Annex H

Landscape and Visual Amenity

CONTENTS

H1 METHOD OF ASSESSMENT

H1.1 INTRODUCTION

This annex describes the generic method of assessment used to determine the effects of proposed developments on landscape and visual amenity. It describes the guidance documents on which the methodology is based, outlines the iterative assessment process, explains the assessment criteria, and describes the assessment tools used.

H1.2 CURRENT GUIDANCE

This assessment process is based on current guidelines for landscape and visual assessment provided in the *Guidelines for Landscape and Visual Assessment*, the "LI guidelines" (LI/IEA 1995). It also takes account of the *Interim Landscape Character Assessment Guidance* (LUC 1999).

The LI guidelines have been the primary source of advice on landscape and visual assessment in the UK since publication in 1995. They describe an approach to landscape and visual assessment for development projects generally. However, they are currently being updated and the next edition should be published in 2002. The LUC document is guidance on the assessment of the impact of a proposed development on landscape.

As the LI guidelines are currently under revision this current guidance is used as the basis for the following method of assessment. This annex describes this method of assessment and, at the end, explains where this method differs from the methodology described in the LI guidelines.

H1.3 ASSESSMENT PROCESS

The aim of environmental impact assessment is to quantify potential effects and present these in an objective and unbiased manner. The nature of landscape and visual assessment requires both objective analysis and subjective professional judgement. It is important, therefore, to establish a thorough process of assessment and to use a set of clearly defined terms, to ensure that the findings are consistent and can be presented with clarity.

The LI guidelines (LI/IEA 1995) recommend an iterative process of assessment that examines the baseline landscape and visual conditions and the characteristics of the proposed development and then predicts the magnitude and significance of changes to the baseline as the result of the development, incorporating the recommended mitigation measures.

This methodology broadly follows the assessment process advocated in the LI guidelines but with some modifications and additions as described below.

The assessment involves information review, fieldwork observations and photography, computer-based data processing and analysis, and subjective professional judgement. It is an iterative process, and involves up to eight main stages:

- Stage 1: Review of the visual characteristics of the proposed development (and any existing similar developments in the study area).
- Stage 2: Review of the landscape and visual context (baseline).
- Stage 3: Visibility analysis.
- Stage 4: Viewpoint analysis.
- Stage 5: Local residential survey (if applicable).
- Stage 6: Landscape assessment.
- Stage 7: Visual assessment.
- Stage 8: Acceptability of the proposed development

Where part of an environmental impact assessment, this iterative process enables the identification of mitigation measures to avoid or minimise significant effects, and the incorporation of these into the final design of the development.

H1.3.1 Stage 1: Review of Proposed Development

The visual characteristics of the proposed development are examined to identify the elements with the potential to cause an effect on the landscape and visual amenity of the study area.

H1.3.2 Stage 2: Landscape and visual context

The study area is examined to establish the landscape and visual context of the study area. This involves:

- *Step one – landscape description*: a description of the landform, land use and landscape elements that form the existing landscape.
- *Step two – landscape characterisation:* characterisation of the landscape into landscape units. These may be **character areas** or, where further sub-division to identify unique areas is necessary, **landscape character types** may be identified.
- *Step three – landscape designations:* a review of the landscape designations in the study area.

- *Step four - landscape quality:* an assessment of the quality of each character area or landscape character type.

- *Step five – visual receptors:* the identification of the location and types of visual receptors in the study area.

Steps one and two – landscape description and characterisation

This involves the review of Ordnance Survey maps, other published information on the study area landscape, fieldwork observations and photography, a limited amount of computer-based data processing and analysis, such as topographical analysis and, ultimately, some subjective professional judgement in order to interpret the information and define the extent of the landscape units.

Where a study area has already been characterised in a published study, the landscape units defined in the published study are reviewed and, as long as the fieldwork observations and topographical analysis concur with the characterisation in the published study, then these are used as the basis of the landscape characterisation.

Where landscape studies have been carried out by or on behalf of the Planning Authority and have contributed to the formulation of local plan policies, proposals and landscape designations, then these studies are given particular consideration.

Step three – landscape designations

Landscape designations are an indication of landscape value, as they are areas that have been recognised for the scenic beauty and recreational potential of the landscape. They are also landscapes within which a measure of development control is in place for the purpose of protecting these qualities.

National landscape designations include National Parks (England and Wales, and proposed in Scotland), Areas of Outstanding Natural Beauty (England and Wales), and National Scenic Areas (Scotland only), which are designated by statute and shown on Ordnance Survey maps (National Parks) and websites, such as those of the Countryside Agency (for England), the Countryside Council for Wales and Scottish Natural Heritage. Local landscape designations include Special Landscape Areas, which are designated by Local Authorities and shown on the proposals maps of Local Development Plans.

Step four - Landscape quality

Landscape quality is an interpretation of:

- Distinctiveness - the relative extent to which the distinctive character of a landscape type is expressed in a landscape unit.

- Integrity - the relative integrity (or intactness) of the landscape.
- Scenic beauty, and
- Condition of the landscape.

The assessment of landscape quality is a professional judgement based on fieldwork observations and the subjective interpretation of the physical, aesthetic and perceptual characteristics of each landscape unit, in a national context. The following definitions are used:

- *exceptional quality:* for landscapes where the landform and elements produce a strong, unified and distinctive landscape character over an extensive area with a very high scenic beauty and where the manmade and natural elements are very harmonious and in prime condition.
- *high quality:* for landscapes that are more mixed and less distinctive in character, not so unified, more fragmented but with a high scenic beauty, and where both the manmade and natural elements are harmonious/balanced and in good condition.
- *medium quality:* for landscapes that are mixed and/or fragmented, with a medium scenic beauty, and where the manmade and natural elements are less harmonious and in only fair condition.
- *low quality:* for landscapes that are discordant, highly fragmented, and with a low scenic beauty, and where the manmade and natural elements are in poor condition.
- *very low quality:* for landscapes that are despoiled, with few natural features, and where the manmade and natural elements (if any) are in very poor condition.

Landscape units may not conform to all aspects of a particular landscape quality definition. For example, a landscape unit may be highly fragmented but have elements in generally good condition. In such cases, it is necessary to make a reasoned judgement regarding the landscape quality definition that best fits the particular characteristics.

In other cases, landscape quality may vary within a landscape unit and, again, it may be necessary to make a reasoned judgement regarding the landscape quality definition that best fits or, if appropriate, explain where different landscape quality definitions apply. Where landscape quality does vary considerably within a landscape unit, then it may be more appropriate to sub-divide the landscape type into units of more consistent landscape quality, where such sub-divisions can also be supported by sufficiently distinctive landscape characteristics.

Step five – visual receptors

This involves the review of Ordnance Survey maps, other published information on the study area, fieldwork observations and photography and, ultimately, some subjective professional judgement in order to identify the locations, types and relative numbers of visual receptors in the study area. These findings inform the process by which a selection of viewpoints are identified for the viewpoint analysis.

H1.3.3 Stage 3: Visibility analysis

It is usual to undertake a visibility analysis which uses computer-generated zones of visual influence (ZVIs) to ascertain the general locations and extent of the study area where topography would permit views of the development (see **Assessment Tools** at the end of this annex for details). As ZVIs are based on topography alone and do not take account of the screening effects of surface features such as hedgerows, woodlands and buildings, they can present an over-representation of visibility in the study area. In hilly terrains with proposed developments that are large in scale, ZVIs are a useful tool for establishing the potential zones of visibility, which can then be examined in more detail in the viewpoint analysis. However, where proposed developments are generally open in nature composed of mainly low level structures, such as this development, a ZVI is not always considered necessary as the screening effects of the local vegetation are very noticeable in the field but not reflected on the ZVI.

H1.3.4 Stage 4: Viewpoint analysis

The viewpoint analysis uses computer-generated wireframes (see the section on **Assessment Tools** at the end of this annex for details), fieldwork observations and professional judgement to predict the *magnitude of the change* in the view that would arise as the result of the proposed development, from a selection of viewpoints chosen to represent the main landscape and visual receptors in the zones of visual influence. These viewpoints are usually agreed with the Planning Authority during the scoping stage of an ES.
Magnitude of the change

The magnitude of the change is described using a five-point scale of *very substantial*, *substantial, moderate, slight* or *negligible*, based on the interpretation of a combination of largely quantifiable parameters, including:

- Distance of the viewpoint from the development.
- Extent of the development visible from the viewpoint.
- Field of view occupied by the development. (i.e. angle of the view measured in degrees)
- Background of the development in the view.

- Form, scale, composition and pattern of the landscape in the view.

- Extent of other built development visible, particularly vertical elements (*eg* pylons, chimneys, communication masts, cliff faces, trees, wind turbines etc).

For example, a *substantial* change in the view would occur where large extents of the development are visible on the skyline, in the near distance, occupying the majority of a single view (45°), and where the existing view contains very little built development or vertical elements. A *negligible* change in the view would occur where only small parts of the development are visible in the distance, occupying only a small proportion of a single view, and where there are already vertical elements and/or built development in the view.

The highest category of *very substantial* is used when large developments are being assessed.

Intermediate categories of *very substantial/substantial*, *substantial/moderate*, *moderate/slight* and *slight/negligible* are used to enable more subtle differences to be quantified, such as when developments at very different distances are introduced into a view, or to distinguish between the effects at two viewpoints that are at only slightly different distances from the development.

H1.3.5 Stage 5: Local residential survey

A local residential survey is carried out when the review of the landscape and visual context suggests that residents in a number of properties local to the proposals may gain views of the development. Computer-generated wireframes of the predicted views, fieldwork observations and professional judgement are used to predict the changes to the views from these local residential properties. The magnitude of the change for the residents at each property is assessed, as described for the viewpoint analysis above.

H1.3.6 Stage 6: Landscape Assessment

The assessment of effects on landscape draws on the description of the development, the landscape context and the visibility and viewpoint analyses and discusses the significance of the effects of the proposed development on the landscapes in the study area as follows:

- Effects on landscape fabric
- Effects on landscape character and quality.

Effects on landscape fabric

The effects of a proposed development on the fabric of the landscape can be either direct or indirect. Direct effects occur where changes to the fabric of the landscape arise as the result of physical disturbance, for example, the loss of landscape elements such as hedgerows and trees. Indirect effects are

consequential changes that are separated from the source of the change in a temporal or spatial manner, for example changes in vegetation structure downstream as the result of modifications to surface water patterns in a catchment area.

The assessment of effects on landscape fabric considers the existing landscape fabric of the site and surrounding area and makes a judgement as to whether the temporary/permanent/reversible, short/long-term, direct/indirect changes that will be brought about by the proposed development would have a significant effect on this landscape fabric.

Effects on landscape character and quality

Landscape character is the result of physical, biological and social components, such as topography, land use, land cover, landscape elements, field and settlement patterns, combined with aesthetic and perceptual factors, such as balance, texture, colour, diversity, unity, form, tranquillity, security, stimulus and pattern (see Table L1.2 under **Assessment Tools** at the end of this annex).

Our appreciation of landscape arises from the way the landscape affects our senses, in other words, as the result of our experience of the landscape. Therefore, for the changes brought about by a development to have an effect on landscape character and quality, then those changes need to be experienced through one of more of our senses. Sight is the dominant sense, when experiencing landscape, particularly from a distance, so the assessment of effects on landscape character and quality concentrates on the changes that would be visible.

In addition to landscape character, the cultural, historical and intellectual dimensions of landscape influence our broader appreciation of our environment. These include our cultural background, our awareness of historical and contemporary influences, and our personal and professional interests. Our experience and, therefore, appreciation of landscape will also vary depending on other factors such as time of day, season, weather conditions and lighting. However, these influences will vary from person to person and from day to day. Cultural, historical and intellectual dimensions are issues which have not been considered within this assessment in relation to landscape character and quality.

Accordingly, the assessment of effects on landscape character and quality considers the extent of the zones of influence identified in the **Visibility Analysis** and the magnitude of the effects on landscape character identified in the **Viewpoint Analysis** and draws conclusions on the significance of the effects of the proposed development on each landscape unit and on each landscape designation.

Significance of effects on landscape character and quality

The addition of a development into a landscape that is not currently characterised by that type of development will usually have an appreciable effect on the character of at least a localised area within that landscape. However, the spatial extent of that effect and the significance of the effect on the character of the landscape unit as a whole will depend on the scale of the development, the extent of the zones of visibility and the following aspects of the receiving landscape:

- The key characteristics of the landscape.
- Landscape designations.
- Landscape quality.
- Extent to which views contribute to landscape character.

For landscape units in which a development is proposed, the key characteristics of the landscape are the main factors that determine whether the predicted effects on landscape character and quality will be significant. For example, a large-scale landscape, which would more readily accommodate a large-scale development, may also have a lack of surface screening features (such as woodlands and buildings), thereby allowing the proposed development to be visible over a wide area. As a result, there may be a significant effect on landscape character and quality.

Conversely, in a small-scale and closed landscape (such as small scale fields with hedgerows, trees and woodlands), there would be a change in landscape character in the vicinity of the proposed development. However, the screening effects of surface features may result in few long distance views, so a much smaller part of the landscape unit would be affected. If the landscape unit is extensive, or the development is on the edge of the landscape unit, then such localised changes may not have a significant effect on the landscape character and quality of the landscape unit as a whole.

For landscape units at a distance from the proposed development, the extent to which views contribute to the character of the landscape is the main factor that determines whether the predicted effects on landscape character and quality will be significant. Where views are an essential characteristic of a landscape unit, then a moderate magnitude of change may result in a significant effect, whereas for a landscape unit whose character and quality are derived mainly from its component features, a moderate magnitude of change in a view may not have a significant effect on landscape character and quality.

Where a development is proposed within a designated landscape, the extent to which the development would affect the particular characteristics and qualities that form the basis/purpose of the designation is also a factor that determines whether the predicted magnitude of change in the views would have a significant effect on the landscape character and quality of the designated area as a whole.

Similarly, where a development is proposed outwith a designated landscape, the extent to which views into and out of the designated area are an important basis or purpose of the designation is also a factor that determines whether the predicted magnitude of change in the views would have a significant effect on the landscape character and quality of the designated area as a whole. It must be appreciated that significant landscape effects can be either positive/beneficial or negative/adverse, and this will depend on the type of development proposed and the characteristics of the receiving landscape. However, negative significant effects are not necessarily unacceptable.

H1.3.7 Stage 7: Visual assessment

The assessment of effects on visual amenity draws on the description of the development, the landscape and visual context, and the visibility and viewpoint analyses, and discusses the significance of the overall effects of the proposed development on the visual amenity of the main visual receptor groups in the study area.

Receptors fall into two broad categories, linear route receptors and fixed viewpoint receptors. Linear route receptors are those who are travelling along linear routes (such as roads, cycle routes, footpaths, bridleways) and who are already experiencing a constantly changing series of views. As a consequence, linear route receptors may be exposed to long-term changes in any one view for only a momentary or relatively short period in time but may be exposed to a series of such views of the development.

Fixed viewpoint receptors are those who are, or can be, stationary at a viewpoint (such as at scenic viewpoints and visitor facilities, in settlements and in local residential properties) and for whom there is a relatively constant view or views. As a consequence, fixed viewpoint receptors can be exposed to a long-term change in a view for an appreciable duration. Examples of linear and fixed viewpoint receptors are given in *Table L1.1* below.

Significance of effects on visual amenity

To assess the significance of the effects on visual amenity at each viewpoint, a judgement is made as to whether the predicted magnitude of the change is significant for each receptor, both fixed viewpoint receptors and/or linear route receptors, as applicable. This judgement is based on the characteristics of the visual receptors at the viewpoint and/or on the route, and takes into account:

- Receptor activities.
- Whether receptors will be stationary or moving at the viewpoint.
- The orientation of the receptor in relation to the view.
- Whether receptors are likely to be there for the purposes of enjoying the view.
- Duration of the view for each receptor (in relative terms).

Table L1.1 Visual Receptors

Receptor Type	Receptors	Typical locations	Activities
Linear route receptors	Walkers, cyclists and horseriders	On footpaths, cycleways, bridleways and other public rights of way, (and on Access Land)	Travelling at a steady pace with ample opportunity to enjoy the specific qualities of the landscape
	Motorcyclists, motorists and passengers	On motorways, A – C class roads, minor roads and tracks	Travelling at various speeds, depending on the class of road and the driver, with views of the surroundings
	Ferry, air and rail travellers	On ferries, trains and aeroplanes	Travelling at various speeds and with various views
Fixed viewpoint receptors:	Residents	Residential properties, farmsteads, settlements and towns	Enjoying views from within the curtilage of their properties, from windows, driveways and gardens
	Motorists, walkers, cyclists and horseriders	Scenic vantage points beside public highways and rights of way	Stopping a journey to enjoy the view
	People at leisure or on holiday (outdoors) eg golfers, fishermen, campers	Golf courses, fishing lakes, recreational grounds, picnic sites, camping and caravan sites, holiday villages	Playing golf, fishing or other outdoor sports, picnicking, camping and caravan holidays
	People at work (outdoors)	Farms, mineral extraction sites, waste disposal sites, roads	Working but with views of surroundings
	People at leisure (indoors)	Indoor recreational centres, cinemas	Indoor sports with few views of surroundings
	People at work (indoors)	Offices, business parks, industrial estates	Working with few views of surroundings
	Ferry, air and rail travellers	At ferry terminals, railway stations and airports	Waiting to catch their chosen mode of transport

In general terms, a moderate magnitude of change would be considered significant for a residential receptor, as the view is from their home, and could be experienced everyday for as long as they live there. A moderate magnitude of change for walkers at a scenic viewpoint may also be significant, particularly if that viewpoint is easily accessible, is known to be well visited and is one from which receptors can gain impressive views of the surrounding landscape. A moderate magnitude of change to a view, as experienced by motorists travelling along a road, may not be significant if the view was from only a short section of the route (where "short" is a combination of both the length of the road and the speed of travel), but may be if the view was sustained, or repeated along that route. However, it should be noted that significant visual effects can be either positive/beneficial or negative/adverse. This will depend on the type of development proposed, the characteristics of the receiving landscape and if the visual receptors are in favour of or opposed

to the type of development proposed. It should also be noted that negative significant effects are not necessarily unacceptable.

H1.3.8 Stage 7: Acceptability of the proposed development

This final stage of the assessment considers the findings of the landscape and visual assessments and discusses the extent and acceptability of the predicted effects on the landscape and visual amenity of the study area, in the context of existing developments.

H1.4 ASSESSMENT TOOLS

The assessment tools include field survey sheets and photography to record fieldwork observations and computer programmes to generate the wireframes and photomontages.

H1.4.1 Fieldwork Observations

For landscape character, the observations include the landform and hydrological features, land use and land cover, landscape elements, landscape patterns, aesthetic and perceptual factors. An example field survey form for landscape character assessment is included as *Table L1.2* below.

For visual amenity, the fieldwork observations include the nature of the existing view (including the extent of the panorama, distinctive features, composition, scale, and patterns of the landscape), and the changes to the view that would result from the proposed development. For linear routes, observations are made on the way the view changes along the route, and the location of the development in relation to the direction of travel. For fixed viewpoints, the position of the development in the view relative to other features is also noted.

Table L1.2 Landscape Character and Assessment Form

Landform			
Flat	Plain	Ridge	Broad
Undulating	Lowland	Rock outcrop	valley
Rolling	Plateau	Knoll	Narrow
Steep	Dip slope	Rounded hilltop	valley
Vertical	Escarpment	Peak	Deep gorge
			Gully
Hydrological and coastal features			
Reservoir	Marsh/bog	Beach	Cliffs
Canal	Stream	Dunes	Headland
Pond	River	Mudflats	
Lake	Waterfall	Salt marsh	
Water park	Estuary		
Land use/cover			
Agriculture:	***Forestry/woodland:***	***Industry:***	***Open land***
Arable	Orchard/horticulture	Mineral extraction	***uses:***
Permanent pasture	Parkland	Waste disposal	Moor
Ley/improved	Deciduous woodland	Light industrial	Heathland
Semi-improved	Mixed woodland	Energy generation	Common

Rough grazing Scrub/bracken	Coniferous plantation Commercial forestry	Oil refinery/storage Gas terminal	Recreation grounds MoD

Landscape elements

Built elements:	***Vertical elements:***	***Transport routes:***	***Other elements:***
Farm buildings	Communication masts	Motorway	Hedgerows
Churches	Electricity pylons	Main road	Hedgerow trees
Castle	33kV poles and wires	Minor road	Tree clumps
Ruins	Telegraph poles	Lane	Copses
Stately homes	Chimneys	Track	Shelter belt
Hamlets	Cooling towers	Bridleway	Stone walls
Villages	Flare stacks	Footpath	Brick walls
Towns		Railway	Post and wire fences
Housing estates		Airport	Banks
Industrial estates		Ferry terminal/route	

Landscape patterns

Settlement:	***Field patterns:***	***Roads:***
Dispersed	Small/medium/large	Grid
Nucleated	Irregular/regular	Follow contours
Linear		In valleys
		On ridges

Landscape quality:	**Exceptional**	**High**	**Medium**	**Low**	**Very low**
Clarity:	Strong	Very clear	Clear	Vague	Muddled
Distinctiveness:	Bold	Distinct	Obvious	Indistinct	Obscure
Intactness:	Unified	Integrated	Interrupted	Fragmented	Remnant
Balance:	V harmonious	Harmonious	Balanced	Discordant	Chaotic
Condition:	Prime	Very good	Good	Fair	Poor
Other aesthetic and perceptual factors					
Scale:	Intimate	Small	Medium	Large	Vast
Enclosure:	Confined	Enclosed	Semi-enclosed	Open	Exposed
Pattern:	Formal	Organised	Regular	Random	Chaotic
Line:	Straight	Angular	Curved	Sinuous	Erratic
Texture:	Smooth	Grainy	Textured	Rough	Very rough
Colour:	Monochrome	Muted	Pastel	Colourful	Vibrant
Diversity:	Uniform	Simple	Varied	Diverse	Complex
Movement:	Still	Calm	Gentle	Busy	Very busy
Tranquillity:	Silent	Serene	Peaceful	Active	Very active
Remoteness:	Inaccessible	Isolated	Secluded	Accessible	Very accessible
Security:	Secure	Comfortable	Safe	Unsettling	Threatening
Stimulus:	Awe inspiring	Impressive	Interesting	Bland	Dull
Pleasure:	Exquisite	Beautiful	Pleasant	Unpleasant	Offensive

H1.4.2 Computer-Based Tools

In addition to fieldwork observations and photography, computer-based tools are used for the assessment, including:

- Digital terrain model (DTM) - a three dimensional map of the topography of the study area, using the Ordnance Survey Landform Panorama digital terrain height data. This is supplied at 50m centres, with an easting, a northing and an elevation in metres above Ordnance Datum (mAOD). Each grid intersection is accurate to within approximately 3m, but the DTM extrapolates between data points, so is not able to allow for localised topographical features within the 50m cells.

- Digital model of the proposed development - the X, Y and Z co-ordinates of each trident pole are located on the DTM, and a digital model of the

proposed development size and design is located at each station (pole location).

- Wireframes – computer-generated wireframe perspectives of the landform and proposed development to illustrate the predicted views from each viewpoint. The wireframes are based on landform data only and do not show the screening effects of surface features such as trees, hedgerows and buildings.

- Photomontages – computer-generated images of the proposed development accurately located and overlaid onto the scanned photographs of the existing view. These are not used as part of the assessment process but, where included in an assessment, are provided to illustrate a photo-realistic image of the predicted view from a selection of viewpoints.

H1.5 METHOD OF ASSESSMENT - COMPARISON WITH METHODOLOGY IN CURRENT GUIDELINES

The main difference between the above assessment process and that recommended in the LI guidelines (LI/IEA 1995) relates to the method of assessing significance. In the guidelines, the magnitude of the predicted changes is combined with the *sensitivity* of the receptors (landscape and visual) in order to predict significance thresholds. The guidelines show this in the form of a simple graph with three levels of significance (*substantial*, *moderate* and *slight*). However, the graph does not provide significance thresholds for all combinations of sensitivity and magnitude, and the guidelines also do not provide any guidance on whether the predicted effects (as described by the significance thresholds) would be acceptable.

In the opinion of E4, whilst magnitude of change can be based on largely quantifiable parameters (as described above in this annex), receptor sensitivity is a subjective and complex concept, which cannot be adequately categorised into only 3 levels (described as *high*, *medium* and *low* in the guidelines) and cannot be easily applied to simple broad categories of receptors. Receptor sensitivity needs to take account of a large number of parameters, the influence of which may vary between receptors and locations. Landscape sensitivity (or, more specifically, its antonym, *landscape capacity*) will also depend on the type and scale of the development in relation to the characteristics of the landscape and so cannot be easily predicted in advance of the assessment.

The method of assessment described in this annex is both simpler and more flexible, and enables both receptor and location specific factors for each and every assessment location in the study area to be taken into account. In simple terms, the method is:

magnitude of change x (range of receptor and location specific factors) = significance

Therefore, the assessment considers the significance of the predicted magnitude of change at each individual location and for each receptor type considered in the assessment, but without limiting sensitivity to only 3 levels and without the pre-determined outcome of the graph. As a result, the weighting of the factors can be varied to take account of the specific conditions in each and every location.

For example, in some landscape types, it is the scale rather than the quality of the landscape that influences its ability to absorb certain types of development. In other character areas, it may be that quality has more influence than scale. Similarly, for landscapes types at a distance from the proposed development, the extent to which a change in the view influences landscape character and quality will vary between landscape types.

This flexibility of weighting is also important when assessing the significance of the effects on visual receptors, particularly linear route receptors. For example, a moderate magnitude of change to the view experienced by receptors travelling along a road may not be significant if the view was experienced for only a short section of the route, but may be significant if the view was sustained or regularly repeated along the length of the route. Similarly, a moderate change in the view along a short section of local footpath may not be significant, but may be for walkers on a long distance footpath, through a National Park, where the walkers have been attracted to the route by the opportunity to experience the landscape.

Details of the viewpoint analysis for the onshore landscape assessment follows.

H2.1.1 Viewpoint 26: A548 near Belgrano

Existing view:

This viewpoint is located adjacent to the A548 road, looking over a field gate towards the southeast. The viewpoint is not within any local landscape designations and is within the coastal and estuarine flats landscape type.

The foreground of the view is large, flat and open, formed mainly by the adjacent pasture field. The residential properties at the edge of Belgrano can be seen within the far right of the view, with substantial amounts of mature garden vegetation associated with them. The flat coastal plain can be seen spreading south within the view, with pasture fields defined by post and wire fencing and isolated patches of hedgerow. An existing transmission line also runs east to west across this flat pastureland.

Beyond this, the landscape gently rises to form a low and well wooded ridge which, from this location, encloses views to the south. The woodland on this ridge of higher land is noticeably broken and the ridgeline is interrupted where local quarrying has taken place. In views to the south east, the higher land of the Clwydian Range can be seen in the distance.

Predicted view:

The predicted view is shown in the photomontage on Viewpoint 26 (for all Viewpoints see Volume IV). This shows that parts of the overhead transmission line route and substation will be visible from this location.

Magnitude of the change:

The viewpoint is approximately 0.9km from the proposed substation and transmission line, which will be partially visible from this location. However, the viewpoint is several fields away from the substation and the route of the transmission line which will be partially screened by intervening vegetation. The substation will be bunded and of a low height and would, therefore, not form a prominent feature within the view. The transmission line itself would be partially visible within the middle distance, stretching southward, away from the viewpoint. However, there are several existing vertical elements of a similar scale within the foreground of the view, with lampposts and telephone lines along the roadside in the foreground and an existing transmission line running east to west across the view in the near distance. Therefore, the magnitude of change in the view will be *negligible*.

H2.1.2 Viewpoint 27: A547 Rhuddlan Road near Bodoryn Cottages

Existing view:

This viewpoint is located on the A547, looking over a field gate to the northwest. The viewpoint is outside of any local landscape designations and is within the Vale farmlands landscape type.

The foreground of the view is wide and deep, made up of flat pasture fields bounded by patchy, low hedgerows and post and wire fencing. An electricity line passes through the foreground field, from west to east. A small belt of deciduous trees, called Gors Wood, can be seen beyond the adjacent field to the north, with the more distant residential properties of Towyn visible within the far right of the view. More distant electricity poles can be seen crossing the flat pastureland in front of Gors Wood, with the residential properties of Belgrano visible in the far distance, as well as the nearby farm and properties adjacent to the A547, both within the left of the view.

Predicted view:

The predicted view is shown in the photomontage on Viewpoint 27. This shows that part of the transmission line route will be visible from this location.

Magnitude of the change:

The viewpoint is approximately 1km from the transmission line route. From this distance the northern section of the route will be visible where it crosses the flat landform, but only as distant poles. The substation would not be discernible from the existing built form on the skyline, located at a distance of approximately 1.7km to the north. The proposed transmission line poles would be seen within a context of existing electricity poles in the foreground and middle distance and parts of the route would be screened from this location by intervening built form and vegetation, particularly as the route crosses the A547 and climbs onto higher land. Therefore the magnitude of change will be *negligible*.

H2.1.3 Viewpoint 28: St Asaph Road near Bodtegwel Terrace

Existing view:

This viewpoint is located on a local road linking the A547 with the nearby village of St George and the A55 (T). The viewpoint is outside of any local landscape designations and within the Vale farmlands landscape type.

A large, flat arable field occupies the foreground of the view, bounded by low and occasionally broken hedgerows with scattered mature hedgerow trees. Beyond this, to the southwest, the land rises to form a lightly undulating ridge with a mixture of arable and pastureland, and woodland. The grouping of residential properties at Bodtegwel Terrace can be seen in the far left of the view, with Hendre-bach and Hendre-fawr partially visible on the lower slopes. To the north, the landscape seems to dip down, and then rise again to

the coast, with the sea not visible from this low lying position. An existing transmission line crosses the foreground field and the road in the north of the view, with the distant horizon formed by the settlements located along the coast.

Predicted view:

The predicted view is shown in the photomontage on Viewpoint 28. This shows that the substation building will not be visible from this location. Nearby sections of the transmission line route will be visible.

Magnitude of the change:

The viewpoint is located 0.2km from the proposed transmission line, which would be clearly visible in the foreground of the view. However, the nearby higher land will provide a background to much of this section of the transmission line route, resulting in several poles being viewed against a landscape backdrop, which will help them integrate into existing views to the west and south. The existing mature hedgerow trees to the west of this local road will also aid in at least partially screening the poles as the route runs south from the A547. To the north of the A547, the poles will be located at such a distance as to be largely indiscernible within the view.

The poles will not be prominent features of the view, particularly due to the presence of the nearby existing electricity line. Therefore, the magnitude of change will be *moderate/slight*.

H2.1.4 Viewpoint 29: St George

Existing view:

This viewpoint is located on a local road within the village of St George, also known as Llansan Siôr. The viewpoint is within the local SLA designation, and within the Limestone farmlands landscape type.

St George is located on land steeply sloping down to the north. Pasture fields occupy the sloping foreground, bounded by overgrown hedgerows and stonewalls, with occasional mature trees within the fields and in hedgerows. An existing transmission line crosses immediately in front of the view, running west to east, with the local school house visible in the far right of the view, and the nearby quarry buildings within the far left of the view. The elevated position of the viewpoint allows open views to the north across the flat coastal landscape, which occupies the middle distance. This distant, flat pastoral land has a notably different character, in that it has contrasting elements of open agriculture and dense population centres, and few trees.

Predicted view:

The predicted view is shown in the photomontage on Viewpoint 29. This shows that from this location some sections of the transmission line route will

be visible.

Magnitude of the change:

The viewpoint is located 0.8km from the proposed transmission line, although the nearest sections of the route will be screened behind the quarry buildings within the left of the view. The sections of the route that will be visible from this location will be over 1km from the viewpoint, located on the flatter coastal plains. However, from this distance, the poles of the transmission line will be barely discernible against their landscape backdrop and the substation building, approximately 2.9km to the north, will not be discernible amongst the urban form along the horizon. Therefore the magnitude of change will be *negligible*.

H2.1.5 Viewpoint 30: Junction of Nant Ddu Road and St George's Road

Existing view:

This viewpoint is located at the junction of two local roads. The viewpoint is within the local SLA designation, and within the Limestone farmland landscape type.

In the foreground of the view the road junction can be seen, with the local Fadre Hill road running up hill to the south and Nant Ddu Road running down hill to the north. St George's Road is within the centre of the view. Thick and deep hedgerows bound much of the road and the junction, screening parts of the adjacent agricultural fields from view. To the south, the land can be seen rising above the hedgerows within the far left of the view, with Coed y Geufron enclosing the view. A line of electricity poles and wires runs up the slope of the agricultural field.

To the north of St George's Road the land drops down and nearby land is mainly hidden from view by the roadside hedgerows. More distant land along the coast is visible above the hedgerows as a flat horizon across much of the view.

Predicted view:

The predicted view is shown in the photomontage on Viewpoint 30. This shows that nearby sections of the transmission line route will be visible.

Magnitude of the change:

The viewpoint is located 0.07km from the proposed transmission line route. The transmission line poles will be visible to the north and south of St George's Road, although they will mainly be backgrounded by woodland and landscape. Some of the poles will be viewed adjacent to existing electricity poles. The more distant sections of the route to the north will barely be discernible within the complex distant landscape and urban form. Therefore the magnitude of change will be *moderate/slight*.

H2.1.6 Viewpoint 31: Footpath above Fadre Farm

Existing view:

This viewpoint is located on a footpath running between Fadre Hill and Fford-las Bach. The viewpoint is within the local SLA designation, and within the Limestone farmland landscape type.

A large pasture field enclosed by a post and wire fence occupies the foreground of the viewpoint. Fadre Farm can be seen located on lower land within the centre of the view, backgrounded by swathes of woodland and higher, more distant land. To the east, within the far left of the view, the immediate land drops gently down to Fadre Hill and then rises again on the other side of the road. The Parc-y-Meirch Quarry forms a prominent part of this view and is only partially screened from this location. The high foreground land forms the horizon to the far right of the view. As this land drops away to the east, the distant higher land of Moelfre Isaf is clearly visible as a noteworthy highpoint along the horizon. A string of pylons break the horizon at this point and continue to do so across into the centre of the view.

Predicted view:

The predicted view is shown in the photomontage on Viewpoint 31. This shows that nearby sections of the transmission line route will be visible.

Magnitude of the change:

The viewpoint is located 0.1km from the proposed transmission line route. Much of the route will not be visible from this location. Within the far left of the view, the route will be visible beyond the nearby woodland and will cross diagonally across the foreground field in front of Fadre Farm. The route will then be screened from view by foreground topography. More distant southern sections of the route will be visible although at such distances, they are unlikely to be clearly discernible within the complex landscape patterns. The nearby section of the route will be completely backgrounded by land, including the Parc-y-Meirch Quarry, and so the poles will not be prominent features of the view. Therefore the magnitude of change will be *moderate/slight*.

H2.1.7 Viewpoint 32: Local road near Fadre Farm

Existing view:

This viewpoint is located on a local road near to Fadre Farm, within the SLA. The viewpoint is within the Limestone farmland landscape type.

Pasture fields occupy the foreground of the view. These rise to form an immediate horizon in the west and dip in the south to reveal more distant fields and the higher land of Moelfre Isaf. Fadre Farm is located on the nearby horizon to the west, partially screened by a line of Cupressus leylandii, with associated agricultural buildings spreading out along the horizon to the north.

Post and wire fencing surround each field, with a transmission line crossing the view in the north and linking into Fadre Farm. The view to the south is contrastingly complex and detailed compared to that of the west and north, with an intricate pattern of fields, hedgerows, trees and pylons making up the southern view.

Predicted view:

The predicted view is shown in the photomontage on Viewpoint 32. This shows that parts of the proposed transmission line route will be visible from this location. However, the northern sections of the route will not be visible due to intervening topography.

Magnitude of the change:

The sloping foreground to the north will screen large sections of the northern part of the route, so that only the nearest transmission line poles will be visible. These poles will run behind Fadre Farm, approximately 0.25km to the west and then run in a southerly direction so that they will be visible located just beyond the horizon. As the view opens up towards the south, some of the poles will be partially visible in between the trees in the middle distance landscape. However, they will be backgrounded by the landscape behind and will not be prominent features in the view. Those transmission line poles visible to the north and west will be more prominent and backgrounded by sky. However, the view from this location already contains a nearby transmission line as well as the repeating vertical forms of the post and wire fencing. Therefore, the magnitude of the change will be *moderate*.

H2.1.8 Viewpoint 33: Summit of Moelfre Isaf

Existing view:

The viewpoint is located at the summit of Moelfre Isaf, an area of locally high land that is a prominent feature of the local skyline. The viewpoint is within the SLA and within the Aled Hiraethog Hills landscape type.

The view from this elevated location is a 360º panorama which includes the coastal landscape as well as Snowdonia National Park, the Clwydian Range (AONB) and the undulating landscape of the SLA to the south. The view to the north shows unimproved grassland and gorse sloping down to reveal two nearby strings of pylons running west to east, as well as much lower lying, undulating pastureland and arable fields bounded by thick hedgerows, interspersed with woodland blocks.

Beyond this middle distance land lie the coastal plains, which are only partially visible from this location, mainly revealing the coastal settlements behind intervening higher land.

Predicted view:

The predicted view is shown in the photomontage on Viewpoint 33. This shows that much of the southern section of the route will be visible from this location, with large parts of the northern section and the substation building screened from view by intervening land.

Magnitude of the change:

The viewpoint is located 0.8km from the proposed transmission line route, the southern section of which will be visible backgrounded by landscape. The northern section of the route will be screened by intervening land. From this distance, the transmission line poles approximately 0.8km and more away will not be clearly discernible within the intricate and vast landscape view, where the nearby pylons are prominent features. Therefore, the magnitude of the change will be *slight/negligible*.