroundings have been considered in more detail as part of this assessment. The following additional character type has been determined as part of the assessment. Refer to figure 8.14.

*Character type 11 – Urban Fringe*

8.96 This character area is situated to the east of the site. Originally low-lying agricultural land, over time development has changed the character of this area. Bicester Village Retail Park,

Tesco supermarket, a sewage/water works and garden centre are all located in this area. This development and the MOD depot at Graven Hill are perceived as one in several views. Additionally, traffic on the A41 is both audible and visually intrusive. The character of this area is discordant and generally unattractive.

8.97 This character area has been assessed as being of low importance.

8.98 Two character sub areas within the Woodland Estatelands character type have also been determined.

## **Landscape resources**

### *Natural features*

8.99 The following features within the site are considered to be important in respect to landscape character and landscape heritage:

- hedgerows: although individually not significant, combined they provide an important landscape structure both in character terms and for visual reasons
- the three copses, **the fourth copse in the north east of the site is assessed as having limited landscape value**
- Pingle Brook and associated tree and shrub vegetation
- Gagle Brook and its rural character
- the two existing footpaths, both of which are shown on the 1885 Ordnance Survey map
- Whitelands Farm and its setting
- the setting of Chesterton conservation area and the relationship between the site and this area
- the setting of Bignell Park
- the rural approaches to Chesterton from the north and east
- the open farmland in views
- subtle variations in topography, in particular the more intimate valley landscapes along watercourses.

### **Visual envelope (visibility of the site)**

8.100 The visual envelope of the existing site is illustrated on figure 8.2. Despite the site's size, the majority of views from the surrounding landscape are within this local area (defined as 2km from the centre of the site). Bicester to the north, Bignell Park to the west and Graven Hill to the east all form significant visual barriers between the site and views from the wider landscape. Additionally, the relatively flat landscape, combined with the layering effect of hedgerows, copses and woodland, also limit the extent of the visual envelope. Potential views of the site have been determined from some areas of higher land, including Graven Hill to the east and more distant locations near Arcott and Muswell.

### **Representative viewpoints**

The extent and nature of existing views of the site have been assessed and typical 'representative viewpoints' established. Figures 8.14 and 8.15 show the locations of the representative views. Each viewpoint is illustrated in Appendix 4.

### *Local*

- 8.101 Local views are classified as those at a distance of up to 2km from the centre of the site. Of these, nearly all are close to the site boundary. These include views from within the site.

### *Views from the north*

#### *Viewpoint 2*

- 8.102 This view is from the A4095 looking south towards the site, at a ground level of approximately 82m AOD. In winter, filtered views of the north-western edge of the site are available. The site becomes less visible in summer when the hedgerow and trees along Middleton Stoney are in leaf. Properties on the edge of Bicester are visible from the road.

#### *Viewpoint 10*

- 8.103 This view is from within the north-east corner of the site, at a ground level of approximately 70m AOD. Pingle Brook is distinguishable in the view by the change in grassland. Whilst no public access is currently available from this viewpoint, it is from a part of the site that will become informal public open space in the new development. Views from the nearby public right of way also overlook this area; this is discussed later in this section. Foxey Leys Copse is clearly visible, as is the petrol filling station and Little Chef, both of which are intrusive in the view. The electricity pylons also degrade the quality of the view.

#### *Viewpoints 16*

- 8.104 This view is from the housing estate at the corner of Chalvey Road with Ray Road, looking south-west towards the site, at a ground level of approximately 71m AOD. This location is from one of two junctions onto Middleton Stoney Road from the housing along this edge. The site is clearly visible through the gap in the housing, **although the old and poorly maintained public realm of the housing estate in the foreground degrades the view significantly.**

#### *Viewpoint 17*

- 8.105 This view is from the farm track leading to Whitelands Farm. The hedge along the farm track limits the extent of views to the east. Graven Hill and the A41 service station are just visible above the hedge, but in summer the view east is completely screened. To the south and west a panoramic view across the open and bland arable fields is available towards Bignell Park and Whitelands Farm.

- 8.106 *Identification of visual receptors from local northern views*

- motorists, pedestrians and cyclists using Middleton Stoney Road, the A4095 and the junctions onto this road from the southern edge of Bicester
- residents of houses along the southern edge of Bicester
- people using the footpath in the north-east corner of the site
- visitors to Bicester and Bicester Factory Outlet.

### *Views from the east*

- 8.107 Views from the east are currently significantly restricted by vegetation along the A41. The majority of the land east of the A41 is privately owned and therefore the visibility of the site could not be checked. It was possible, however, to view the site from the garden centre. From here the site is barely visible in winter; the top of Foxey Leys Copse is just **perceptible**



in views from the site entrance. The triangle of land between the A41 and the old Roman road is densely vegetated, which further reduces the visibility of the site west of the A41 from **land of** the east. Views of the north-eastern corner of the site are available from the sports ground (private), Tesco supermarket and from upper floor windows of a limited number of properties on the south-eastern edge of Bicester. Boundary fences and walls limit views of the site from Pingle Recreation Ground and public rights of way in the vicinity.

*Viewpoint 12*

- 8.108 This view is from the pavement on King's End, at a ground level of approximately 71m AOD. The private sport club and grounds are located to the east and properties on the corner of Middleton Stoney Road are just visible in the view. The north-eastern corner of the site is visible, although the view is dominated by traffic on the roads. The poor quality of the perimeter vegetation **in this location** is evident.

*Viewpoint 7*

- 8.109 This view is from the edge of the service station, at a ground level of approximately 67m AOD. The existing view towards the site is of extensively open arable land, although the quality of the view is degraded and urbanised significantly by the adjacent service station. Foxey Leys Copse is clearly visible in the middle distance.

*Viewpoint 1*

- 8.110 This view is from the flyover on the A41 looking towards the site, at a level of approximately 73m AOD (figure 8.16). The flyover provides an elevated panoramic view in which much of the site is visible. Whitelands Farm and Foxey Leys Copse are both clearly visible, as are the fragmented and poor quality hedgerows within the site that contrast with the denser perimeter hedgerows along the A41. The edge of Bicester and service station are visible in the distance. The A41 and open farmland are the dominant features of this view.

- 8.111 *Identification of visual receptors from local eastern views*

- motorists using the A41
- residents of houses along the south-eastern edge of Bicester
- spectators and players at the sports ground
- pedestrians, cyclists and motorists on King's End Road
- visitors/workers going to Bicester Village Factory Outlet, the service station and Little Chef.

***Views from the south***

- 8.112 Views from the south are restricted by landform and vegetation, and the site tends to be viewed through gaps in vegetation.

- 8.113 In Chesterton, views of the site from locations accessible to the public are very limited. Where views are available from public areas, they tend to be through gaps in buildings and are filtered by trees, see viewpoint 8. The majority of views of the site from Chesterton are from private properties along the northern edge of the village. In the south-east (the conservation area) the site is heavily screen by the woodland planting along Gagle Brook. This planting completely screens views from Chesterton Lodge (winter and summer). Further west the planting becomes less dense and there are views from a limited number of properties (some of which are listed) through gaps in the planting. The landform limits views across the site where properties are located in the valley of Gagle Brook.

8.114 In the north-west of Chesterton a number of properties along the northern edge overlook the site. The main views are from upper floor windows. Views from this area include the primary school; its playground located at the rear of the school is clearly visible from within the site looking back. Views from the lane to the east of Chesterton are restricted by hedgerows and by the landform. To the south of this lane, Lodge Farm is located on higher ground and will have filtered views across the eastern half of the site. Views of the site from the footpaths further south of Lodge Farm are screened by vegetation and landform.

*Viewpoints 6 and 14*

8.115 Both of these viewpoints are on the southern edge of the site looking north. Viewpoint 14 is at a ground level of approximately 67m AOD, whilst viewpoint 6 (figure 8.17) is slightly higher at approximately 70m AOD. Both views are taken next to farm gates where a gap in the hedgerow afford views across the site. For people travelling on the lane by car these views would appear as momentary glimpses. In viewpoint 14, the public right of way that follows the broken hedge is visible. Viewpoint 6 clearly illustrates the shoulder of land that follows the valley for Gagle Brook. From this location the base of the trees visible on the skyline (and much of the site) is screened by the landform.

*Viewpoint 15*

8.116 This panoramic view is from within the site and is therefore not available to the public. The view is from a ground level of approximately 73m AOD. Whitelands Farm and Graven Hill are noticeable landmarks in this extensively rural scene. The woodland planting along the edge of Chesterton Lodge is clearly visible. As this land is proposed to remain in agricultural use, no public access will be available in the future and therefore no assessment has been made for this view. It is, however, referred to as part of the assessment for Chesterton.

*Viewpoint 8*

8.117 This view is from Alchester Road looking north towards the site, at a ground level of approximately 77m AOD. The primary school is in the foreground; the site is only just visible in winter time through a small gap.

8.118 *Identification of visual receptors from local southern views*

- motorists, walkers and cyclists using the lane east of Chesterton
- residents of houses along the northern edge of Chesterton
- local people and visitors using Alchester Road.

*Views from the west*

8.119 Views of the site from the west are restricted, only being available from the A4095 to the north of Chesterton and from the eastern edge of Bignell Park. Views of the site may also be available from upper floor windows of Bignell Park Hotel.

*Viewpoint 19*

8.120 This view is from the public right of way close to the A4095, at a ground level of approximately 75m AOD. The view is of private fields; the site, which lies further west, is barely perceptible in winter and totally screened in summer by the dense hedgerows.

*Viewpoint 18*

- 8.121 This view is from the A4095 at a ground level of 82m AOD (figure 8.18). The site is to the west; totally screened in summer, but visible through the vegetation in winter. For motorists, the dense vegetation channels the view along the lane.

*Viewpoint 13*

- 8.122 This view is from within the site and therefore is not currently available to the public. It has been included as it provides a good example of the open arable plateau landscape in the western half of the site, **and because it help to inform the assessment for viewpoint 18 which is from a public location.** Vegetation cover is limited. Both Whitelands Farm and Graven Hill are visible; the church in Bicester is just visible on the skyline in the winter view. As this land is proposed to remain in agricultural use no public access will be available in the future and therefore no assessment has been made for this view inside the site.

- 8.123 *Identification of visual receptors to the west*

- private residents of Bignell House
- the owners and public at the Bignell Park Hotel
- motorists using the lane (A4095) to the north of Chesterton.

*Viewpoint 5*

- 8.124 There are two public rights of way that cross the site. From both footpaths users will experience a wide range of views of the site. Viewpoint 5 has been included as a representative view from the public rights of way.

- 8.125 This view is from the public right of way (footpath) that crosses the site north-east to south-west. The view is west of Whiteland Farm, at a ground level of approximately 77m AOD. The panoramic view includes Whitelands Farm in the foreground and Chesterton to the south. The extent of vegetation screening Chesterton is illustrated well in the view; the majority of the village is completely hidden in summer months.

**Intermediate and distant**

- 8.126 Beyond the local context (2km from the centre of the site), there are very few areas where the site is visible. The following representative viewpoints have been included from these distances.

***Intermediate***

*Viewpoint 11*

- 8.127 This view is from Graven Hill, at a ground level of approximately 89m AOD. The view is not currently available to the public as it lies within the boundary of the MOD depot, but has been included because it is considered to be one of the few locations beyond the local area where clear views of the site would be visible. The site is visible in the middle distance; it actually constitutes a small part of the view that is dominated by the MOD buildings in the foreground.

*Viewpoint 9*

- 8.128 The view is from the overbridge on the M40 looking south-east towards the site, at a ground level of approximately 108m AOD. Graven Hill and the large industrial type buildings at its base are just visible, as is the northern edge of Bignell Park. The site is not visible from this

distance (the viewpoint being outside the visual envelope) but potential views of the development have been determined as part of the ZVI modelling.

### ***Distant***

#### *Viewpoint 3*

8.129 This view is from the public right of way (bridleway) on Muswell Hill, at a ground level of approximately 175m AOD. From this distance, the site constitutes only a very small part of the fine panoramic view across the clay vales. The northern half of the site is screened by Graven Hill.

#### *Viewpoint 4*

8.130 From Muswell Hill, a ridge of higher land extends to the south-east. Viewpoint 4 is from this ridge, along a public right of way south of Gardener's Barn. The ground level is approximately 96m AOD. The drop in height from Muswell Hill means that at this distance the site is not visible. No view of the site, or the proposals, is available from this location and therefore no assessment has been undertaken.

#### *Identification of visual receptors from intermediate and distant views*

- motorists, walkers or cyclist using the overbridge on the M40
- ramblers using the footpaths and horse riders using the bridleway on Muswell Hill
- MOD workers at Graven Hill.

### **Night-time views**

8.131 An assessment of the site at night-time was undertaken. Currently the site is almost completely devoid of lighting, Whitelands Farm being the main source of light. However, in views from the south, the urban edge of Bicester is clearly visible, the petrol filling station and Little Chef being particularly visible and intrusive. The absence of lighting columns along the A41 significantly reduces the level of light pollution along the eastern edge of the site. In views from the southern edge of Bicester, the site is again seen as a large dark area, although all of the existing views from this area are already adversely affected by lighting associated with built development.

### **Future baseline**

8.132 In the absence of the proposed development, the site will remain in agricultural use. Minimal change to the landscape character and views is predicted.

### **Planting**

8.133 Extensive landscape planting is proposed as part of the new development and the perimeter road, to help assimilate the proposals with the existing landscape. This will include the planting of new hedgerows, copses and woodland designed to build upon the existing landscape framework. Species will be predominately native, mostly deciduous and of local provenance. The purpose of the landscape planting is not necessarily to screen the development, but rather to provide a landscape framework in which the development is viewed.

### **Predicted sources of effects**

#### **8.134 *Predicted temporary effects during construction***

- removal of surface vegetation and topsoil resulting in an exposed soil surface
- adjustment to ground levels associated with the development and perimeter road
- erection of temporary site fencing
- site compound, storage areas and contactors' car park
- temporary lighting and signage associated with the works
- construction traffic movements to and from the site
- adjustments to the existing road network including the A41 and potential resultant congestion
- general building infrastructure including noise and dust, and views of large machinery and cranes.

#### **8.135 *Predicted permanent effects***

- significant loss of existing farmland to development
- new development edge and associated change in physical appearance, character and massing of the site
- major new areas of public informal and formal open space
- new network of roads and associated traffic movements including the perimeter road
- Additional lighting
- changes to views and landscape resources
- alteration to public access including additional paths through the development and open space
- new landscape planting associated with the development and perimeter road.

### **Predicted potential impacts on landscape character and visual resources**

#### ***Introduction***

8.136 The existing characteristics and resources of the site and its context have been described in the baseline. The nature and significance of the predicted impacts on landscape resources is assessed in relation to landscape importance and magnitude of change envisaged. The potential impact on landscape resources (that is to say how the landscape features, character and quality may be affected) is described for each of the character types/ areas established in the baseline assessment as being potentially affected.

#### ***Landscape character of the site***

8.137 The site has been assessed as being of medium importance. Whitelands Farm is to continue as a working farm, with 76 hectares of the site remaining as agricultural land. The character of the site will, however, fundamentally change, the creation of a new development of up to 1585 dwellings with secondary school and associated open space resulting in the loss of approximately 114 ha of existing agricultural land. Pingle Brook will be retained and a new linear park created along its length. Within the site, hedgerow loss has been minimised, with the majority of existing hedgerows, and all three copses, retained. Tree loss is limited, the layout retaining those assessed as of landscape or arboricultural value. **Although currently of poor quality, the fourth copse in the north east corner will be retained as it affords an opportunity to create ecological and landscape enhancement along to Pingle Brook. The**

dead elm and alder will be removed with the aim of establishing a wet woodland; the proposals are described further in the ecological chapter.

- 8.138 Significant hedgerow loss will occur as a result of the new road junctions. Along the A41, a large section of the vegetation in the central reservation will be removed. The new roundabout will also require the removal of a section of hedgerow along the western edge of the A41. The two new roundabouts on Middleton Stoney Road and the link road to the A4095 will result in the loss of three further sections of hedgerows. All of these hedgerows have been assessed as worthy of retention, although their quality is mixed. Loss of vegetation will be compensated, in the long term, by major new structure planting outlined on the master plan. New woodland and copse planting is also proposed, **with in excess of 5km of new hedgerow proposed.**
- 8.139 The retention of the agricultural land, combined with the 17.75 hectares of open space along the southern edge of the development, will provide a transition and buffer from the new urban area in the north to the rural edges of the site in the west and south. The perimeter road has been designed to fit with the landform, minimizing earthworks and helping to assimilate the road with the landscape. The road is single carriageway and will not be lit (**except at junctions**), helping to minimize the urbanising effect of this feature. Traffic along the road, will, nevertheless, alter the rural character of this part of the site.
- 8.140 The magnitude of change is large, resulting in a substantial impact. The nature of the impact will depend largely on the quality of the new development. Potentially, a new high quality urban edge will be created as a gateway to Bicester. However, because of the loss of agricultural land, the detrimental impact of the perimeter road that crosses the site, and loss of existing vegetation the impact on the character of the site has been assessed as adverse substantial landscape impact. This is considered to reduce to a moderate adverse landscape impact once proposed planting becomes established.

*Character type 1 – Wooded Estatelands*

- 8.141 This area has been assessed as being of medium importance. The site and Bignell Park, which lie within this wider character type have been assessed separately.
- 8.142 Much of this character type will remain unaffected and the development needs to be considered in the context of Bicester. The highest inter-visibility between the site and this landscape is from the south. This area includes the village of Chesterton. The retention of agricultural land in the south of the site, and the proposed strategic open space along the southern edge of the development, will provide a gradual transition from the development edge to the rural landscape of this character type. The existing landscape structure, especially the woodland along Gagle Brook is unaffected. The development and perimeter road will be seen across open landscape and will not be substantially uncharacteristic when compared with the existing context. Potential benefits to the centre of Chesterton have been assessed as a result of through traffic being diverted onto the perimeter. The magnitude of change has been assessed as small /medium, resulting in a moderate adverse landscape impact.

*Character type 3 - Wooded Hills*

- 8.143 This area has been assessed as medium importance. None of the elements or features that make up this landscape will be directly affected. The development will be seen in the context of Bicester and the existing MOD depot. The development is therefore not considered to appear uncharacteristic. The magnitude of change is considered to be small, resulting in a slight adverse landscape impact.

*Character type 4 – Clay Vale*

- 8.144 This area has been assessed as being of medium importance. The site, which lies within this wider character type, has been assessed separately.
- 8.145 Much of this character type will remain unaffected. Potential effects will be limited to the immediate landscape adjoining the site. The character of the landscape is still extensively rural, see character photography C4, although the M40 motorway and the A41 are degrading features. The intrinsic character of this landscape type is not considered to be significantly affected by the development. The magnitude of change has been assessed as small, resulting in a slight adverse landscape impact.

*Character type 5 – Alluvial Lowlands*

- 8.146 This character type has been assessed as being of medium/high importance. None of the elements or features that make up this landscape will be directly affected. Views in and out of this landscape are restricted. New lighting associated with the roundabout on the A41 will have a slight detrimental effect. The intrinsic rural character, low-lying land and vegetation pattern of this landscape type is not considered to be affected by the development. The magnitude of change is assessed as negligible, resulting in a no landscape impact.

*Character area 10 – Midvale Ridge*

- 8.147 This character area has been assessed as being of medium/high importance. The development is at a distance of approximately 8km. The fine panoramic views out across the clay lowlands from this landscape, which contribute significantly to the landscape's character and value, will not be affected. A negligible magnitude of change has been assessed, resulting in no landscape impact.

*Character Type 11 – Urban Fringe*

- 8.148 This character type has been assessed as being of low importance. Despite its proximity to the site, inter-visibility is low. The development along the eastern edge of the site will alter the character of the adjoining landscape, making it more urban. However, from this character area the urbanizing effect of this will not be uncharacteristic, and potentially could enhance the quality and amenity which is currently degraded and discordant. A small magnitude of change has been assessed, resulting in a slight beneficial impact.

*Character sub area 1a - Bignell Park*

- 8.149 This area has been assessed as being of medium importance. No physical effects on landscape features are predicted within this character area. Despite the site's proximity,

inter-visibility is low due to dense planting within the park and a hedgerow along the western edge of the site. The main development will be approximately 0.5km from the park with the existing arable land remaining in the foreground. The principal change to the character area will be associated with the new perimeter road, Middleton Stoney roundabout and link to the existing A4095.

- 8.150 Approximately 80m of existing hedgerow along the eastern edge of the lane will be removed. To the east of the hedge, traffic on the new perimeter road will be visible through the gap, and, in winter time, heavily filtered views will be available through the hedge. Noise from the traffic will be audible; however, the northern section of the A4095 will be closed off to traffic (except for buses) thereby moving traffic away from the park's edge and improving the amenity in this area. The magnitude of change is considered to be medium. Planting along the eastern edge will, once established, repair the landscape structure and reduce the influence of the perimeter road. A moderate adverse landscape impact to this character will result, predicted to reduce to slight adverse once the planting is established.

Character area	Landscape importance	Magnitude of landscape change	Significance of landscape impacts
Site	Medium	Large	Substantial adverse
Type 1 - Wooded Estatelands	Medium	Small/Medium	Moderate adverse
Type 3 - Wooded Hills	Medium	Small	Slight adverse
Type 4 - Clay Vale	Medium	Small	Slight adverse
Type 5 – Alluvial Lowlands	Medium/High	Negligible	None
Area 10 - Midvale Ridge	Medium/High	Negligible	None
Type 11 – Urban Fringe	Low	Small	Slight beneficial
Sub Area 1a – Bignell Park	Medium	Medium	Moderate adverse

Figure 8.20 – Summary of the significance of landscape resource impacts

### **Predicted potential impact on visual amenity**

- 8.151 Changes in visual amenity will be generated as a direct consequence of changes in the appearance of the site. The changes will be experienced by the receptors identified in the baseline. The impact is assessed at completion, assuming a 'worst case' or winter situation. Changes during other periods are highlighted separately, including changes during summer. Predicted changes to night-time views are also assessed.

#### **Local**

##### ***Views from the north***

- 8.152 A number of properties along the southern edge of Bicester will have views of the new development from rear windows, although existing vegetation along the B4030 (Middleton Stoney Road) and in rear gardens will provide a partial screen. An assessment of the impact has been undertaken for these properties based on analysis from the site looking back, and nearby public locations. The perimeter road has been aligned so that it is kept away from



these properties, and arable farmland will remain the main landscape component in the view for properties to the west. Further east, the new development will be visible in the foreground.

- 8.153 All properties will benefit from the traffic calming measures proposed along Middleton Stoney Road, with the number of vehicles, and their speeds, reducing. Views from these properties are assessed as of medium importance. The magnitude of change is considered to be small/medium, resulting in moderate adverse visual impact. During the construction phase, views of the machinery, soil stripping and building work will be intrusive, resulting in a substantial adverse visual impact whilst the construction phase lasts.

*Viewpoint 2*

- 8.154 This view will be available to motorists and cyclists using the A4095. The view from the road is considered to be of low/medium importance. The principal change to this view will be a new roundabout visible at the junction with Middleton Stoney Road. The new roundabout will result in the loss of vegetation along the edge of the site, opening up views across arable land: the development itself will not be visible. The key components of the view (the road) will not significantly change. The magnitude of change to this view is assessed as small/medium, resulting in a sight/moderate adverse visual impact.

*During construction:* construction of the new roundabout primarily, but also perimeter road will be intrusive in this view. Machinery, soil stripping and storage will be clearly visible. A medium adverse visual impact is assessed during the construction.

*10 years after completion:* once established, proposed hedgerow planting will enclose the view and repair the landscape structure. The visual impact will reduce to slight adverse.

*Seasonal difference:* no change to the visual impact assessed.

*Night conditions:* new lighting columns on the roundabout will increase night-time lighting in this location, but this will be seen in the context of Bicester. The lighting potentially could have an adverse impact on nearby properties and should be designed to reduce light spillage.

*Viewpoint 10*

- 8.155 Located within the site, this view is not currently available to the public, but will be once the scheme is completed. Intrusive features such as the service station and pylons currently degrade the view of mostly open countryside. The view is assessed as low to medium importance. The existing view will completely change: a new public park with balancing lakes being created along Pingle Brook, overlooked by new housing and health/employment. The magnitude of change will be large, resulting in a moderate to substantial visual impact. A new high quality urban edge and park (which will screen the intrusive service station) is considered to potentially enhance the existing view. However, it is a matter of personal perspective whether views of a park and development is preferable to the existing view of fields and poor quality development. Therefore a subjective visual impact has been recorded.

*During construction:* this view will not be available to the public until this part of the development is complete.

*10 years after completion:* planting within the park will help to soften the development edge.

*Seasonal difference:* no change to the assessment at completion.

*Night conditions:* night time lighting will increase significantly, but will be seen in the context of a new urban quarter.

#### *Viewpoint 16*

- 8.156 The main receptor will be residents of the nearby housing. The view is considered to be of low/medium importance. The majority of this view will remain unchanged. Through the gap in the existing housing a new development edge, set back from Middleton Stoney Road, will replace a broken view of the site. A **small/medium** magnitude of change is predicted, resulting in a slight/**moderate** adverse visual impact.

*During construction:* construction traffic will be intrusive in the view; a slight/moderate adverse visual impact has been assessed.

*10 years after completion:* planting in the park along Pingle Brook will begin to frame views of the new development, **changing the impact to slight/none.**

*Seasonal difference:* existing trees and hedgerow along the A41 currently limit views of the site in summer.

*Night conditions:* lighting associated with the development will have a limited impact in the context of the existing urban view.

#### *Viewpoint 17*

- 8.157 The main receptors are currently residents of, and visitors to, the existing properties within the site. The existing view of open arable farmland will be completely altered by the new development. Along the farm track a 'green corridor' approximately 20m wide is proposed with development fronting the green space either side. The farm track will be closed off to traffic and become a cycle and pedestrian route through the development to the open space. The view will be commonly experienced and it has therefore been assessed as of medium importance. The magnitude of change is large, resulting in a substantial visual impact. However, it is a matter of personal perspective whether a new green corridor with high quality development overlooking it is a beneficial or adverse change. Therefore a subjective visual impact has been recorded.

*During construction:* during the construction phase site machinery, soil stripping/mounding and construction works will be highly intrusive. A substantial adverse visual impact is assessed.

*10 years after completion:* planting along the green corridor will enhance the view further as compared to completion.

*Seasonal difference:* no change to that assessed at completion.

*Night conditions:* night time lighting will increase significantly, but will be seen in the context of a new urban quarter.

#### *Views from the east*

- 8.158 Along the eastern edge of the development a mix of housing and employment is proposed, up to four storeys high. Development at this height would be clearly visible above the hedge along the western edge of the A41 and would form a new skyline in nearby views. Receptors in the east include users of the private sports ground, shoppers using Tesco and Bicester Village Factory Outlet and private properties to the north of the sports ground. From these areas, views are already mostly of built development and therefore are considered to have a high tolerance of change.

*Viewpoint 12*

- 8.159 The receptors of this view would be motorists and pedestrians using King's End Road, and the nearby sports club. The view has been assessed as of medium importance, being a busy public area on the edge of Bicester. The new development will be clearly visible, forming a prominent new development edge beyond the existing hedge (to be retained); important views of countryside will not be lost. The magnitude of the change is considered to be medium, resulting in a moderate to substantial visual impact. It is considered that the new urban edge will be a positive feature resulting in a beneficial impact. However, this assessment is subject to an individual's perception and therefore the impact has been assessed as subjective.

*During construction:* during the construction phase site machinery, soil stripping/mounding and construction works will be visible on the skyline. A moderate adverse visual impact is assessed.

*10 years after completion:* no significant change to the visual impact assessed at completion.

*Seasonal difference:* no change to the impact assessed at completion.

*Night conditions:* new lighting will be seen in the context of existing lights along roadways and in nearby properties.

*Viewpoint 7*

- 8.160 This view will be available to users of the service station and Little Chef. From these areas the focus is unlikely to be on the landscape and the tolerance to change is high. The view is considered to be of low importance. The view will completely change, with a new development edge totally obscuring views of the countryside beyond. The magnitude of change is large. A moderate adverse visual impact has been assessed for this view.

*During construction:* during the construction phase site machinery, soil stripping/mounding and construction works will be highly visible. A substantial adverse visual impact is assessed.

*10 years after completion:* no change to the impact assessed at completion.

*Seasonal difference:* no change to the impact assessed at completion.

*Night conditions:* new lighting will be seen in the context of the intrusive lighting of the service station.

*Viewpoint 1*

- 8.161 This is a transient view from the flyover on the A41, the main receptor being motorists. The site, whilst forming the main part of the view, is unlikely to be the main focus of the receptor. The importance of this view has been assessed as low/medium. Agricultural land will remain in the foreground. The new housing edge and secondary school will be clearly visible, as will the perimeter road. The existing landscape structure will help to assimilate the new development edge within landscape, especially in summer. New structure planting will, once established, significantly screen views of the perimeter road and soften the development edge. In the context of the A41, which is already dominant feature in the view, it is considered that the magnitude of change is medium. A moderate adverse visual impact is assessed.

*During construction:* views of the construction machinery will increase the adverse visual impact to medium/substantial adverse.

*10 years after completion:* once structure planting has established the view of the development, and, in particular, the perimeter road will be reduced and framed. The visual impact is considered to reduce to slight adverse.

*Seasonal difference:* the visual impact is considered to be less during summer months.

*Night conditions:* whilst the site currently has very little night time lighting, in this view car lights along the A41 and the service station/edge of Bicester are already intrusive. In this context the new lighting associated with the development is not considered to be significant.

### **Views from the south**

8.162 Views from the south are sensitive, and include the conservation area of Chesterton. There are very few public locations where views of the site are available. The majority of views are from private properties/land. To better understand potential visual impacts from the south, long sections across the site were produced from the north and southern edges of Chesterton (Technical Appendix 4)

#### *Viewpoints 6 and 14*

8.163 These views are taken from the southern edge of the site looking north. The hedge along the edge of the site heavily screens views of the site for motorists, cyclists and pedestrians using the lane east of Chesterton. The above receptors will only experience these views if they stop at the lay-by. Similar views will also be experienced from the nearby footpath crossing the site.

8.164 Both views are extensively of semi-open rolling farmland and rural in character. Both are considered to be of medium importance.

8.165 From viewpoint 6, the ridgeline will screen much of the development and the perimeter road. The roofscape of the development **will** just visible beyond **the ridgeline**. Farmland will remain the prominent landscape component in this view. Structure planting will further reduce views of the proposals. The magnitude of change is considered to be small, resulting in a **slight/moderate** adverse visual impact.

*During construction:* no change to the visual impact assessed.

*10 years after completion:* planting will significantly screen views, the impact is assessed as reducing to slight adverse.

*Seasonal difference:* no change to the visual impact assessed.

*Night conditions:* lighting associated with the perimeter road and open space to the east will potentially be visible in winter months especially. The absence of light pollution currently in this views means that the impact is considered to increase to moderate adverse for night-time views.

8.166 Viewpoint 14 is further east where the ridgeline has graded out. The edge of Bicester is already visible from this location. This will be replaced with a view of the south-west edge of the development across farmland and the new open space. The eastern section of the perimeter road will be clearly visible crossing the landscape and is considered to be the principal intrusive element. Structure planting will help to reduce the impact, once established. A medium magnitude of change is predicted resulting in a substantial adverse visual impact.

*During construction:* construction machinery will be clearly visible.

*10 years after completion:* planting will have a significant effect reducing the visual impact to moderate adverse.

*Seasonal difference:* the existing summer and winter views demonstrate that the new development edge will be more visible during winter.

*Night conditions:* lighting on the new roundabout on the A41 and 100m either side of the eastern T-junction into the development is considered to be the most intrusive night time element but this will be seen in the context of Bicester beyond.

8.167 The south-eastern edge of Chesterton is designated a conservation area. Views of site are heavily screened by woodland along Gagle Brook. The perimeter road will be located north of an existing hedgerow proposed to be strengthened significantly with new woodland planting. A combination of existing and proposed planting will mean views of the proposals from this part of Chesterton will be limited. No public views of note have been determined. There are some views from a limited number of properties (including some listed) towards the site from the northern edge of the conservation area. Where views of the site are available, they have been assessed as of high importance. The magnitude of change is assessed as negligible/ small, resulting in a slight/moderate adverse visual impact.

8.168 From the north-eastern edge of Chesterton very few views of the site are available from public areas. Most potential views of the proposals will be from private receptors. The primary school has been determined as one location where the proposals may be visible. Whilst views of the development (0.8km away) and perimeter road and traffic (0.55km away) would not be screened by the landform, proposed structure planting, shown at 5m high on the sections, would have a significant screening effect. This new woodland screen would be further strengthened by existing planting along Gagle Brook. The perimeter road and development are a significant distance from these receptors and the majority of the view will remain agricultural land. The views from this part of Chesterton are assessed as medium importance. The magnitude of change is assessed as small/medium, resulting in a moderate adverse visual impact. This is predicted to reduce to slight adverse once the structure planting establishes.

#### *Viewpoint 8*

8.169 The viewpoint has been assessed as medium importance and is available to local residents and members of the public using Alchester Road. The magnitude of change is assessed as negligible resulting in no visual impact.

*During construction:* as assessed at completion.

*10 years after completion:* as assessed at completion.

*Seasonal difference:* as assessed at completion.

*Night conditions:* as assessed at completion.

#### ***Views from the west***

8.170 Views from the west are limited to the immediate area.

#### *Viewpoint 19*

8.171 This view will be available to walkers on the footpath. The majority of this view will remain unchanged. Traffic on the perimeter road may be visible. The development will be screened.

The view is assessed as medium importance. The magnitude of change is assessed as negligible/ small, resulting in a slight adverse visual impact.

*During construction:* construction machinery may be visible above the hedgerow.

*10 years after completion:* structure planting will reduce the impact to none.

*Seasonal difference:* in summer potential views of traffic would be reduced.

*Night conditions:* no change to that assessed at completion.

#### *Viewpoint 18*

- 8.172 This view will be available to motorists and cyclists using the A4095. The view has been assessed as medium importance. The main impact this view will be the loss of hedgerow. **Although the majority of the hedgerow in the view will be retained, immediately opposite and to the north views will open up across the site, especially for travellers heading northwards along this section of the road.** The layout of the new junction has been designed to minimise hedgerow loss; **however, extensive views across the open agricultural land will become available where hedgerow is removed.** Viewpoint 13 from a similar location but within the site, illustrates how the view will change where hedgerow is removed. The loss of hedgerow will afford exposed views of the perimeter road until new planting becomes established. **The western development edge will also be visible, although the majority of the view will remain as agricultural land.** North of the viewpoint, the section of the road will be closed off to traffic, improving the environment for cyclists and walkers. **Extensive** new structure planting will compensate for adverse impacts associated with hedgerow loss. The magnitude of change is **assessed as medium/large, resulting in substantial** adverse visual impact.

*During construction:* the construction phase will be intrusive and result in a substantial adverse visual impact.

*10 years after completion.* the structure planting will alter the impact at completion from **substantial** adverse to **moderate**/slight adverse.

*Seasonal difference:* views in summer will be limited by new and existing planting.

*Night conditions:* as completion.

#### *Viewpoint 5*

- 8.173 The view will be experienced by walkers on the footpath across the site. It has been assessed as medium importance. Currently the view is mostly of open agricultural land and Whitelands Farm. Although the majority of the view will remain agricultural land, the new perimeter road will become the prominent element and intrusive in the view. The magnitude of change is assessed as large, resulting in a substantial adverse visual impact. The impact is assessed as remaining unchanged during construction, 10 years after completion and for night-time views, due to the proximity of the perimeter road. This impact would begin to decrease the further one walks away from the perimeter road, as proposed structure planting begins to screen views of the road and traffic.

#### ***Intermediate and distant***

- 8.174 Beyond the local context (2km from the centre of the site), there are very few areas where the site is visible. No substantial adverse visual impacts have been determined. The following representative viewpoints have been included from these distances.

*Viewpoint 11*

- 8.175 In the context of the existing view, the proposals, which will be visible beyond the MOD buildings, will not be intrusive. The view is currently not available to the public and, for this reason, has been assessed as low importance. The magnitude of change is small resulting in a slight adverse visual impact.

*During construction:* as assessed at completion.

*10 years after completion:* as assessed at completion.

*Seasonal difference:* as assessed at completion.

*Night conditions:* as assessed at completion.

*Viewpoint 9*

- 8.176 The view is transient, seen briefly by motorist whilst on the overbridge. The site is currently not visible from this location, but the ZVI modelling has determined that potential views of the roofscape may be available from this location. The importance of the views is assessed as low. The magnitude of change is negligible, resulting in no impact. The impact is assessed as remaining unchanged during construction, 10 years after completion and for night-time views.

*Viewpoint 3*

- 8.177 This view is available to walkers and horse riders. The importance of the view is assessed as high. The site constitutes a small part of the view and the northern extent (where the development is proposed) is hidden behind Graven Hill. The magnitude of change is negligible, resulting in no impact. The impact is assessed as remaining unchanged during construction, 10 years after completion and for night time views.

### Zone of Visual Influence (ZVI)

8.178 The ZVI illustrated on figure 8.19 shows the worst case, based on the building heights plan. It can be seen that, for the most part, the ZVI is unchanged from the visual envelope, although it does include some areas of additional land. To the north-west, potential views of the development (primarily its roofscape) have been determined, and to the east of the A41 potential views of the development either through or above vegetation, or as a result of vegetation loss, may occur.

Visual receptors	Importance of visual receptor	Magnitude of change	Significance of visual impacts
<b>Local-</b>			
<b>Views from the north</b>			
Properties on southern edge of Bicester.	Medium	Small/medium	Moderate adverse
Viewpoint 2	Low/medium	Small/medium	Slight/moderate adverse
Viewpoint 10	Low/medium	Large	Moderate/substantial Subjective
Viewpoint 16	Low/medium	Small/medium	Slight/moderate adverse
Viewpoint 17	Medium	Large	Substantial subjective
<b>Views from the east</b>			
Viewpoint 12	Medium	Medium	Moderate/substantial subjective
Viewpoint 7	Low	Large	Moderate adverse
Viewpoint 1	Low/medium	Medium	Moderate adverse
<b>Views from the south</b>			
Properties in Chesterton conservation area.	High	Negligible/small	Slight/moderate adverse
Chesterton Primary School/nearby properties	Medium	Small/medium	Moderate adverse
Viewpoint 6	Medium	Small	Slight/moderate adverse
Viewpoint 14	Medium	Medium	Substantial adverse
Viewpoint 8	Medium	Negligible	None
<b>Views from the west</b>			
Viewpoint 19	Medium	Negligible/small	Slight adverse
Viewpoint 18	Medium	Large/medium	Substantial adverse
Viewpoint 5	Medium	Large	Substantial adverse
<b>Intermediate/distant</b>			
Viewpoint 11	Low	Small	Slight adverse
Viewpoint 9	Low	Negligible	None
Viewpoint 3	High	Negligible	None

Figure 8.21: Summary of the significance of visual impacts

### Proposed mitigation

#### *Site mitigation measures*

8.179 Mitigation has been an integral part of the master plan proposals and is inherent in the design of the scheme. Proposed planting, including new areas of woodland, copse trees and hedgerows, will result in a significant increase in the number of trees and hedgerows within the site.



- 8.180 The proposals on the master plan, including the structure planting, have been considered as part of the preceding assessment. This section discusses secondary mitigation, the details of which have not been determined at this stage.

*Minimise scale of buildings and use of materials to reduce visibility*

- 8.181 Controlled use of colour and materials is recommended to minimise unnecessary or unintentional visual impacts in the wider landscape, especially along the southern and western edges. Buildings heights and plot layouts should be carefully designed to provide a varied roofscape.

*Minimise night-time effects by careful design and location of lighting*

- 8.182 The absence of lighting along the perimeter road (**except at the junctions**) is an important mitigation to potential adverse visual effects to the landscape. Recreational facilities that require lighting have been located to the east next to A41 to reduce potential light pollution to residents in Chesterton. Within the development, careful consideration of the height and type of street, amenity and building lighting will be given to reduce night-time effects. Floodlighting associated with the sports pitches in the east will be designed to reduce light spillage. Planting should be used to help filter the lighting, reducing its visual impact.

*Provide additional reinforcement of existing retained landscape features to minimise effects*

- 8.183 Extensive planting is being proposed as part of the master plan. This will include the planting of new copses, hedgerows and trees around the development edge to establish framed views of the development. Extensive tree planting within the development area (not indicated on the master plan and not considered as part of this assessment) will help to soften the skyline profile of the development.

*Minimise the loss of existing trees and hedgerows*

- 8.184 An arboricultural and landscape consultant has assessed individual trees and hedgerows across the site, and those considered worthy of retention have been incorporated into the development proposals. Existing hedgerows that are currently fragmented and comprising of dead plants or poor quality species will be enhanced. This will include new planting to infill gaps or laying existing hedges.

**Residual landscape and visual impacts**

- 8.185 Residual impacts are those that are predicted to remain after implementation of the mitigation measures described above. It is expected that the residual impacts will improve the proposals, however, there will be very little change from the predicted potential impacts described above, as the additional mitigation measures are minor elements within the large-scale proposals. The residual impacts are summarised in figure 8.22.



Figure 8.22: Residual effects							
Topic	Significant residual effects	Sensitivity of receptor	Magnitude of change	Duration	Significance	Nature	Level of certainty
Landscape resources	<i>Character areas</i>						
	Site	Medium	Large	Long term	Substantial	Adverse	Reasonable
	Type 1 – Wooded Estatelands	Medium	Small /Medium	Long term	Moderate	Adverse	Reasonable
	Type 3 - Wooded Hills	Medium	Small	Long term	Slight	Adverse	Reasonable
	Type 4 – Clay Vale	Medium	Small	Long term	Slight	Adverse	Reasonable
	Type 5 – Alluvial Lowlands	Medium/ High	Negligible	Long term	None		Reasonable
	Type 10 – Midvale Ridge	Medium/ High	Negligible	Long term	None	Beneficial	Reasonable
	Type 11 – Urban Fringe	Low	Small	Long term	Slight	Beneficial	Reasonable
	Sub Area 1a – Bignell	Medium	Medium	Long term	Moderate	Adverse	Reasonable
	<b>Local-views from the south</b>						
	Properties on southern edge of Bicester	Medium	Small/medium	Long term	Moderate	Adverse	Reasonable
Visual amenity	Viewpoint 2	Low/medium	Small/ <b>medium</b>	Long term	Slight/moderate	Adverse	Reasonable
	Viewpoint 10	Low/medium	Large	Long term	Moderate/substantial	Subjective	Reasonable
	Viewpoint 16	Low/medium	Small/ <b>medium</b>	Long term	Slight/ <b>moderate</b>	Adverse	Reasonable
	Viewpoint 17	Medium	Large	Long term	Substantial	Subjective	Reasonable
	<b>Views from the east</b>						
	Viewpoint 12	Medium	Medium	Long term	Moderate/Substantial	Subjective	Reasonable
	Viewpoint 7	Low	Large	Long term	Moderate	Adverse	Reasonable
	Viewpoint 1	Low/medium	Medium	Long term	Moderate	Adverse	Reasonable

Visual amenity	<b>Views from the south</b>								
	Properties in Chesterton Conservation Area	High	Negligible/ small	Long term	Slight/moderate	Adverse	Reasonable		
	Chesterton Primary School/nearby properties	Medium	Small/medium	Long term	Moderate	Adverse	Reasonable		
	Viewpoint 6	Medium	Small	Long term	<b>Slight/moderate</b>	Adverse	Reasonable		
	Viewpoint 14	Medium	Medium	Long term	Substantial	Adverse	Reasonable		
	Viewpoint 8	Medium	Negligible	Long term	None		Reasonable		
	<b>Views from the west</b>								
	Viewpoint 19	Medium	Negligible/ small	Long term	Slight	Adverse	Reasonable		
	Viewpoint 18	Medium	<b>Large</b> /medium	Long term	<b>Substantial</b>	Adverse	Reasonable		
	Viewpoint 5	Medium	Large	Long term	Substantial	Adverse	Reasonable		
	<b>Intermediate/distant</b>								
	Viewpoint 11	Low	Small	Long term	Slight	Adverse	Reasonable		
	Viewpoint 9	Low	Negligible	Long term	None		Reasonable		
Viewpoint 3	High	Negligible	Long term	None		Reasonable			

- Site Boundary
  - Visual Envelope
  - Study Area
- Contours at 10m Intervals

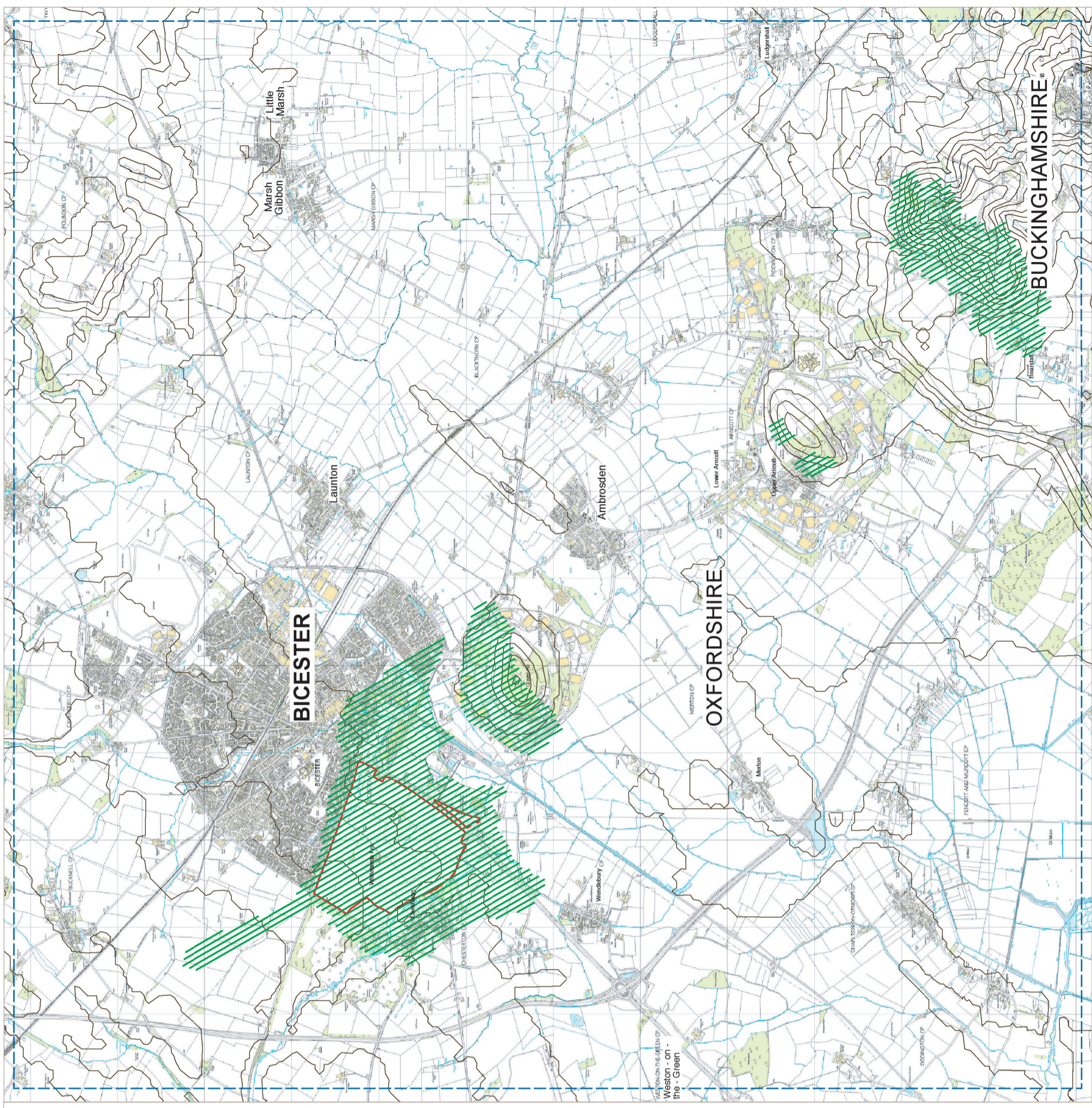


Figure 8.2 Visual envelope

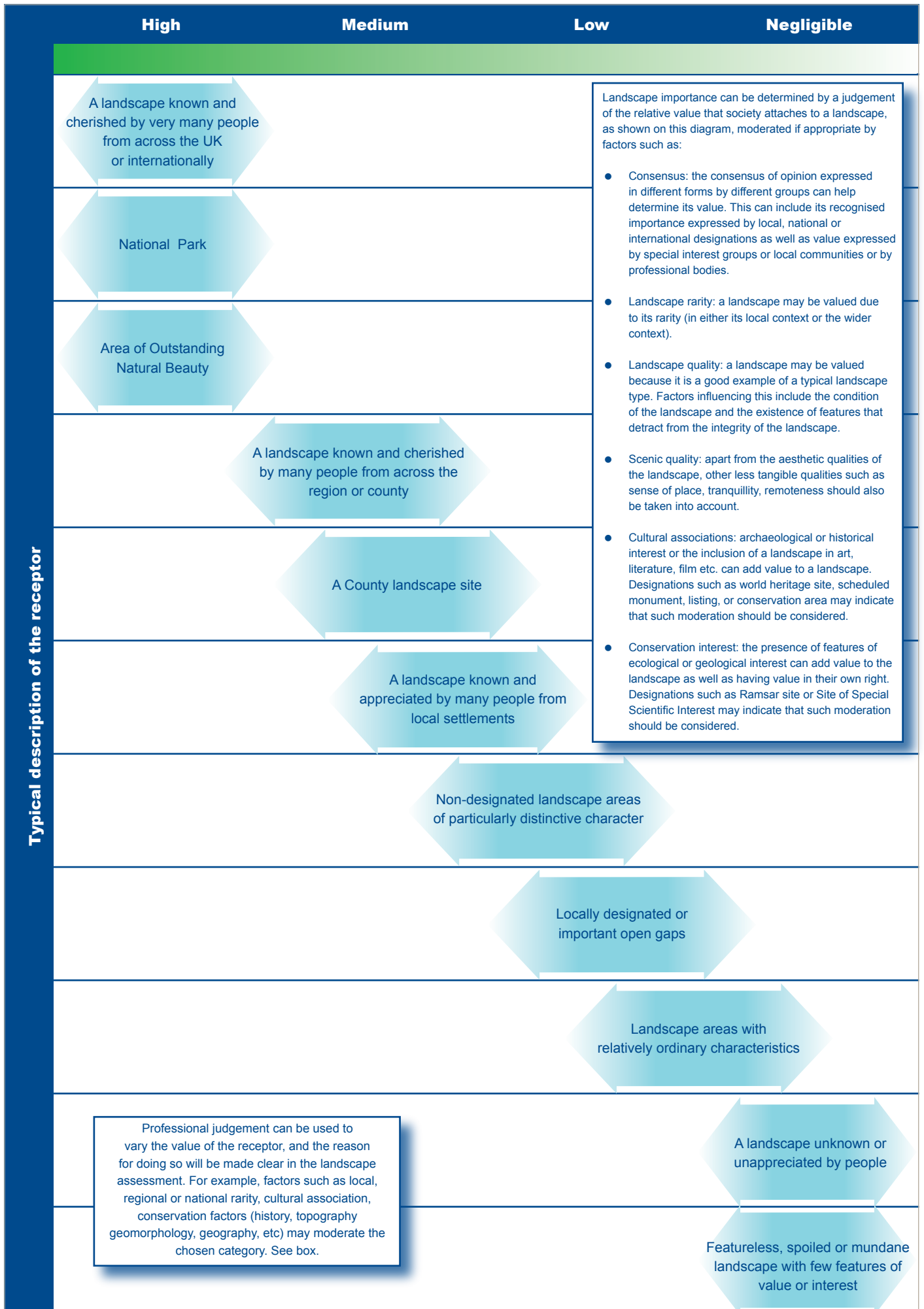


Figure 8.3 Landscape: sensitivity or importance of receptor

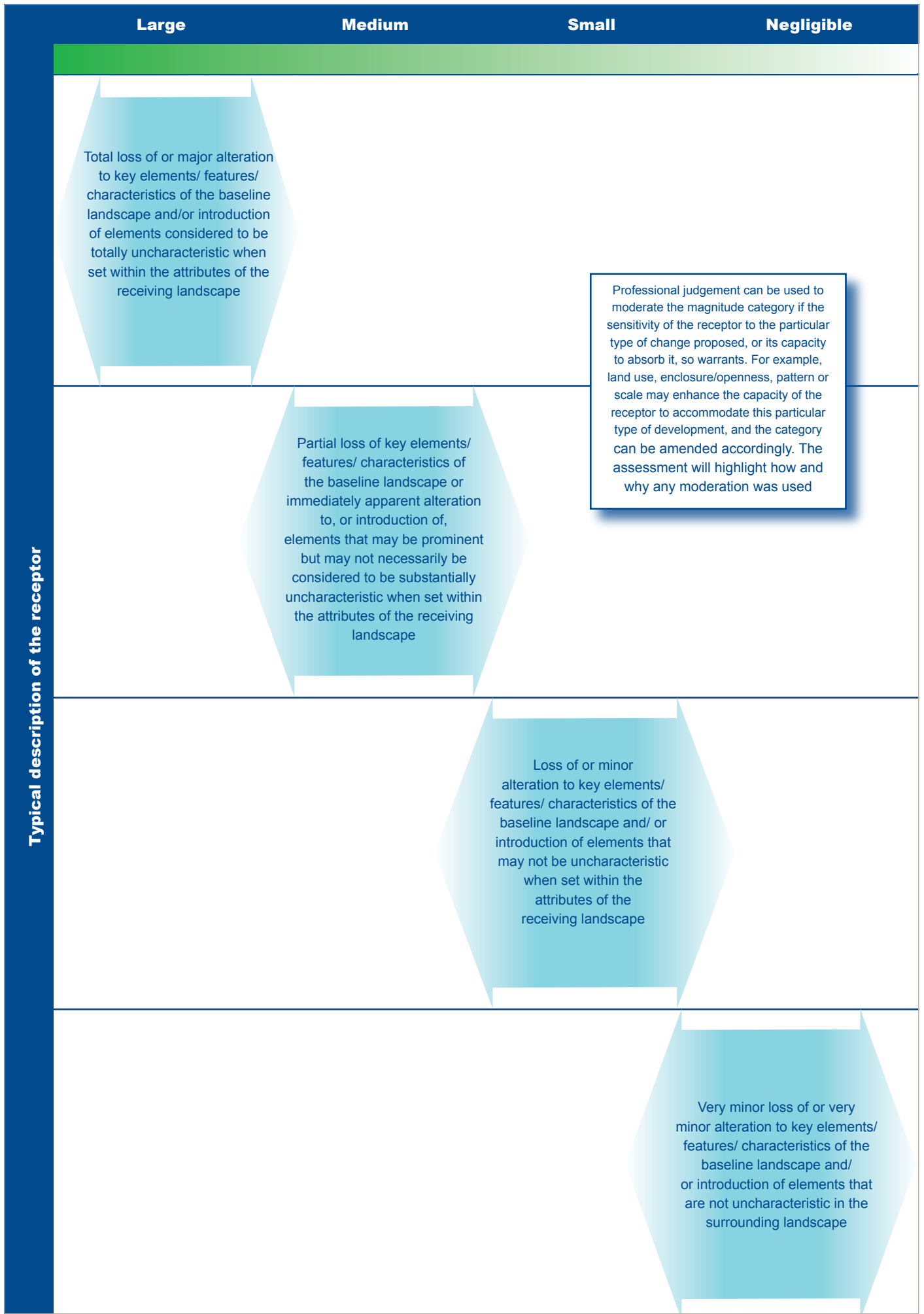


Figure 8.4 Landscape: magnitude of change



Figure 8.5 Landscape significance matrix



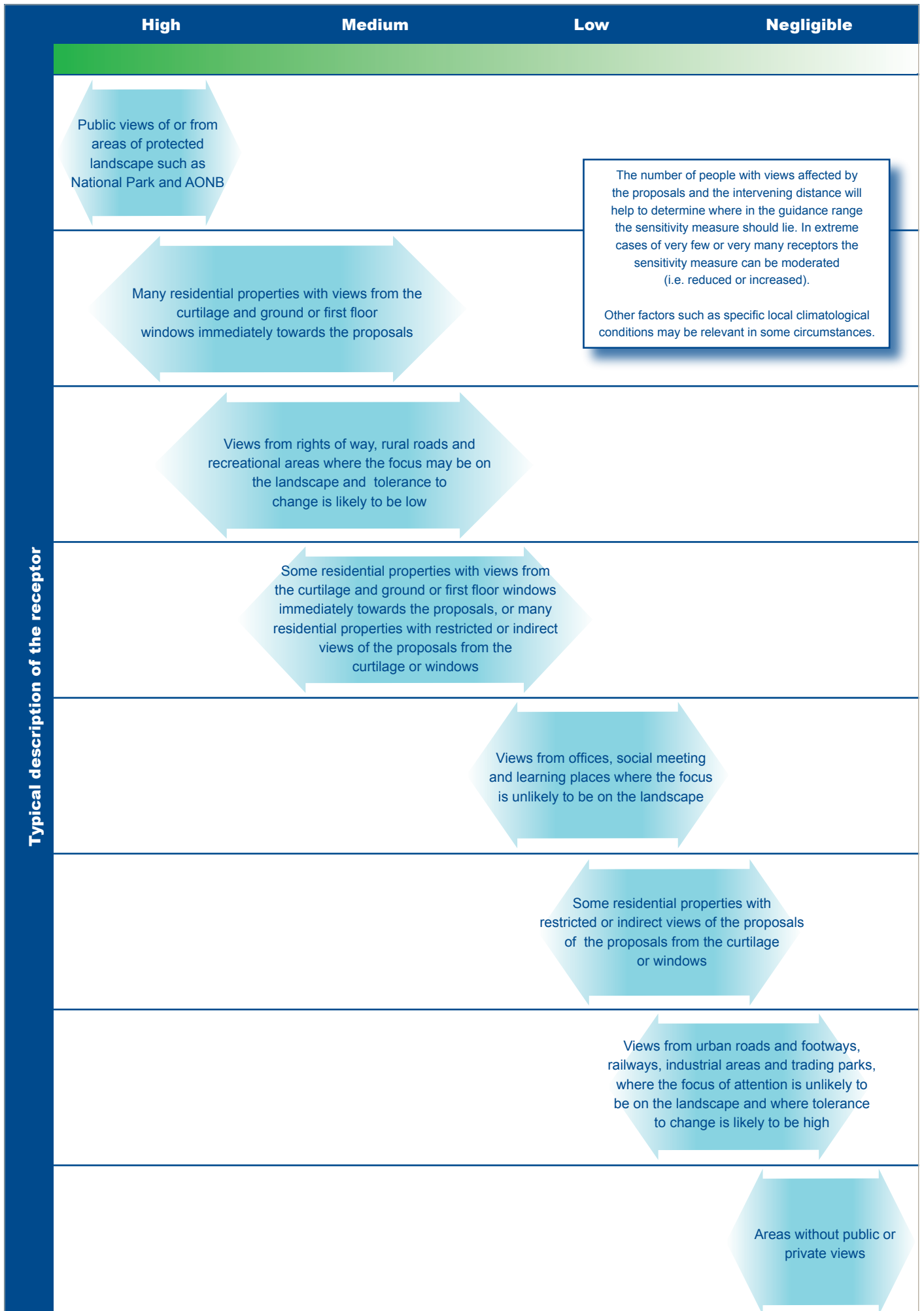


Figure 8.6 Visual: sensitivity or importance of receptor

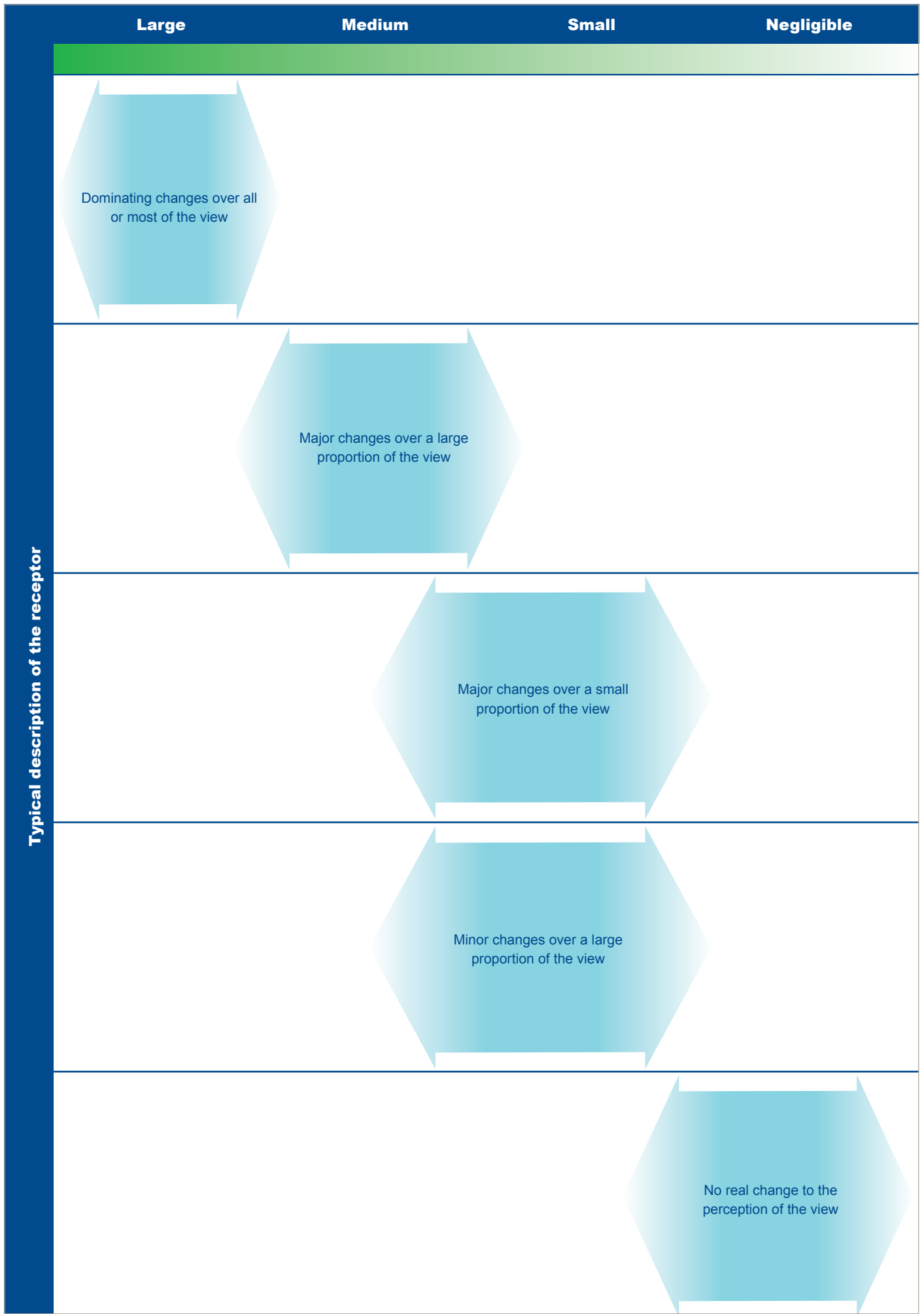


Figure 8.7 Visual: magnitude of change

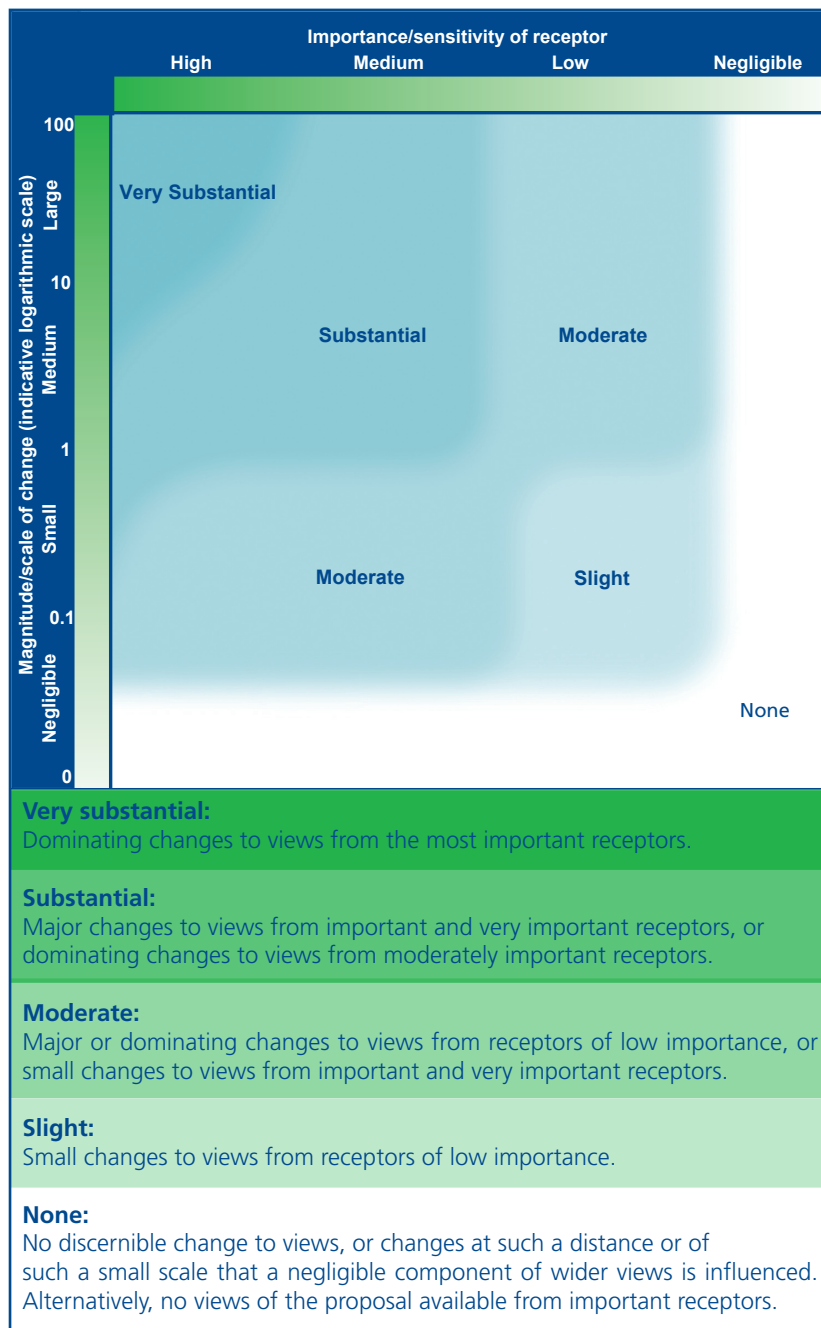


Figure 8.8 Visual significance matrix