Land South of Brackmills

Landscape and Visual Impact Assessment Appendices
**Volume I - Appendices 1 to 12**

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This document has been prepared and checked in accordance with ISO 9001:2008.
Appendices

Appendix I. Glossary

*Cumulative effects.* The additional changes caused by a proposed development in conjunction with other similar developments or as the combined effect of a set of developments, taken together.¹

*Landscape Character Areas.* These are single unique areas which are the discrete geographical areas of a particular landscape type. Each has its own individual character and identity, even though it shares the same generic characteristics with other types.²

*Landscape character type.* These are distinct types of landscape that are relatively homogeneous in character. They are generic in nature in that they may occur in different areas in different parts of the country, but wherever they occur they share broadly similar combinations of geology, topography, drainage patterns, vegetation, historical land use, and settlement pattern.³

*Landscape effects.* Effects on the landscape as a resource in its own right.⁴

*Landscape character.* A distinct and recognisable pattern of elements in the landscape that makes one landscape different from another, rather than better or worse.⁵

*Landscape quality (or condition).* A measure of the physical state of the landscape. It may include the extent to which typical character is represented in individual areas, the intactness of the landscape and the condition of individual elements.⁶

*Landscape receptor.* Defined aspects of the landscape resource that have the potential to be affected by a proposal.⁷

*Landscape value.* The relative value that is attached to different landscapes by society. A landscape may be valued by different stakeholders for a whole variety of reasons.⁸

*Magnitude (of effect).* A term that combines judgements about the size and scale of the effect, the extent of the area over which it occurs, whether it is reversible or irreversible and whether it is short or long term, in duration.⁹

*Mitigation.* Measures which are proposed to prevent, reduce and where possible offset any significant adverse effects (or to avoid, reduce and if possible remedy identified effects).¹⁰

*Sensitivity.* A term applied to specific receptors, combining judgements of the susceptibility of the receptor to the specific type of change or development proposed and the value related to that receptor.¹¹

*Susceptibility.* The ability of a defined landscape or visual receptor to accommodate the specific proposed development without undue negative consequences.¹²
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Visual amenity. The overall pleasantness of the views people enjoy of their surroundings, which provides an attractive visual setting or backdrop for the enjoyment of activities of people living, working, recreating, visiting or travelling through an area. ¹

Visual effect. Effects on specific views and on the general visual amenity experienced by people. ¹

Visual receptor. Individuals and/or defined groups of people who have the potential to be affected by a proposal. ¹

Zone of Theoretical Visibility (ZTV). A map, usually digitally produced, showing areas of land within which a development is theoretically visible. ¹


Appendix 2. References


5) Landscape Institute Advice Note 01/11 - Photography and photomontage in landscape and visual impact assessment.


10) BS 5837:2012 Trees in relation to design, demolition and construction. Recommendations


Appendix 3. Methodology

Introduction
This appendix contains additional detail regarding the assessment methodology, supplementing the information provided within the LVIA text.

Baseline
The baseline study establishes the planning policy context, the scope of the assessment and the key receptors. It typically includes the following key activities:

- A desk study of relevant current national and local planning policy, in respect of landscape and visual matters, for the site and surrounding areas.
- Agreement of the main study area radius with the local planning authority. For this assessment, a study area of 4km was agreed.
- A desk study of nationally and locally designated landscapes for the site and surrounding areas.
- A desk study of existing landscape character assessments and capacity and sensitivity studies for the site and surrounding areas.
- A desk study of historic landscape character assessments (where available) and other information sources required to gain an understanding of the contribution of heritage assets to the present day landscape.
- Collation and evaluation of other indicators of local landscape value such as references in landscape character studies or parish plans, tourist information, local walking & cycling guides, references in art and literature.
- The identification of valued character types, landscape elements and features which may be affected by the proposal, including rare landscape types.
- Exchanging information with other consultants working on other assessment topics for the development as required to inform the assessment.

Draft Zone of Theoretical Visibility (ZTV) studies to assist in identifying potential viewpoints and indicate the potential visibility of the proposed development, and therefore scope of receptors likely to be affected. The methodology used in the preparation of ZTV studies is described within Appendix 3.

The identification of and agreement upon, through consultation, the number and location of representative viewpoints within the study area.
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- The identification of the range of other visual receptors (e.g. people travelling along routes, or within open access land, settlements and residential properties) within the study area.
- Site visits to become familiar with the site and surrounding landscape; verify documented baseline; and to identify viewpoints and receptors.
- Input to the design process.

The information gathered during the baseline assessment is drawn together and summarised in the baseline section of the report and reasoned judgements are made as to which receptors are likely to be significantly affected. Only these receptors are then taken forward for the detailed assessment of effects, with others 'scoped out' (ref. GLVIA 3rd edition, 2013, para 3.19).

Correspondence with the planning authority and consultees regarding study area and viewpoints are included in the Landscape SoCG.

Design

The Landscape Architect plays a leading role in the site design. The design and assessment stages are necessarily iterative, with stages overlapping in parts.

Details of any mitigation measures incorporated within the proposals to help reduce identified potential landscape and visual effects are set out in Section 5.0 of the LVIA.

Assessment

The assessment of effects includes further desk and site-based work, covering the following key activities:
- The preparation of a LVIA based on the finalised design for the development.
- An assessment, based on both desk study and site visits, of the sensitivity of receptors to the proposed development.
- An assessment, based on both desk study and site visits, of the magnitude and significance of effects upon the landscape character, designated and recreational landscape and the existing visual environment arising from the proposed development.
- An informed professional judgements as to whether each identified effect is positive, neutral or adverse.
- A clear description of the effects identified, with supporting information setting out the rationale for judgements.
- Identification of which effects are judged to be significant based on the significance thresholds established in Section 2.2.1.
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- The production of photomontages from a selection of the agreed viewpoints showing the anticipated view following construction of the proposed development. Photomontages are included in the Landscape SoCG.

Preparation and use of Visuels

The ZTVs are used to inform the field study assessment work, providing additional detail and accuracy to observations made on site. Photomontages may also be produced in order to assist readers of the assessment in visualising the proposals, but are not used in reaching judgements of effect. The preparation of the ZTVs (and photomontages where applicable) is informed by the Landscape Institute’s Advice Note 01/11 – ‘Photography and photomontage in landscape and visual impact assessment’ and SNH ‘Visual Representation of Wind Farms Best Practice Guidance’ (both the 2007 and 2014 editions).

The following points should be borne in mind in respect of the ZTV study:

Areas shown as having potential visibility may have visibility of the development obscured by local features such as trees, hedgerows, embankments or buildings.

A detailed description of the methods by which ZTVs and photomontages are prepared is included below.

In addition to the main visualisations, illustrative views are used as appropriate to illustrate particular points made within the assessment. These are not prepared to the same standard as they simply depict existing views, character or features rather than forming the basis for visualisations.

Methodology for preparation of ZTV Studies

ZTV studies are prepared using the ESRI ArcGIS Viewshed routine. This creates a raster image that indicates the visibility (or not) of the points modelled. The ZTVs have been produced using detailed terrain and surface mapping with Derived Aerial Photography Heights at 2m resolution (i.e. 2m distances between survey points). This creates a more detailed and accurate ZTV than would commonly be produced for LVIAs. The Digital Surface Model (DSM) and Digital Terrain Model (DTM) data for this project was derived from photography captured on 24/5/2009.

The model is also designed to take into account both the curvature of the earth and light refraction, informed by the SNH guidance. LDA Design undertake all ZTV studies with observer heights of 2m.

The ZTV analysis begins at 1m from the observation feature and will work outwards in a grid of the set resolution (on a standard LDA Design assessment this will be at 12.4 sq. m) until it reaches the end of the terrain map for the project.

Below is listed the different data products and their specifications:
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<table>
<thead>
<tr>
<th>Product</th>
<th>Distance Between Points</th>
<th>Vertical RMSE Error</th>
</tr>
</thead>
<tbody>
<tr>
<td>LiDAR</td>
<td>50cm – 2m</td>
<td>up to +/- 10cm</td>
</tr>
<tr>
<td>Photogrammetrically Derived Heights</td>
<td>1m – 5m</td>
<td>up to +/- 25cm</td>
</tr>
<tr>
<td>Ordnance Survey OS terrain 5</td>
<td>5 m</td>
<td>up to +/- 1.5m</td>
</tr>
<tr>
<td>NextMap25 DTM</td>
<td>25 m</td>
<td>+/- 2.06m</td>
</tr>
<tr>
<td>Ordnance Survey OS terrain 50</td>
<td>50 m</td>
<td>+/- 4m</td>
</tr>
</tbody>
</table>

Method used for production of the Wirelines and Photomontages

The method used for the production of the Wirelines and Photomontages that are included in the Landscape SoCG is included in Appendix 7 of the Landscape SoCG.

Landscape Character Considerations:

The European Landscape Convention (2000) provides the following definition:

“Landscape means an area, as perceived by people, whose character is the result of the action and interaction of natural and/or human factors.”

And notes also in Article 2 that landscape includes “natural, rural, urban and peri-urban areas. It includes land, inland water and marine areas”.

An Approach to Landscape Character Assessment (Natural England, 2014) defines landscape character as:

“a distinct and recognisable pattern of elements, or characteristics, in the landscape that make one landscape different from another, rather than better or worse.”

The susceptibility of landscape character areas is judged based on both the attributes of the receiving environment and the characteristics of the proposed development as discussed under ‘susceptibility’ within the methodology section of the LVIA. Thus, the key characteristics of the landscape character types/areas are considered, along with scale, openness, topography; the absence of, or presence, nature and patterns of development, settlement, landcover, the contribution of heritage assets and historic landscape elements and patterns, and land uses in forming the character. The condition of the receiving landscape, i.e. the intactness of the existing character will also be relevant in determining susceptibility. The likelihood of material effects on the landscape character areas can be judged based on the scale and layout of the proposal and how this relates to the characteristics of the receiving landscape.
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The introduction of any development into a landscape adds a new feature which can affect the ‘sense of place’ in its near vicinity, but with distance, the existing characteristics reassert themselves.

The baseline is informed by desk study of published landscape character assessments and field survey. It is specifically noted within An Approach to Landscape Character Assessment (Natural England, 2014) that:

“Our landscapes have evolved over time and they will continue to evolve – change is a constant but outcomes vary. The management of change is essential to ensure that we achieve sustainable outcomes – social, environmental and economic. Decision makers need to understand the baseline and the implications of their decisions for that baseline.”

At page 51 it describes the function of Key Characteristics in landscape assessment, as follows:

“Key characteristics are those combinations of elements which help to give an area its distinctive sense of place. If these characteristics change, or are lost, there would be significant consequences for the current character of the landscape. Key characteristics are particularly important in the development of planning and management policies. They are important for monitoring change and can provide a useful reference point against which landscape change can be assessed. They can be used as indicators to inform thinking about whether and how the landscape is changing and whether, or not, particular policies – for example – are effective and having the desired effect on landscape character.”

It follows from the above that in order to assess whether landscape character is significantly affected by a development, it should be determined how each of the key characteristics would be affected. The judgement of magnitude therefore reflects the degree to which the key characteristics and elements which form those characteristics will be altered by the proposals.

Viewpoints and Visual Receptors - considerations

A wide variety of visual receptors can reasonably be anticipated to be affected by the proposed development. Within the baseline assessment, the ZTV study and site visits will be used to determine which visual receptors are likely to be significantly affected and therefore merit detailed assessment. In line with guidance (GLVIA, 3rd Edition, 2013, paragraph 6.19); both representative and specific viewpoints may be identified to inform the assessment. In general, the majority of viewpoints will be representative – representing the visual receptors at the distance and direction in which they are located and of the type(s) that would be present at that location. The representative viewpoints have generally been selected in locations where significant effects would be anticipated, though some may be selected outside of that zone – either to demonstrate the reduction of effects with distance; or to specifically ensure the representation of a particularly sensitive receptor.
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The types of visual receptors considered for inclusion within the assessment are:

- Users of walking routes or accessible landscapes within 4 km of the proposed development (including Public Rights of Way, National and Regional Trails and other long distance routes, Common Land, Open Access Land, permissive paths, land held in trust (e.g. Woodland Trust, National Trust) offering free public access, and other regularly used, permitted walking routes;

- Visitors to and residents of settlements within 4 km of the proposed development;

- Visitors to specific valued viewpoints;

- Visitors to attractions or heritage assets for which landscape and views contribute to the experience – typically within 4 km of the proposed development; and

- Users of roads or identified scenic routes within 4 km.
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Appendix 4. National Planning Policy

1.1.1. National Planning Policy Framework (NPPF), March 2012

The ministerial foreword to the National Planning Policy Framework (NPPF) makes clear that the purpose of planning is to help achieve sustainable development, and that design is an important component of this. Paragraph 17 lists twelve core land use planning principles underpinning both plan making and decision-taking, which include that planning should (inter alia):

- 'always seek to secure high quality design and a good standard of amenity for all existing and future occupants of land and buildings;

- take account of the different roles and character of different areas, promoting the vitality of our main urban areas, protecting the Green Belt around them, recognising the intrinsic character and beauty of the countryside and supporting thriving rural communities within it;

- contribute to conserving and enhancing the natural environment...;

- promote mixed use developments, and encourage multiple benefits from the use of land in urban and rural areas, recognising that some open land can perform many functions (such as for wildlife, recreation, flood risk mitigation, carbon storage, or food production); and

- ... deliver sufficient community and cultural facilities and services to meet local needs.'

Section 7 of the NPPF focuses on good design and includes the following:

'56 The Government attaches great importance to the design of the built environment. Good design is a key aspect of sustainable development, is indivisible from good planning, and should contribute positively to making places better for people.'

'58 ... Planning policies and decisions should aim to ensure that developments:

- will function well and add to the overall quality of the area, not just for the short term but over the lifetime of the development;

- establish a strong sense of place, using streetscapes and buildings to create attractive and comfortable places to live, work and visit;

- optimise the potential of the site to accommodate development, create and sustain an appropriate mix of uses (including incorporation of green and other public space as part of developments) and support local facilities and transport networks;

- respond to local character and history, and reflect the identity of local surroundings and materials, while not preventing or discouraging appropriate innovation;

- are visually attractive as a result of good architecture and appropriate landscaping.'
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‘61. Planning policies and decisions should address the connections between people and places and the integration of new development into the natural, built and historic environment.’

‘64. Permission should be refused for development of poor design that fails to take the opportunities available for improving the character and quality of an area and the way it functions.’

Section 11 of the NPPF is headed ‘Conserving and enhancing the natural environment’. Paragraph 109 states:

‘The planning system should contribute to and enhance the natural and local environment by [inter alia] protecting and enhancing valued landscapes...’

Paragraph 113 states:

‘Local planning authorities should set criteria based policies against which proposals for any development on or affecting protected wildlife or geodiversity or landscape areas will be judged. Distinctions should be made between the hierarchy of international, national and locally designated sites, so that protection is commensurate with their status and gives appropriate weight to their importance...’

Following on from the Core Principle regarding 'character of different areas' and 'recognising the intrinsic character and beauty of the countryside', some aspects of landscape character are dealt with under section 12, which relates to the historic environment. Paragraph 126 indicates that ‘local planning authorities should take into account... the desirability of new development making a positive contribution to local character and distinctiveness’.

1.1.2. Planning Practice Guidance for Natural Environment, March 2014

This document is intended to explain the key issues in implementing policy to protect biodiversity, but also contains a section on landscape. It does not add anything new that is relevant to the is project that is not addressed by the NPPF.
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Appendix 5. Northampton Local Plan 1997 Proposals Map
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Appendix 6. Drawing 3238_02_03_A
Zone of Theoretical Visibility (ZTV) Study Including Woodlands and Settlements presented in the LVIA submitted with the planning application.
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Appendix 7. Extract from National Character 89 description
Description

Physical and functional links to other National Character Areas

The Northamptonshire Vales National Character Area (NCA) is shaped like an anchor, with the Yardley Whittlewood Ridge and the Bedfordshire and Cambridgeshire Claylands NCAs sharply defining the southern edge. High Leicestershire and the Leicestershire Vales NCAs are to the north. The Welland Valley extends north-eastwards as part of the area, north of Rockingham Forest NCA. The Northamptonshire Vales NCA sweeps between the Northamptonshire Uplands NCA to the south-west and Rockingham Forest NCA to the north-east, the latter forming the northern boundary of the Nene Valley.

This NCA shares many key characteristics with the Leicestershire Vales NCA, including a shared geology with most of the area. Outcrops of the Great Dolomite Group along the Nene Valley have more in common with the Rockingham Forest NCA.

The area is dominated by the major rivers of the Welland and Nene, both of which link several NCAs such as High Leicestershire and The Fens and drain into The Wash. The River Nene is an important source of water for public water supply, supplying water to fill and maintain both the Pitsford (located in the Northamptonshire Uplands NCA) and the Rutland (located in the Leicestershire and Nottinghamshire Wolds NCA) reservoirs. The Grand Union Canal runs through the area from London to Birmingham with the Northampton Arm linking the canal with the River Nene.

The slightly higher ground around Market Harborough defines the Soar from the Welland catchment. Higher ground on the Northamptonshire Clay Wolds—

The M1 cuts through the western end of this NCA, linking London with the North. The A45, which starts in this NCA at the A14 (Thrapston), runs along the Nene Valley to Northampton and then on through the Northamptonshire Uplands NCA, Dunsmore and Feldon NCA and on into Birmingham, which sits within Arden NCA.

The Northamptonshire Round long-distance footpath links the Northamptonshire Vales NCA with its neighbour the Northamptonshire Uplands. This footpath is approximately 80 km long and circles Northampton. The 140-kilometre Jurassic Way long-distance footpath runs through the centre of the area, from Banbury to the south-west to Stamford to the north-east.

The 140 kilometer 'Jurassic Way' long-distance footpath runs through the centre of this area, from Banbury in the south-west to Stamford in the north-east.
Key characteristics

- An open landscape of gently undulating clay ridges and valleys with occasional steep scarps. There is an overall visual uniformity to the landscape and settlement pattern.
- Diverse levels of tranquility, from busy urban areas to some deeply rural parts.
- Mixed agricultural regime of arable and pasture, with arable land tending to be on the broader, flat river terraces and smaller pastures on the slopes of many minor valleys and on more undulating ground.
- Relatively little woodland cover but with a timbered character derived largely from spinneys and copses on the ridges and more undulating land, and from waterside and hedgerow trees and hedgerows, though the density, height and pattern of hedgerows are varied throughout.
- A strong field pattern of predominantly 19th-century and – less frequently – Tudor enclosure.
- Distinctive river valleys of the Welland and the Nene, with flat flood plains and gravel terraces together with their tributaries (including the Ise). Riverside meadows and waterside trees and shrubs are common, along with flooded gravel pits, open areas of winter floodplain grassland, and woodland mosaics supporting large numbers of wetland birds and wildfowl.
- Frequent large settlements that dominate the open character of the landscape, such as Northampton and Wellingborough, and associated infrastructure, including major roads, often visually dominant.
- Frequent small towns and large villages often characterised by red brick buildings and attractive stone buildings in older village centres and eastern towns and villages. Frequent imposing spired churches are a so characteristic, together with fine examples of individual historic buildings.

Oundle is predominately built of limestone and has retained the older character of a market town.

- Relatively frequent, prominent historic parklands and country houses towards the outer edges and close to more wooded areas. Other characteristics include ridge and furrow and nationally important townships such as Sutton Bassett and Clipston.
- Localised high concentrations of threshing barns and high status timber-framed farm buildings from the 18th century or earlier.