

NORTHAMPTON LANDSCAPE SENSITIVITY AND GREEN INFRASTRUCTURE STUDY

Prepared by Living Landscapes Consultancy Ltd

On behalf of the
River Nene Regional Park CIC

Final Report

February 2009

Disclaimer

It should be noted that unless otherwise stated, the assessments made assume that sites and facilities will continue to be used for their current purpose without significant change. The conclusions and recommendations contained in this report are based upon information provided by others and upon the assumption that all relevant information has been provided by those parties from whom it has been requested. Information obtained from third parties has not been independently verified by RNRP or Living Landscapes Consultancy Ltd., unless otherwise stated in the report.

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CONTENTS

Sections

EXECUTIVE SUMMARY

1. INTRODUCTION

- 1.1 Background
- 1.2 Methodology and Scope of Report
- 1.3 Report Framework

PART A: BASELINE REVIEW (LOCAL CONTEXT AND RESOURCE REVIEW)

2.0 APPROACH TO UNDERTAKING THE BASELINE REVIEW

- 2.1 Introduction - Green Infrastructure Assets
- 2.2 Methodology

3.0 THEME ONE: NATURAL SYSTEMS

- 3.1 Topology, Geology and Minerals
- 3.2 Hydrology
- 3.3 Nature Conservation and Biodiversity and Geological Sites

4.0 THEME TWO CULTURAL HERITAGE AND LAND USE SYSTEMS

- 4.1 Cultural Heritage
- 4.2 Strategic and Local Green Space
- 4.3 Leisure, Recreation and Tourism
- 4.4 Access and Movement
- 4.5 Transport Infrastructure
- 4.6 Strategic Agricultural Land Classification

5.0 THEME THREE: TOWNSCAPE AND VISUAL CHARACTER

- 5.1 Townscape Character
- 5.2 Visual Baseline and Analysis

6.0 THEME FOUR: NORTHAMPTONSHIRE ENVIRONMENTAL CHARACTER ASSESSMENT SUITE

- 6.1 Introduction and Background to the Suite
- 6.2 Environmental Character Assessment
- 6.3 Current Landscape Character Assessment
- 6.4 Biodiversity Character Assessment
- 6.5 Historic Landscape Character Assessment

7.0 THEME FIVE: STRATEGIC GREEN INFRASTRUCTURE

- 7.1 Introduction and Background
- 7.2 The West Northamptonshire Biodiversity Network
- 7.3 The Sustainable Movement Network for West Northamptonshire
- 7.4 Strategic Green Infrastructure Corridors
- 7.5 Green Infrastructure Networks

PART B: SENSITIVITY REVIEW

8.0 SENSITIVITY REVIEW

- 8.1 Introduction and Methodology
- 8.2 Sensitivity Categories and Definitions
- 8.3 Biodiversity Sensitivity
- 8.4 Cultural Heritage Sensitivity
- 8.5 Landscape and Visual Sensitivity
- 8.6 Flood Zones and Minerals Sensitivity
- 8.7 Summary of Sensitivity by Quadrant
- 8.8 Conclusion: Combined Sensitivity

PART C: GREEN INFRASTRUCTURE STRATEGY

9.0 GREEN INFRASTRUCTURE

- 9.1 Introduction
- 9.2 What is Green Infrastructure?
- 9.3 Policy Framework
- 9.4 Green Infrastructure Provision: Biodiversity Network
- 9.5 Green Infrastructure Provision: Sustainable Movement Network

10.0 POLICY FRAMEWORK

- 10.1 Introduction
- 10.2 Regional Spatial Strategy for the East Midlands (RSS8)
- 10.3 Open Space, Sports and Recreation Needs Assessments and Audits

11.0 DELIVERY OF GREEN INFRASTRUCTURE

- 11.1 Introduction
- 11.2 Establishment of key "GI Routes"
- 11.3 Potential Improvements to the Movement Network
- 11.4 Potential Improvements to Open Space Provision
- 11.5 Additional Enhancement of Biodiversity
- 11.6 The Role of Structural Landscape Areas
- 11.7 Principles for delivery
- 11.8 Conclusion

PART D: CONCLUSION

APPENDIX 1: LIST OF DATASETS

APPENDIX 2: GLOSSARY OF TECHNICAL TERMS AND ACRONYMS

APPENDIX 3: REFERENCES

FIGURES (Listed on following page)

LIST OF FIGURES

- Figure 1: Core Study Area and Context
- Figure 2: Aerial Photograph
- Figure 3: Landform
- Figure 4: Hydrology and Flood Zones, and Minerals
- Figure 5: Nature Conservation, Biodiversity and Geological Sites
- Figure 6: Cultural Heritage
- Figure 7: Strategic and Local Green Space
- Figure 8: Existing Leisure, Recreation and Tourism Sites and Developments
- Figure 9: Access and Movement
- Figure 10: Transport and Infrastructure
- Figure 11: Strategic Agricultural Land Classification
- Figure 12: Indicative Townscape Character
- Figure 13: Slope Analysis
- Figure 14: Visual Analysis
- Figure 15: Environmental Character Assessment
- Figure 16: Current Landscape Character Assessment
- Figure 17: Biodiversity Character Assessment
- Figure 18: Historic Landscape Character Assessment
- Figure 19: Strategic Biodiversity Network
- Figure 20: Sustainable Movement Network
- Figure 21: Strategic Green Infrastructure Network
- Figure 22: Biodiversity Sensitivity
- Figure 23: Cultural Heritage Sensitivity
- Figure 24: Landscape and Visual Sensitivity
- Figure 25: Flood Zones and Minerals- Sensitivity
- Figure 26: Combined Sensitivity
- Figure 27: Green Infrastructure Networks
- Figure 28: Green Infrastructure Networks with Biodiversity Sensitivity
- Figure 29: Green Infrastructure Networks with Cultural Heritage Sensitivity
- Figure 30: Green Infrastructure Networks with Landscape and Visual Sensitivity
- Figure 31: Green Infrastructure Networks with Flood Zones and Minerals Sensitivity
- Figure 32: Green Infrastructure Strategy

EXECUTIVE SUMMARY

The Northampton Landscape Sensitivity and Green Infrastructure Study has been prepared by Living Landscapes Consultancy Ltd. on behalf of the River Nene Regional Park CIC, who commissioned the study on behalf of the Joint Planning Unit.

The Core Study Area incorporates all land within Northampton Borough, plus one parish beyond in each direction. This is consistent with the Study Area used for the *Northampton Longer Term Growth Options Study* (EDAW, 2007). The Core Study Area includes land within Northampton Borough, Daventry District, the Borough of Wellingborough and South Northamptonshire District. The boundaries of these Local Planning Authority areas are shown on Fig.1.

The study has been undertaken in four stages, and is set out accordingly.

Part A is a review of the baseline data. Its purpose is to gain an in-depth understanding of the natural and cultural resources of the area, and how they contribute to the setting and character of Northampton. The results are presented as a series of drawings, and also through text. The section is divided into five topics: Natural Systems; Cultural Heritage and Land Use Systems; Townscape and Visual Character; the Northamptonshire Environmental Character Assessment Suite, and Strategic Green Infrastructure.

Part B is a sensitivity review. Landscapes and designated sites within the Study Area identified in Part A are ascribed a level of sensitivity (high, medium or low) to large scale residential/ mixed use development. The results are illustrated graphically, and also described through text. The sensitivity review includes four topics: biodiversity sensitivity; cultural heritage sensitivity, landscape and visual sensitivity and floodzones & minerals sensitivity. In addition, there is a combined sensitivity map, which brings all the results together showing areas of high, medium and low combined sensitivity.

The aim of this section is to guide the Relevant Local Planning Authorities and developers to decisions that reduce any adverse impact on baseline resources, and to provide some indication on the location, scale and type of development that may be appropriate in a particular area. It also indicates how development should respond positively to both the opportunities and constraints identified. Plans showing sensitivity and Green Infrastructure Networks help to identify areas where Green Infrastructure provision would be most beneficial, and would enable positive responses and enhancement of the resource.

Part C is a Green Infrastructure (GI) strategy for Northampton. This section considers the opportunities for GI enhancement and consequential recommendations for an improved GI network around the town. It draws on the recently-completed Open Space, Sport and Recreation Study (pmp 2006) to identify areas of Northampton which are outside recommended catchment areas for certain types of Open Space, and also for which Open Space sites poor accessibility is an issue.

Key "GI routes" are identified which contain Primary Movement Networks, habitat corridors and Open Space sites. A series of Green Infrastructure projects are proposed which aim to address accessibility issues, and also enhance Northampton's Movement Network, Open Space sites and Biodiversity Network.

Part D contains the conclusions of the Study.

INTRODUCTION

1.1 Background

- 1.1.1 Living Landscapes Consultancy Ltd. has been appointed by the River Nene Regional Park Community Interest Company (RNRP) to prepare this Landscape Sensitivity and Green Infrastructure (LSGI) Study for Northampton. RNRP have commissioned the study on behalf of the West Northamptonshire Joint Planning Unit. Officers from the West Northamptonshire Joint Planning Unit, Daventry District Council, Northampton Borough Council and South Northamptonshire Council have also had input during the production of the Study.
- 1.1.2 The Sustainable Communities Plan identifies the Milton Keynes South Midlands (MKSM) Sub Region as one of four major areas of growth within the wider South East. Much of the development planned for that growth area will take place within Northamptonshire, focused on the existing larger towns within the County, including Northampton. The town of Northampton has been identified as a key focus in this growth area, with an anticipated 40,000 new homes (emerging RSS8) over the next 25 years. It is intended that this Study will help to inform decisions about the future expansion of the town and the infrastructure required to support that growth.
- 1.1.3 Preparation of the LSGI Study has been a wide-ranging and multi-disciplinary task, with Green Infrastructure constituting one of the five infrastructure elements under investigation. In the context of this study, Green Infrastructure and landscape encompasses all of the environmental resource at the strategic scale comprising landscape character and visual amenity, biodiversity and cultural heritage, and the wider networks and interrelationships of strategic green space, biodiversity and sustainable movement.

1.2 Methodology and Scope of the Report

- 1.2.1 The methodology and presentation of this report is consistent with the Green Infrastructure and Landscape Technical Report recently prepared for Daventry, as part of the Daventry Infrastructure Strategy. During the development of the Daventry study, the methodology was subject to a rigorous process of testing.
- 1.2.2 This report has been prepared as a technical study and is based on a desktop review of various sources of information compiled by other agencies that focus on green infrastructure and landscape issues in and around Northampton. In addition to the desktop review that has been conducted, several site visits were undertaken between April and June 2008 to supplement the information available, and in particular to gather evidence in support of the landscape character and visual assessment analyses that form part of this assessment. The site visits were limited to the consideration of strategic issues, rather than detailed issues pertaining to individual sites. Further work would be required to assess visibility and character issues at the local scale as part of more detailed site-specific assessments such as those conducted as part of Environmental Impact Assessments for proposed new development.
- 1.2.3 The overall scope of this report is:
- To provide a broad outline of the baseline resource;
 - To provide a review of the sensitivity of the landscape and landscape character, biodiversity, cultural heritage, flood zones and minerals resources surrounding Northampton;

- To contribute to the identification of an optimal green infrastructure strategy for Northampton as it grows to include 40,000 new homes;
- To assist the public sector agencies involved in growth decisions in their understanding of the relative sensitivity of the areas surrounding the town to proposals for growth;
- To progress the understanding of sensitivity in relation to green infrastructure, and to use this to guide an optimal green infrastructure network linked to Northampton's growth; and
- To identify a schedule for proposed green infrastructure investment associated with growth proposals for the town.

- 1.2.4 A clear definition of the term '*the particular type of change or development*' is established, as this provides the reference for the consideration of the sensitivity of landscapes and environmental features to the specific change, and its type and scale. In the context of this study, 'change or development' is defined as major mixed-use urban extension development in excess of 5ha¹. However, some assets could still be sensitive to development of less than 5ha.
- 1.2.5 It is important to note that the findings of this Sensitivity Assessment are not applicable to the assessment of the sensitivity of the landscape or environmental features to other types of development, for example major infrastructure such as road or rail schemes, or renewable energy initiatives such as wind farms. As such, the following section presents an examination of the environmental resource within and around Northampton under a series of Strategic Themes. Reference to supporting plans is made where relevant.
- 1.2.6 It was not considered appropriate to establish optimal development scenarios through analysis and interpretation of baseline landscape, visual, heritage and biodiversity assets, and the sensitivity assessment. The rationale for this was based on the premise that any optimal scenarios for GI and landscape would be highly dependent upon more detailed site specific surveys and required complex balancing and weighting of the respective GI interests. This is largely a matter for the development plan process. The strategic level conclusions expressed from this study still risk being interpreted as determining preferred potential sites or areas for development. Notwithstanding this risk, the conclusions from the exercise have identified areas that would be more, or less challenging for new development at a strategic scale, and for which further study would be required before any definitive judgment should be made.
- 1.2.7 A series of plans have been prepared that illustrate where the sensitivity analysis has identified areas where there are significant constraints to existing resources and also where GI provision would be most beneficial and provide opportunities for positive responses and enhancement of the resource. These plans will assist the Local Planning Authorities and developers in guiding decisions that reduce adverse impact on baseline resources and sensitivity to change as well as the location, scale and type of development that is appropriate.
- 1.2.8 Figure 31 illustrates the overall sensitivity to indicate how development should respond positively to both the opportunities and constraints identified.

Additional Considerations in respect of Green Infrastructure (GI) and Landscape

- 1.2.9 The overriding imperative in respect of GI and Landscape is intrinsically linked with recognising Northampton's character arising from the town's relationship with its topographical setting, and the wider rural hinterland that surrounds it. In addition, there is a broad objective to promote

¹ This 5ha threshold is derived from an interpretation of EIA Regulations Indicative Thresholds and Criteria – Appendix 3 Section 10b.

and deliver an integrated system of GI, encompassing biodiversity and sustainable movement networks, and the incorporation of strategic landscape and open spaces.

1.2.10 The process commenced with a comprehensive baseline assessment, including an examination of character and the visual resource, followed by a sensitivity assessment. This latter process identified a hierarchy of sensitive areas in respect of the physical and visual landscape, biodiversity and cultural heritage. It also provided the framework for an analysis of the key opportunities and constraints to providing for the town's future GI requirements, and the identification of areas of sensitivity in relation to opportunities associated with the identified GI networks.

1.3 Report Framework

This report is presented in the following format:

- 1.3.1 Section A: Baseline Review, discusses the green infrastructure and landscape, visual, biodiversity and cultural heritage baseline assets that are important when considering new mixed use development within the peri-urban landscape around Northampton.
- 1.3.2 Following the review of the baseline resource, section B: Sensitivity Review, provides detail of the sensitivity analysis that has been undertaken within the core selected themes of cultural heritage, biodiversity, landscape and visual and minerals and flood-risk. This analysis seeks to identify and highlight particularly sensitive assets to enable decision makers to consider the appropriateness of new development in and around the town.
- 1.3.3 Following the sensitivity analysis, section C: Green Infrastructure Strategy examines the infrastructure requirements for Northampton and sets out a Green Infrastructure Strategy, providing opportunities to enhance the Sustainable Movement Network, Open Spaces and biodiversity of the area.
- 1.3.4 Part D contains the conclusions of the Study
- 1.3.5 Appendix 1 contains a list of datasets used in the Study. Appendix 2 contains a glossary of technical terms and acronyms, and Appendix 3 contains a reference list.

PART A: BASELINE REVIEW (LOCAL CONTEXT AND RESOURCE REVIEW)

2.0 APPROACH TO UNDERSTANDING THE BASELINE REVIEW

2.1 Introduction- Green Infrastructure Assets

2.1.1 The assessment considers features and assets within a Core Study Area, as presented on Fig. 1. The Core Study Area incorporates all land within Northampton Borough, plus one parish out in each direction. This is consistent with the Study Area used for the Northampton Longer Term Growth Options Study (EDAW, 2007). The Core Study Area includes land within Northampton Borough, Daventry District, the Borough Council of Wellingborough and South Northamptonshire District. The boundaries of these Local Planning Authority areas are shown on Fig.1.

2.1.2 The strategic nature of this assessment and the necessity to identify a core study area through which an assessment of Northampton could be undertaken should not limit the geographical scope of future, more detailed landscape and visual assessments, perhaps undertaken as part of Landscape and Visual Impact Assessments for new developments in and around the town. For example, where new development is assessed as having a visual impact beyond the Core Study Area boundary, it may be necessary or appropriate to develop landscape interventions in the wider landscape to mitigate their adverse impact. As a consequence of the nature and scale of this strategic assessment it has not been possible to identify all the detailed issues that may arise as a result of different types of development in and around the town.

2.1.3 To aid the presentation of data, the Core Study Area has been divided into five Study Areas, which are unique to this project. Each Study Area encompasses an area of land, which is broadly consistent in terms of landscape character and the designations within it. Therefore there is minimal repetition of information, and the key issues relating to each of the Study Areas can be easily seen and addressed. The Study Areas are as follows:

- **Study Area 1: North East** includes land to the north and east of Northampton within the *Central Northamptonshire Plateaus and Valleys* Environmental Character Type, the *Liassic Slopes* Biodiversity Character Type and the *Rolling Ironstone Valley Slopes* Landscape Character Type.
- **Study Area 2: Nene Valley East** includes the *Middle Nene* Environmental Character Type, the *Major Floodplain* Biodiversity Character Type and the *Broad River Valley Floodplain* Landscape Character Type.
- **Study Area 3: South** includes the *West Northamptonshire Uplands* Environmental Character Type (and small parts of the *Middle Nene* Environmental Character Type) and the *Limestone Valley Slopes*, *Undulating Claylands* and *Undulating Hills and Valleys* Landscape Character Types. Within this Study Area there are a variety of Biodiversity Character Types.
- **Study Area 4: Nene Valley West** includes the *Upper Nene Catchment and Watford Gap* Environmental Character Type, and the *Broad River Valley Floodplain* Landscape Character Type. The majority of this Study Area is within the *Major* and *Minor Floodplains*. The Biodiversity Character Types include some *Liassic Slopes* and *Cropped Claylands*.
- **Study Area 5: North West** includes parts of the *Central Northamptonshire Plateaus and Valleys* and *West Northamptonshire Uplands* Environmental Character Types, and parts

of the *Rolling Ironstone Valley Slopes* and *Undulating Hills and Valleys* Landscape Character Types. This Study Area also contains (amongst others) the *Acid Sands* Biodiversity Character Type.

- 2.1.4 Key assets have also been considered in the wider landscape (i.e. beyond the Core Study Area boundary), in order to factor in the potential implications of development in the Core Study Area on the wider rural hinterland of the town. However, it is not practical to list/ show all designated sites beyond the Study Area boundary.

2.2 Methodology

- 2.2.1 The chapter begins with an overview of assets (the Baseline Review) and draws upon a number of sources of information, including baseline datasets supplied by the River Nene Regional Park Community Interest Company (RNRP CIC) and the findings of primary research and field assessment. Consultations with the project Steering Group have also contributed to the summary of key landscape and environmental assets that exist within the Core Study Area and in the wider landscape where relevant. Illustrations of the baseline data are provided in **Figs. 2-18**.

- 2.2.2 A full list of the datasets used during this assessment is presented in **Appendix 1**.

- 2.2.3 The Baseline Review describes assets under a series of “topics”. These topics have then been grouped into themes to facilitate their interpretation. A summary list follows:

Natural Systems

- Topography, geology and minerals
- Hydrology
- Nature Conservation and Biodiversity, and Geological Sites

Cultural Heritage and Land Use Systems

- Cultural Heritage
- Strategic and Local Green Space
- Leisure, Recreation and Tourism
- Access and Movement
- Transport Infrastructure
- Strategic Agricultural Land Classification

Townscape and Visual Character

- Townscape Character
- Visual Baseline Analysis

Northamptonshire Environmental Character Assessment Suite

- Introduction and Background to the Suite
- Environmental Character Assessment
- Current Landscape Character Assessment
- Biodiversity Character Assessment
- Historic Landscape Character Assessment

Strategic Green Infrastructure

- Introduction and Background
- The West Northamptonshire Biodiversity Network
- The Sustainable Movement Network for West Northamptonshire
- Strategic Green Infrastructure Corridors
- Green Infrastructure Networks

2.2.4 Following on from the Baseline Review is the Sensitivity Review (refer to Part B). This takes the information gathered during the Baseline Review and assesses the sensitivity of key features at the strategic scale of assessment.

3.0 THEME ONE: NATURAL SYSTEMS

3.1 Topography, Geology and Minerals

- 3.1.1 Refer to fig. 3: Landform; Fig. 4: Hydrology and Flood Zones, and Minerals
- 3.1.2 Northampton is located within a shallow “bowl” adjacent to the River Nene, and is surrounded by higher land. The higher land which rings the town includes Glassthorpe Hill (141m above sea level (asl)) to the west; Coneybury Hill (approx.120m asl) to the north-west; the Pitsford ridge (approx. 125m asl) to the north; high land adjacent to Salcey Forest (130m asl) to the south-east and a hill to the south of Gayton (141m asl) to the south-west.
- 3.1.3 Within the town, there are three main areas of higher ground. These are to the south of the Nene Valley (113m asl at its highest point at Hunsbury Hill), the eastern edge of the town (110m asl) and the area around the University towards the northern edge of the town (approx. 120m asl). Immediately to the east of the town, the Ecton Ridge is not particularly high (approx. 100m asl) but is visually prominent.
- 3.1.4 Northampton is located on the edge of the band of Oolitic limestone, which runs north-south through England. However, within this band there are several different types of limestone, representing different phases and conditions of formation. Northampton lies at the junction of several different types of limestone and the adjacent clay, which creates a complex geology in the area. The most well-known of the Oolitic limestones are the “Northampton sands and Ironstones”, which have a distinctive golden-brown colour and are often seen in local buildings. They are also associated with the presence of radon gas, which has resulted in Northamptonshire being considered a Radon Affected Area.
- 3.1.5 On some higher areas of land around Northampton, the limestone has been overlain by glacially-deposited clay which hides the topography and characteristics of the limestone.
- 3.1.6 The valley of the River Nene has accumulated deep sedimentary deposits of sand and gravel, which have been quarried in recent years. This is reflected in the concentration of Protected Areas for Minerals Sites (PAMS) within the Nene Valley (see fig. 4).
- 3.1.7 In addition to the sand and gravel resources of the Nene Valley, the local Ironstone is highly valued as a building material and there are numerous old quarry sites within the Study Area. The Protected Areas for Mineral Sites also include building stone quarries.
- 3.1.8 There is a cluster of PAMS (including a large sand pit) around Rothersthorpe (to the south-west of Northampton) and a smaller sand pit to the north-west, near Harlestone.
- 3.1.9 To the north of Northampton, between Moulton and Boughton there is an extensive Protected Area for Minerals Site.

3.2 Hydrology

- 3.2.1 Refer to Fig.3: Landform; Fig. 4: Hydrology and Flood Zones and Minerals
- 3.2.2 Northampton is located at the confluence of the River Nene and its tributary the Brampton Nene, which flows south into the Nene from Pitsford Reservoir. The Nene runs east-west through the town.
- 3.2.3 Smaller streams which also influence the topography of the town include the Dallington Brook (a tributary of the Brampton Nene) and the Wootton Stream, which flows into the Nene from the south. The Billing Brook, Ecton Brook and Sywell Bottom flow south into the Nene on the eastern side of the town. The Northampton Arm of the Grand Union Canal crosses the southern part of the Core Study Area (partly through the Blisworth tunnel) and follows the Nene Valley eastwards before joining the River Nene Navigation in the centre of the town.
- 3.2.4 The Nene Valley contains numerous flooded sand and gravel workings, most of which have been restored for conservation or recreation purposes. Other water bodies within the Core Study Area include a small reservoir at Harlestone, and ornamental lakes within landscaped parks, such as Overstone Park and Abington Park.
- 3.2.5 Much of the Nene Valley and its tributaries are within Flood Zones 2 and 3. Flood Zone 2 areas have a low to medium risk of flooding, with an annual flood probability of 0.1-1%. Flood Zone 3 areas have a high risk of flooding, with an annual probability of flooding of 1% or greater.

3.3 Nature Conservation and Biodiversity, and Geological Sites

- 3.3.1 Refer to Fig. 5: Designated Nature Conservation, Biodiversity, and Geological Sites.
- 3.3.2 Figure five shows strategic and local assets in terms of nature conservation and geological sites, and areas with a statutory or non-statutory designation such as: one proposed Special Protection Areas (pSPA) two Sites of Special Scientific Interest (SSSIs); six Local Nature Reserves (LNRs); approx. 50 Local Wildlife Sites (LWS) and approx. 100 Potential Wildlife Sites (PWS). Potential Wildlife Sites (PWS) cover three separate conditions: Surveyed sites considered to be of importance but whose condition do not fully meet the criteria to be classified as a Local Wildlife Site; sites not surveyed in detail but whose location or broad assessment indicate a high potential for classification as a LWS; and sites previously classified as a LWS but whose condition has changed to warrant exclusion as a LWS.
- 3.3.3 The Broad Habitat Types correlate with the categories classified in the Biodiversity Action Plan (BAP) and cover Ancient Woodland, Broadleaf woodland, and Priority Target Areas for additional acid habitat survey.
- 3.3.4 There are two SSSIs within the Core Study Area: Former gravel workings in the Nene Valley and a small quarry near Rectory Farm, Blisworth.
- 3.3.5 There are 15 Regionally Important Geological / Geomorphological Site (RIGS) sites within the Core Study Area. The most well-known is located at Bradlaugh Fields in the northern part of Northampton. This site is designated as the only accessible Blisworth Limestone hilltop in the county, and for its educational, historic and aesthetic value.

- 3.3.6 There are no National Nature Reserves in the Core Study Area, but there are six Local Nature Reserves (LNRs) plus Wildlife Trust Reserves (WTRs), which cover a variety of habitats including acid grassland, calcareous grassland, wet meadow, woodland and lakes.
- 3.3.7 There is a concentration of designated sites (including SPAs) and PWS in the Nene Valley, particularly in areas where gravel workings have flooded to create lakes with a high wildlife value.
- 3.3.8 Lowland Mixed Deciduous Woodland is a Priority Habitat within the UK Biodiversity Action Plan and has an action plan in the Northamptonshire BAP. Broadleaved woodland is relatively limited within the Core Study Area. Immediately outside the Core Study Area to the South-east of Northampton is Salcey Forest, an extensive area of ancient broadleaved woodland, which is designated in part as a LWS and part as an SSSI. Nobottle Wood, SW of Harlestone (just outside the Core Study Area) is designated ancient woodland.
- 3.3.9 In addition, Lowland Calcareous Grassland, Lowland Dry Acid Grassland and Lowland Meadows are Priority Habitats within the UK Biodiversity Action Plan and action plans for each are contained within the Northamptonshire BAP.
- 3.3.10 Acid habitat target areas were identified by Denton Wood Associates for the Wildlife Trust using the following method (acid habitats are predominantly acid grassland and heathland):
- 3.3.11 Acidic habitats in Northamptonshire occur, almost exclusively, on free-draining, fine and coarse loamy ferritic brown earth soils (of the Banbury Association) associated with Northampton Sand (geological) Formation. As the occurrence of acid habitats is determined by geology and soils an initial target area was developed by combining the areas of Banbury Association soils and Northampton Sands. The area of each discrete unit was then calculated. Finally, small units of less than 100 hectares were excluded. The resulting map shows areas in excess of 100 hectares where acidic habitats are likely to occur or where it is/ may be possible to either restore or create acidic habitats.
- 3.3.12 Designations and notable habitats within the study area are listed below:
- 3.3.13 **Study Area 1: North-East**
- RIGS sites: 8no., including Bradlaugh Fields (accessible Limestone hilltop with educational, historical and aesthetic value); Pitsford Quarry, Boughton Green Corner, Brampton Halt Cutting, Bunting Road Outcrop, Northampton General Hospital and Cherry Orchard School Playing Field (all Northampton Sand formations)
 - LNR/WTR: Bradlaugh Fields (unimproved semi-natural limestone grassland)
 - LNR/WTR: Lings Wood (Woodland, scrub, ponds, acid grassland, heath)
 - LNR: Moulton (Ridge and Furrow, grassland, wildflower meadow)
 - LWS: Approx. 8 no., the most extensive of which are Bradlaugh Fields and Lings Wood.
 - PWS: Numerous
 - Broadleaf Woodland: Several small blocks. Largest at Overstone
 - Priority Target Area for Additional Acid Habitat Survey: Extensive areas within and to the north of Northampton.
- 3.3.14 **Study Area 2: Nene Valley East**
- Proposed Special Protection Area: Upper Nene Valley gravel pits (over wintering birds). The pSPA continues along the Nene Valley beyond the Core Study Area.
 - SSSI: Upper Nene Valley gravel pits (over wintering birds)

- LNR/WTR: Barnes Meadow (wet meadows, habitat for rare wildfowl species)
- LWS: Numerous along valley floor, including open water and wet meadow sites.
- PWS: Several, including extensive areas of former mineral workings.
- Broadleaf Woodland: Shelterbelts at east edge of Study Area

3.3.15 Study Area 3: South

- SSSI: Rectory Farm, Blisworth (former quarry)
- RIGS: 1 no. Hunsbury Hill Cutting (Northampton Sand formation)
- LWS: Approx. 5 no., including canal and railway embankments/ cuttings, Hunsbury Hill, and part of the Wootton Stream.
- PWS: Numerous, including dismantled railway lines, sand pits, estate land, deciduous woodland and wet meadow.
- Broadleaf Woodland: Small areas scattered throughout. More concentrated around Courteenhall Park and Hardingstone.
- Priority Target Area for Additional Acid Habitat Survey: within the Urban Area of Northampton (Wootton / Hardingstone and around Hunsbury Hill). Also around the villages of Blisworth and Gayton.

3.3.16 Study Area 4: Nene Valley West

- SSSI: None, although Bugbrooke Meadows is immediately outside the Core Study Area.
- LNR: Storton Pits (Flooded gravel pit- habitat for insects and over wintering birds. Old ditch is important habitat for rare insects)
- LWS: Several sites, including Nene Valley gravel workings (over wintering birds and wet grassland)
- WTR: Storton's Pits and Duston Mill Meadow
- PWS: Several, including part of Grand Union Canal, parkland site at Upton, and extensive area of wet meadows east of Kislingbury.

3.3.17 Study area 5: North-West

- RIGS Sites: 6 no. including Harlestone Old Quarry, Upper Harlestone, Slatepit Plantation, Duston Quarry, Kingswell Road outcrop (all Northampton Sand formations) and Kingsthorpe Hall (example of rare local building stone- Kingsthorpe White Freestone).
- LNR: Kingsthorpe Meadow (Wet meadow- habitat for insects and green corridor)
- LWS: Harlestone Heath (Ericaceous Heathland)
- LWS: Brampton Nene and Tributaries (wet grassland and aquatic habitats)
- PWS: Several, including woodland, acid grassland and wet meadow sites.
- Broadleaf Woodland: Harlestone Firs (though largely conifer plantation)
- Broadleaf Woodland: Harlestone Hall
- Broadleaf Woodland: Harpole Covert (though partially conifer plantation)
- Priority Area for Additional Acid Habitat Survey: Extensive area covers much of the northern part of the Study Area, plus an additional smaller area north-west of Harpole.

4.0 THEME 2: CULTURAL HERITAGE AND LAND USE SYSTEMS

4.1 Cultural Heritage

- 4.1.1 Refer to Fig. 6: Cultural Heritage, which shows nationally and locally designated heritage sites within the Northampton area.

- 4.1.2 Nationally designated sites with statutory protection include 17 Scheduled Monuments (SMs), including Hunsbury Hill fort.
- 4.1.3 Nationally designated sites without statutory protection include Historic Parks and Gardens and Registered Battlefields. There are four Registered Historic Parks and Gardens within the Core Study Area, (namely Althorp Park, Boughton Hall, Horton Hall and Courteenhall). Yardley Chase (part of the Castle Ashby estate) is just outside the Core Study Area boundary to the east, and Holdenby House is just outside it to the north-west. There is a Registered Battlefield around Delapre Abbey where Henry VI was defeated at Northampton during the war of the Roses (1461).
- 4.1.4 There are 30 Conservation Areas within the Core Study Area, including the historic core of Northampton, and Abington Abbey and its environs. Most of the outlying villages, and old village centres which have been incorporated into the urban area of Northampton (e.g. Weston Favell and Wootton) have small conservation areas, usually covering clusters of traditional ironstone buildings.
- 4.1.5 Listed Buildings are generally concentrated in and around the Conservation Areas. The majority are examples of the local vernacular tradition of building in locally quarried ironstone. Others are properties in the historic core of the town, or farmhouses/ agricultural buildings in open countryside. The most unusual listed building, which is a key local landmark, is the former testing tower of the Express Lifts factory (opened 1982), and is 127m high (approx. 42 storeys). There are also several listed buildings associated with the Grand Union Canal, including a flight of locks.
- 4.1.6 There are examples of ridge and furrow throughout the Core Study Area, with a particular concentration on the south-west side of the town. In addition, there are several historic routes illustrated on fig. 6, including possible Roman roads, turnpike roads, historic railway lines and canals.
- 4.1.7 In addition to the designated sites described above, there are numerous other Known Archaeological Assets. The most extensive areas are within the historic core of the town and represent the buried remains of Saxon and Medieval Northampton. Other Known Archaeological Assets represent a wide variety of archaeological sites and periods. The most noteworthy of these are the rare Neolithic Causewayed Enclosures on Kings Heath.
- 4.1.8 It is important that the setting of historic assets is considered, as well as the site itself. For example, historic parks and gardens frequently “borrow views” from outside the designated area, such as when an avenue is aligned on a view of a distant church tower. Similarly, a Scheduled Monument designation for a deserted medieval village may not include the field systems, which surrounded it. Defining the setting for each historic asset is beyond the remit of this study. However, it will need to be considered as part of more detailed future assessments on a case-by-case basis.

Notable designated cultural heritage assets within the Core Study Area are listed below:

- 4.1.9 **Study Area 1: North-East**
- Listed Buildings: Many, including ecclesiastical industrial and residential buildings in Northampton and surrounding villages.
 - Registered Park/ Garden: Boughton Hall (Grade II)
 - SM: Ecton (Romano-British Settlement and Pottery Kilns)
 - SM: Longmans Hill Long Barrow

- SM: St John's Spring
- Conservation Areas: Town Centre; University Grounds; Abington Abbey; Boughton Village; Pitsford Village; Moulton Village; Sywell Village; Ecton Village; Weston Favell village core; Billing Village core
- Former deer Park: Moulton Park (now an industrial estate) but with some surviving features
- Ridge and Furrow: Fragmented to east and north.
- Route of Historic Railway Line: Northampton to Market Harborough (part)
- Known Archaeological Assets: Numerous, including buried remains of Saxon/ Medieval Northampton, extensive Romano-British and Iron Age occupation sites, and the important early prehistoric funerary and settlement landscape along the Ecton ridge to the east of the town
- Route of Turnpike Roads: A508, A43, A4500
- Route of Roman Road (possible): A4500
- Parks and Gardens: Numerous, including Eastfield Park and Overstone Park

4.1.10 Study Area 2: Nene Valley East

- Listed Buildings: Several in Little Houghton and Cogenhoe villages
- SM: Clifford Hill Motte Castle;
- SM: Bowl Barrow East of Cogenhoe
- Conservation Areas: Little Houghton and Cogenhoe villages
- Registered Battlefield: Battle of Northampton 1461 (part).
- Route of Historic Railway Line
- Known Archaeological Asset: Numerous, including buried remains of Saxon/ Medieval Northampton and intensive multi-period use of the Nene Valley.
- Route of Turnpike Road: A428

4.1.11 Study Area 3: South

- Listed Buildings: Many. Includes those associated with the Northampton Arm of the Grand Union Canal, ironstone villages, Delapre Abbey and Courteenhall Estate.
- Registered Park/ Garden: Courteenhall (Grade II)
- Registered Park/ Garden: Horton Hall Grade II- part)
- Scheduled Monument (SM): Hunsbury Hill (Multivallate Hillfort)
- SM: Rothersthorpe- the Berry (ringwork)
- SM: Whiston. Place house moat and fishpond.
- SM: Queen Eleanor's Cross
- SM: Hunsbury Hill Fort
- SM: Blisworth - Base of cross in Churchyard.
- Conservation Areas: Great Houghton village; Little Houghton village (part); Brafield on the Green village, Hardingstone village; Wootton village; Courteenhall; Collingtree village; Milton Malsor village; Blisworth village; Gayton village; Rothersthorpe village; Bugbrooke village
- Registered Battlefield: Battle of Northampton, 1461
- Former Deer Parks: east of Quinton and west of Gayton
- Ridge and Furrow: fragmented but high density of sites in SW of Study Area
- Route of Historic Railway Line
- Known Archaeological Assets: Numerous, including buried remains of Saxon/ Medieval Northampton, Iron Age and Romano-British occupation sites
- Route of Turnpike Road: A 428; B526; A508; Old Northampton - Towcester Road
- Route of Grand Union Canal
- Possible Route of Roman Road (A43)

- Parks and Gardens: Several within Northampton Urban Area (some built over); extensive park around Preston Deanery.

4.1.12 **Study Area 4: Nene Valley West**

- Listed Buildings: Duston Mill; Upton village; Kislingbury village
- SM: Upton (x2) Deserted medieval village
- SM Upton Mill
- Conservation Area: Kislingbury village
- Ridge and furrow: Several sites around Kislingbury
- Known Archaeological Assets: Numerous, including buried remains of Saxon/ Medieval Northampton
- Parks and Gardens: Upton
- Route of Turnpike road A 4500

4.1.13 **Study Area 5: North-West**

- Listed buildings: Many, including those within the villages of Harpole, Harlestone, Church Brampton and Chapel Brampton, and the Express Lifts tower.
- Registered Park/ Garden: Althorpe Park (Grade II*)
- SM: Centre of Northampton (Saxon Palace Complex)
- SM: Site of Northampton Castle
- SM: Harlestone (Settlement site)
- SM North of Harpole (Roman Villa)
- Conservation Areas: Harlestone Village; Dallington village core; Duston village core; Harpole village; south of Berrywood Road.
- Ridge and Furrow: Around Harpole; small area south of Harlestone
- Known Archaeological Assets: Numerous, including buried remains of Saxon/ Medieval Northampton; Neolithic Causewayed Enclosures at Kings Heath.
- Route of Turnpike Roads: A4500; A428; B5199
- Possible Route of Roman Road: Road to Nobottle.
- Route of Historic Railway Line to Market Harborough (part)

4.2 Strategic and Local Greenspace

4.2.1 Refer to Fig. 7: Strategic and Local Greenspace

4.2.2 There are many different types of Greenspace within Northampton and its surrounding area. Northampton Borough Council, South Northants Council and Daventry District Council have recently produced/are currently producing Open Space Sport and Recreation audits/ PPG17 Assessments (see Appendix 3 for full references). The results of these assessments have informed fig.7.

4.2.3 Strategic Greenspace includes Country Parks, Woodlands with public access and Regional Parkland. There are three Country Parks within the study area, at Hunsbury Hill, Wootton Brook and Foxfield (Grange Park). There is also a proposed County Park at Upton. Sywell Country Park is just outside the Core Study Area. Within the Study Area there are no Woodlands over 20 ha with a public access or recreation role.

4.2.4 Other Strategic Greenspace includes parks and greenspaces over 20 Hectares, which may or may not be publicly accessible. Many of the open spaces within the urban area (such as University Recreation Grounds, Delapre Abbey Grounds, and Abington Abbey grounds) are classified as Other Strategic Greenspace. There are also several areas of Other Strategic Greenspace outside the urban area, including Althorpe Park, Overstone Hall and Courteenhall.

4.2.5 Local Accessible Greenspaces include small woodlands with public access and other accessible Greenspaces such as common land, village greens, pocket parks and millennium greens. There are also six Local Nature Reserves, plus Wildlife Trust Reserves. Pocket Parks are open areas of land which are owned and managed by local people, providing free, open access for all at all times. They help to protect and conserve local wildlife, heritage and landscape. There are over 80 Pocket Parks in Northamptonshire, and 14 within the Core Study Area.

4.2.6 There are Other Local Greenspace areas within the Core Study Area, including numerous parks and Greenspaces under 20ha (which may not be publicly accessible), allotment sites and five cemeteries.

4.2.7 Other notable designated Strategic and Local Greenspaces are listed below:

4.2.8 Study Area 1: North-East

- Local Nature Reserve/ Wildlife Trust Reserve: Bradlaugh Fields, Lings Wood, Moulton, (Sywell Country Park immediately outside Core Study Area to east).
- Registered Park and Garden: Boughton Hall
- Park or Greenspace over 20 ha: (approx.11no. including Abington Abbey grounds; university Recreation Ground; Overstone Park; Boughton Park and Ecton Hall Park)
- Local Accessible Greenspace: numerous sites, including pocket parks at Blackthorn, Boughton Lane, Great Billing, Rectory Farm, Boughton, Chapel Brampton and Moulton.
- Other Local Greenspace: numerous urban and some rural sites
- Allotment sites: 5 no.
- Cemeteries: 2 no.

4.2.9 Study Area 2: Nene Valley East

- Local Nature Reserve: Barnes Meadow
- Park or Greenspace over 20 ha: Nene Valley (E. of A45)

- Local Accessible Greenspace: Cogenhoe Pocket Park.
- Other Local Greenspace: Nene Valley (Majority is W. of A45)

4.2.10 Study Area 3: South

- Country Park/ LNRs: Hunsbury Hill, Wootton Brook, Foxfield, Barnes Meadow (part)
- Registered Park and Garden: Courteenhall
- Park or Greenspace over 20 ha: approx. 7no. including Delapre Abbey grounds; Courteenhall; Preston Deanery, Collingtree Park, Hardingstone)
- Local Accessible Greenspace: Pocket Parks at Hackleton, Wootton, Great Houghton and Ringway. Other Local Accessible Greenspace at Brafield on the Green and Gayton.
- Other Local Greenspace: Numerous urban and rural sites
- Allotment sites: 2 no.
- Cemeteries: 2 no.

4.2.11 Study Area 4: Nene Valley West

- Country Park (proposed): Upton
- Wildlife Trust Reserves: Storton's Pits and Duston Mill Meadow
- Park or Greenspace over 20 ha: 3 no. (east and west Upton, and Upton Mill)
- Local Accessible Greenspace: Kislingbury
- Other Accessible Greenspace: 4 no. urban sites, including stadium.

4.2.12 Study Area 5: North-West

- Local Nature Reserves/ Wildlife Trust Reserves: Harlestone Heath; Kingsthorpe Meadow
- Registered Park and Garden: Althorp Park (part)
- Park or Greenspace over 20 ha: approx. 5no.
- Local Accessible Greenspace: Pocket Parks at Kingsthorpe and Spring Boroughs
- Other Local Greenspace: Numerous urban sites, and several rural sites including Harlestone Heath woodland.
- Allotment sites: 3 no.
- Cemeteries: 2 no.

4.3 Leisure, Recreation and Tourism

4.3.1 Refer to Fig. 8: Existing Leisure, Recreation and Tourism Destinations and Developments.

4.3.2 There are a variety of leisure, recreation, tourism Outdoor Sports and cultural sites and facilities within the Core Study Area, which attract visitors from outside the Northampton area. Of these, the most well-known are Althorp Park (seat of the Spencer Family) and the Grand Union Canal, with its associated moorings, locks and architectural features, such as the Blisworth Canal tunnel. The Northampton and Lamport preserved railway is run as a heritage steam and diesel service.

4.3.3 There are also a variety of visitor attractions associated with the River Nene, including its nature reserves and the Whitewater Centre. Billing Aquadrome in the Nene Valley and Overstone Park contain static caravan parks, which are popular holiday destinations.

4.3.4 In addition, there are also a variety of leisure and recreation facilities, which are primarily visited by local people, including Country Parks and Outdoor Sports facilities. Full details of local Outdoor Sports provision can be found in the *West Northamptonshire Sports Facilities Strategy* and the *Open Space, Sport and Recreation Audits* (See Appendix 3 for full references).

4.3.5 The following sections give examples of the existing and proposed leisure, recreation and tourism developments and destinations for each of the Study Areas. Some of these sites have already been mentioned in previous sections.

4.3.6 **Study Area 1: North-East**

- Northampton and Lamport Preserved Railway
- Abington Museum
- Central Museum and Art Gallery
- Northamptonshire County Cricket Club
- Tourist Information Centre
- Northampton Racecourse
- Overstone Park Caravan Site
- Lings Forum Leisure Centre
- Overstone Park Golf Course

4.3.7 **Study Area 2: Nene Valley East**

- River Nene, with its associated moorings and locks.
- Barnes Meadow Nature Reserve
- Billing Aquadrome (including Caravan Site)
- Nene Whitewater Centre

4.3.8 **Study Area 3: South**

- Hunsbury, Wootton Brook and Foxfield Country Parks
- Grand Union Canal (including moorings, locks and Blisworth Canal tunnel)
- Hunsbury Ironstone Railway Museum
- Delapre Abbey
- Northampton International Motor Racing Circuit (Brafield)
- Danes Camp Leisure Centre
- Collingtree Golf Course
- Hardingstone Golf Course
- Delapre Golf Centre

4.3.9 **Study Area 4: Nene Valley West**

- Grand Union Canal/ River Nene, with associated moorings and locks.
- Sixfields Football Stadium
- Franklins Gardens Rugby Stadium

4.3.10 **Study Area 5: North-West**

- Althorp House and Grounds
- Northampton Golf Course (Hardingstone)
- Northamptonshire County Golf Club (Church Brampton)
- Brampton Heath Golf Centre (Church Brampton)

4.4 Access and Movement

4.4.1 Refer to Fig. 9: Access and Movement

4.4.2 Northampton and its surrounding area is well served by public rights of way.

4.4.3 Regional/ Sub Regional Sustainable Routeways comprise a Sustrans Regional Cycle Route and Long Distance Walking Routes/ County Walks. The Sustrans Regional Cycle route passes

north-south through Northampton, via the Brampton Valley Way, through the town centre, alongside the River Nene, then south along country lanes through Great Houghton, Preston Deanery and Quinton. In addition, there are proposed Sustrans Connect 2 routes and Links between the Grand Union Canal and the centre of Northampton.

- 4.4.4 There are five Long Distance Walking Routes/ Country Walks within the Core Study Area, including the Nene Way, the Jurassic Way, the Grand Union Canal Walk, the Brampton Valley Way and the Midshires Way.
- 4.4.5 At a County level, there are County Level Sustainable Routeways (Cycle Routes) radiating out from, and encircling the town.
- 4.4.6 Local Assets - Local Level Sustainable Routeways include Byways, Bridleways, Footpaths and other cycle routes (e.g. cycle/bus lanes, cycleways on roads, shared use paths). The majority of these other cycle routes are within the urban area, but there is a high concentration of byways, bridleways and footpaths throughout the study area. Some follow the routes of dismantled railways (e.g. The Brampton Valley route between Northampton and Market Harborough). Others follow lanes and paths, many of which are very long-established, following parish boundaries and other ancient features in the landscape.
- 4.4.7 A summary of access routes for each Study Area is as follows:
- 4.4.8 **Study Area 1: North-East**
- Brampton Valley route linking Northampton and Market Harborough along disused railway line. Forms part of Sustrans Regional Cycle Route.
 - County Level cycle routes linking Boughton, Moulton and Ecton
 - Network of footpaths, particularly around the historic villages of Boughton, Moulton and Ecton
 - Other cycle routes within the built-up area of Northampton
- 4.4.9 **Study Area 2: Nene Valley East**
- Nene Way Long Distance Walking Route. Forms part of Sustrans Regional Cycle Route.
 - Cycle Route following the A45 and crossing the Nene Valley north of Brafield-on-the-Green
 - Footpaths and bridleways providing north-south connections across the Nene Valley
- 4.4.10 **Study Area 3: South**
- Midshires Way and Grand Union Canal Walk cross the south-west of the Study Area.
 - Part of Sustrans Regional Cycle Route follows country lanes between Great Houghton and Quinton.
 - Country Level cycle routes link Rothersthorpe, Gayton and the southern built-up-area of Northampton.
 - A dense network of local footpaths and bridleways, which is exceptionally dense around the villages of Hackleton and Piddington.
 - Proposed Sustrans Connect 2 Route and Link between the Grand Union Canal and Northampton town centre.
- 4.4.11 **Study Area 4: Nene Valley West**
- Nene Valley Way and Grand Union Canal Walk Long Distance Routes
 - County Cycle Route links Kislingbury with Rothersthorpe and Harpole
 - Network of local footpaths and bridleways, but no crossings of the Nene between Kislingbury and Upton Mill.
 - Proposed Sustrans Connect 2 Route and Link between the Grand Union Canal and Northampton town centre.

4.4.12 **Study Area 5: North-West**

- Midshires Way Long Distance Route runs between Harlestone, Harlestone Heath, Church Brampton and Chapel Brampton before joining the Brampton Valley Way.
- Good network of County Cycle Routes, mostly following country lanes.
- Some bridleways, particularly in the north of the Study Area.
- Footpath network relatively limited; densest around Harpole, Harlestone village and within Harlestone Heath.

4.5 Transport Infrastructure

4.5.1 Refer to Fig. 10: Transport Infrastructure

4.5.2 “A” roads radiate out from the town in all directions. The A45 and the town’s southern bypass are relatively new additions to the town’s road network, as is the M1, which runs through the Core Study Area close to the south-west edge of Northampton. Junctions 15 and 15a of the M1 serve Northampton.

4.5.3 Smaller villages are connected with each other and with Northampton by a dense network of “B” roads and minor roads. They include at least one Roman road (on the western side of the study area) and many of the lanes are historic features of the landscape.

4.5.4 Northampton has a railway station, and is on the Northampton Loop (part of the West Coast Main Line). The main Cherwell Valley line cuts through the south-west corner of the Core Study Area. In addition to these active lines, there are several disused railway lines within the Core Study Area. A section of one of these (to the north of the town) is now the route of the Northampton and Lamport light railway. The track bed is also a traffic-free cycle route and used for the Midshires Way and Brampton Valley Way.

4.5.5 The water network has historically been very important to the development and prosperity of Northampton, and continues to contribute to the character of the town. The Grand Union Canal flows through the south-west corner of the Core Study Area, with the Northampton Arm flowing northwards to join with the River Nene in the centre of Northampton.

4.6 Strategic Agricultural Land Classification

4.6.1 See Fig. 11 Strategic Agricultural Land Classification

4.6.2 At the strategic scale of assessment, the majority of agricultural land within the Core Study Area is classified as Grade 3, with pockets of Grade 2 Grade 3A and Grade 3B agricultural land. To the north-east of Moulton is a small area of Grade 1 (highest quality) agricultural land. There are linear pockets of Grade 4 agricultural land (poor quality) along the Nene and Brampton valleys, and to the south of Sywell.

5.0 THEME THREE: TOWNSCAPE AND VISUAL CHARACTER

5.1 Townscape Character

5.1.1 Refer to Fig. 12: Indicative Townscape Character

5.1.2 Fig.12 shows indicative townscape character types within the Northampton urban area. They represent the visible built-form and were derived from a combination of fieldwork and historic

map-based research. They do not include any reference to buried archaeology or to buildings or sites, which are no longer visible in the townscape.

- 5.1.3 Because of the nature of the development of Northampton it is more helpful to describe the development of the town as a whole rather than on a quadrant by quadrant basis.
- 5.1.4 There is archaeological evidence for human presence in the Northampton area for approximately 7500 years. The earliest known archaeological sites are a pair of Neolithic Causewayed Enclosures, one on Briar Hill (excavated prior to development on the site) and one unexcavated on Kings Heath.
- 5.1.5 The settlement now known as Northampton developed on higher land above the confluence of the rivers Nene and Brampton. The rivers provided communication routes and the site was also in a good defensive position. The surrounding soils are relatively fertile and well drained and there was also extensive woodland. These rich neutral resources made it an ideal location for a settlement.

The Historic Core

- 5.1.6 The historic core shown in Fig.12 represents the extent of Northampton in 1835. At this stage the town had not expanded beyond its medieval walls. Therefore the outer edge of this townscape character type largely follows the line of the medieval town walls. The medieval market place was (and remains) at the centre of the town. From this point roads radiated out to surrounding settlements; these roads are still part of the streetscape and transport infrastructure. Beyond the town walls were a number of medieval suburbs (e.g. St Edmund's End and St James' End), which developed along the major roads out of the town.
- 5.1.7 The town walls were enhanced with bastions during the Civil War, giving today's street names of "Upper Mounts" and "Lower Mounts".
- 5.1.8 The medieval town of Northampton was an important parliamentary centre. This, combined with the excellent hunting in the surrounding forest led to a regular Royal presence in the town.
- 5.1.9 The town's political importance led to a strong ecclesiastical presence, and Northampton was one of the few settlements in the country to house all the monastic groups. The sites of some of these Monasteries and Abbeys are still visible (e.g. Abington Abbey and Delapre Abbey). The presence of others (such as Greyfriars) is preserved in street names.
- 5.1.10 Also shown as smaller historic cores on Fig.12 are the outlying villages such as Kingsthorpe, Weston Favell and Great Billing, which were subsequently surrounded by later development. Several of these villages have medieval churches, and traditional ironstone buildings.
- 5.1.11 Within the south-west corner of the historic core is the site of the Saxon settlement. The Saxon town included a timber castle (which was later rebuilt in stone), palace and minster church. The walls of the Saxon Burgh are fossilized in the contemporary street pattern along Scarletwell Street, Tower Street, Sheep Street, The Drapery, Bridge Street and Foundry Street. On the south-west and west sides of the town, the Nene and Brampton Valleys provided good defences.

Victorian and Early 20th Century Development

- 5.1.12 Northampton saw considerable expansion in the 19th Century and early 20th Century, which was largely associated with the industrial development of the boot and shoe industry in the town. This phase of the town's development included factories, extensive areas of terraced housing (often with associated workshops) and also municipal and religious buildings such as schools, a workhouse, churches and non-conformist chapels. Much of this industrial development was constructed in red brick.
- 5.1.13 Several parks were also laid out during this period, both public (The Racecourse, for example) and private (sometimes associated with the large mansions built outside the town by wealthy industrialists such as Overstone Hall and Great Billing Hall). These mansions and their grounds have been surrounded (and occasionally built over) by subsequent development.

Interwar Development c.1921-1950

- 5.1.14 The interwar years saw further expansion of Northampton and the development of the suburbs such as Far Cotton, Kingsthorpe and Abington. This period also saw ribbon development along several roads out of Northampton. The majority of residential development from this period is detached or semi-detached.

Post war and Overspill Development c.1950-c.1989

- 5.1.15 The most extensive phase of development around Northampton took place between c1950 and c1989, and represents the development overseen by the Commission for New Towns, which was established to accommodate overspill populations from the South-East. The architecture associated with this phase of development varies, but is usually typified by a clear hierarchy of roads, and extensive planting, open spaces and landscaping which has now matured, creating a very "green" impression from both within and outside the town. The majority of residential development in this era was built north of the Nene (to the north, west and east of the existing town) with industrial development and limited residential development to the south of the river.

Modern Development (c.1990-present)

- 5.1.16 The most modern phase of development (from 1990 to the present) has seen the expansion of Northampton southwards, including the southern-facing ridge of land associated with Hunsbury Hill. The village of Wootton has seen considerable expansion and the new mixed-use development of Grange Park has been constructed between Wootton and the M1.
- 5.1.17 Large-scale industrial and warehouse development at Swan Valley and Hardingstone have a strong visual impact.
- 5.1.18 North of the Nene, there is recent and ongoing development at the St Crispin's Hospital site/western edge of the town and at Upton. The large-scale pseudo-Georgian townhouses, which front the Upton development are extremely striking in terms of their scale, colour and design.

5.2 Visual Baseline and Analysis

- 5.2.1 Refer to figs. 13: Slope Analysis and 14: Visual Analysis

Landform

- 5.2.2 The slope analysis drawing on Fig. 13 highlights the areas of steepest slopes. These are generally associated with river valley sides, but there is a strong link between the steepness of slopes and the underlying geology, with limestone outcrops being associated with the steeper slopes, such as the ridge to the south of the Nene which includes Hunsbury Hill.
- 5.2.3 The steepest land within the Core Study Area is located around Harpole and Harlestone (which have a distinctive rolling landform), and within the built-up area of east Northampton, around Lings Wood and Billing Arbours. In the south-west of the Core Study Area there is relatively steep land around Blisworth and Gayton, which forms part of the slopes of the hill to the south, outside the Core Study Area.

Landscape Setting and Landmarks

- 5.2.4 Northampton sits in a “bowl”, encircled by higher land. These ridges of higher land also form the setting and landscape context of Northampton and its surrounding villages.
- 5.2.5 The lift tower is a prominent landmark, visible from much of the Core Study Area and providing a clear orientation point and “sense of place”. Other built landmarks within the town are more localised in their visual impact, and are therefore visible from a smaller proportion of the Core Study Area. Throughout the Core Study Area, the towers of village churches (often built in traditional ironstone) add local distinctiveness and aid orientation. Within the Core Study Area there are approximately 20 villages with an historic core built of ironstone. They are shown on fig. 14, each with a notional 1km setting.
- 5.2.6 From much of the Core Study Area, Northampton appears remarkably wooded during the summer months, due to the mature vegetation in open spaces, gardens and roadside planting.
- 5.2.7 The way in which Northampton interacts with its surrounding landscape in terms of visibility and function is described on a Study Areas basis below.

Study Area 1: North-East

- 5.2.8 The northern part of the Study Area is relatively gentle in its topography. Parts of the Study Area contribute to the setting of Northampton (although they are not particularly distinctive), whilst the topography of other parts of the Study Area (including the area north of Boughton, and the eastern side of the Ecton Ridge) mean that they are orientated away from Northampton and not inter-visible with the town.
- 5.2.9 From the majority of this Study Area, the large industrial buildings on Moulton Park industrial estate are very prominent on the horizon. The hard edges of some of the residential development on the northern edge of the town are also clearly visible. However, the eastern edge of Northampton is exceptionally green, and the vegetation alongside the Ecton Brook provides a relatively soft edge to the town.
- 5.2.10 In general, the villages in this Study Area are slightly larger than those in other Study Areas, and have more extensive and prominent modern development surrounding their historic cores.
- 5.2.11 There is relatively little gap between the northern edge of Northampton and the villages of Boughton, Moulton and Overstone. There has already been some coalescence along roads, so the open fields around the villages perform an important function in providing a physical and/or visual separation between Northampton and its surrounding villages.

5.2.12 The eastern part of this study area comprises the Ecton Ridge, a raised ridge of land which separates Northampton from Earls Barton, and which contains the attractive ironstone village of Ecton. The Ecton Ridge is visually prominent in the landscape, and forms the setting of Northampton in views east from the town, and when looking towards Northampton from the south-east. The Ecton Ridge also functions as a strategic Gap between Northampton and Earls Barton, and prevents the visual and physical coalescence of the settlements.

Study Area 2: Nene Valley East

5.2.13 This Study Area contains the green wedge of land alongside the River Nene, which runs right into the centre of Northampton. The steep ridge to the south plays an important part in the setting of this area, although the combination of vegetation, topography and the embankment of the A45 mean that the eastern part of the Study Area is relatively well-contained visually, with limited intervisibility with the built-up area of Northampton.

5.2.14 Buildings in the centre of Northampton, and large-scale commercial development at Hardingstone are more noticeable from the western end of the Study Area.

Study Area 3: South

5.2.15 This Study Area contains two distinct patterns of landscape setting, which are strongly influenced by the underlying geology.

5.2.16 The eastern half of the Study Area contains the relatively steep ridge of limestone which includes the villages of Cogenhoe, Little Houghton, Great Houghton and Brafield on The Green, and continues to Hunsbury Hill. This ridge forms the southern backdrop to the east side of Northampton and is an important part of its setting. It also includes the attractive landscape around Preston Deanery. There are panoramic views from the ridge looking back towards Northampton. In these views the lift tower and the tower of St Matthews church are particularly prominent on the skyline. Otherwise, the horizon is wooded and the town is very “green” in appearance in the summer months.

5.2.17 Beyond this limestone ridge to the south east there is much less visual connection with Northampton. Instead, the views are out into the distant landscape including the distinctive and extensive deciduous woodlands of Yardley Chase and Salcey Forest.

5.2.18 In the western half of this Study Area the landform is more subtle and the slope of land which runs up to the ridge along the edge of the Study Area is at several km distance from the edge of the town. Consequently, the setting of this part of Northampton is less distinctive but it nevertheless contributes to the character and setting of the higher parts of south-west Northampton.

5.2.19 The undulating topography means that views towards Northampton are more intermittent. Where views occur, the most prominent landmarks in the town are the lift tower and the large white distribution warehouses at Swan Valley.

5.2.20 Beyond the ridge containing the villages of Blisworth and Gayton, the landscape feels very distant from Northampton and there is little visual connection with the town.

Study Area 4: Nene Valley West

5.2.21 The new development at Upton has a strong visual influence over much of this Study Area. From the Upton area there is a strong sense of the “horseshoe” of higher land, which forms the

southern setting of the Northampton. Buildings in the centre of Northampton are visually prominent in views eastwards.

5.2.22 Further west towards Kislingbury, the landscape is very flat with few clear views of either Northampton or the surrounding landform.

Study Area 5: North West

5.2.23 The southern part of this Study Area (around Harpole) is dominated by the relatively steeply-rolling ironstone hills which create distinctive features in the setting of Northampton.

5.2.24 Looking back, from here towards Northampton, the most prominent buildings are the lift tower, the tower at St Crispin's Hospital and the large white sheds at Swan Valley.

5.2.25 Beyond the ridge to the west the landform is orientated away from Northampton towards the wider landscape to the west. This area includes the land around Harlestone, which is very self-contained visually. Similarly, land north west of Church Brampton is also not visually associated with Northampton (apart from the lift tower) due to the topography and dense woodland vegetation at Harlestone Firs. The villages of Harlestone and Church Brampton have a particularly strong physical and visual relationship with their landscape setting.

5.2.26 Land to the east of Harlestone Firs and Chapel Brampton has a distinctive rolling form and is important to the setting of Northampton both in views towards the town from the north and in views northwards out of the town from the Brampton Valley area.

6.0 THEME FOUR: NORTHAMPTONSHIRE ENVIRONMENTAL CHARACTER ASSESSMENT SUITE

6.1 Introduction and Background to the Suite

6.1.1 Refer to Figure 15: Environmental Character Assessment; figure 16: Current Landscape Character Assessment; Figure 17: Biodiversity Character Assessment and Figure 18: Historic Landscape Character Assessment.

6.1.2 Many planning authorities have undertaken assessments of their administrative area in order to contribute a greater level of detail and local relevant to national scale landscape character assessments.

6.1.3 In 2006 the River Nene Regional Park - Community Interest Company (RNRP CIC) and Northamptonshire County Council launched a series of character assessments that together deliver an integrated characterisation of the county.

6.1.4 At the sub-regional scale, the Environmental Character Assessment (ECA) describes the broad character of the county. This assessment seeks to refine the national scale character assessment by integrating more detailed assessments: namely the Current Landscape Character Assessment (CLCA), Biodiversity Character Assessment (BCA) and Historic Landscape Character Assessment (HLCA) to inform the description of Environmental Character Areas.

6.1.5 The three more detailed studies were undertaken to a greater degree of detail than the ECA and represent a county/ district scale of assessment in the assessment hierarchy described in the Countryside Agency (now Natural England) "Landscape Character Assessment Guidance".

These studies identify generic landscape character types and geographically unique landscape character areas.

- 6.1.6 The studies provide a description of local landscape character and a series of strategies and guidelines that are designed to ensure change and development protects and enhances environmental character.

6.2 Environmental Character Assessment

- 6.2.1 Refer to Fig. 15: Environmental Character Assessment

6.2.2 Northampton lies at the boundary between two large Environmental Character Areas (ECAs) To the north of the town (covering Study Area 1: north-east and part of Study Area 5: north-west) is ECA 8 - *Central Northamptonshire Plateaus and valleys*, a varied and complex area of high plateau farmlands separated by undulating valleys.

6.2.3 To the south and west of the town is ECA 13 - *West Northamptonshire Uplands* (which covers Study Areas 3: south and part of Study Area 5: north-west. The West Northamptonshire Uplands is an expansive and elevated landscape of hills and valleys that acts as the major watershed between some of the region's principal river systems. The varied local landscape character across the Uplands is an integral part of its distinctiveness.

6.2.4 Between these ECAs are two ECAs associated with the River Nene. On the eastern side of the town, Study Area 2: Nene Valley East is broadly consistent with ECA 6 - *Middle Nene, Northampton to Aldwinckle*. On the western side of the town, Study Area 4: Nene Valley West is consistent with ECA 7 - *Upper Nene Catchment and Watford Gap*.

6.2.5 At the southern edge of the Core Study Area there are very small parts of ECA 9 - *Yardley Chase and Salcey Forest* and ECA 11 - *Tove and Ouse Catchment*.

6.3 Current Landscape Character Assessment

- 6.3.1 Refer to Fig. 16: Current Landscape Character Assessment

6.3.2 The complexity of the geology around Northampton is reflected in the complexity and variation in landscape character surrounding the town.

6.3.3 **Study Area 1: North-east** is dominated by *Rolling Ironstone Valley Slopes*. At the northern edge of the study area is a small area of *Clay Plateau* landscape character type, and the *River Valley Floodplain* of the Brampton Valley cuts through the western edge of the Study Area.

6.3.4 **Study Area 2: Nene Valley East** contains the *Broad River Valley Floodplain* landscape character type. The southern part of this study area also contains a small section of the *Limestone Valley Slopes* landscape character type.

6.3.5 **Study Area 3: South** is the most diverse in terms of landscape character. The eastern part of the study area is dominated by *Limestone Valley Slopes* adjacent to the Nene Valley, and *Undulating Claylands* further south, with a small area of *Low Wooded Clay Ridge* around Horton and Hartwell, although the latter landscape character type is more associated with Salcey Forest and Yardley Chase beyond the Core Study Area boundary. The western part of Study Area 3: South is strongly influenced by the *Undulating Hills and Valleys* landscape character type.

6.3.6 **Study Area 4: Nene Valley West** is dominated by the *Broad River Valley Floodplain* landscape character type, with small areas of *Undulating Hills and Valleys* at the northern and southern edges.

6.3.7 **Study Area 5: North-West** is influenced by the *Undulating Hills and Valleys* in its southern and western parts, and the *Rolling Ironstone Valley Slopes* in the north. The *River Valley Floodplain* of the Brampton Valley dominates the eastern side of this study area.

6.4 Biodiversity Character Assessment

6.4.1 Refer to Fig. 17: Biodiversity Character Assessment

6.4.2 Variations in geology and agricultural practises around the Northampton have resulted in a diversity of Biodiversity Character Types within the Core Study Area.

6.4.3 **Study Area 1: North-East** is dominated by *Liassic Slopes*, an area of slightly acidic soils with a low retention of natural habitats. However, within this broad belt of landscape there are *Minor Floodplains* associated with the River Brampton and its tributaries, and Sywell Bottom, both of which are tributaries of the Nene. These *Minor Floodplains* are subject to periodic winter flooding, and are associated with a greater retention of semi-natural habitats, particularly wet grassland and tree belts creating wildlife corridors.

6.4.4 **Study Area 2: Nene Valley East** is characterised by the *Major Floodplain* biodiversity character type. Its dominant feature is flooded sand and gravel workings, which provide an internationally important habitat for over wintering birds. The southern edge of this Study Area includes part of the *Limestone Slopes* biodiversity character type, which comprises easily-worked, well-drained calcareous clay loam soil. Arable cropping is the principal land use within this biodiversity character type, with calcareous grassland areas only surviving in man-made features such as former quarries and the banks and cuttings of disused railway lines.

6.4.5 This biodiversity character type continues into **Study Area 3: South**, which comprises a mosaic of biodiversity character types. The most extensive of these are *Cropped Claylands* and *Boulder Clay Woodlands*, which have developed on the heavy, slowly permeable clay soils which overly glacial deposits of boulder clay. As the name suggests, the *Cropped Claylands* are dominated by arable cropping. There are few areas of retained semi-natural habitat or woodland. The *Boulder Clay Woodlands* are characterised by a greater prevalence of woodland, such as Yardley Chase and Salcey Forest, although these large woodlands are just outside the Core Study Area. At the south-west edge of the Study Area, there is another band of *Limestone Slopes* and associated calcareous soils. The Wootton Stream and its tributaries cut through the Study Area, creating linear bands of *Minor Floodplains* character, with associated wet grassland and winter flooding.

6.4.6 **Study Area 4: Nene Valley West** is dominated by the *Major Floodplain* of the Middle Nene and the *Minor Floodplain* of the Upper Nene. Both are associated with the relatively broad River Nene flowing through a wide floodplain which floods periodically. Semi-natural grassland has been retained in the floodplain, with particularly fine examples at Bugbrooke Meadows SSSI. On either side of the Nene Floodplain are areas of *Liassic Slopes* and *Cropped Claylands*, which have been used more intensively for agriculture with a resultant loss of biodiversity.

6.4.7 **Study Area 5: North-West** also contains areas of *Liassic Slopes* and *Cropped Claylands*, but is dominated by an extensive area of *Acid Sands* around Harlestone and Dallington Heath. This area contains the most extensive Ericaceous heath in the county, and also an extensive area of acid grassland at Brampton Golf Course. The *Minor Floodplain* of the Brampton Nene

cuts through the Study Area, and contains a number of valuable wet grassland habitats and permanent standing water, which supports a good variety of aquatic and emergent species.

6.5 Historic Landscape Character Assessment

6.5.1 Refer to Fig. 18: Historic Landscape Character Assessment

6.5.2 The variety and intactness of the historic landscape is quite diverse around Northampton, which means several different historic and modern landscapes are visible in the landscapes surrounding the town.

6.5.3 **Study Area 1: North-East** contains several historic landscape character types, namely *Early Parliamentary Enclosures* around Boughton and Moulton, *Fragmented Non-Parliamentary Enclosures* around Overstone and *C.19th Parliamentary enclosures* around Ecton.

6.5.4 **Study Area 2: Nene Valley East** is dominated by *Fragmented Parliamentary Enclosures*, with a small area of *C.19th Parliamentary Enclosures* north of Cogenhoe.

6.5.6 **Study Area 3: South** mostly contains *Fragmented Parliamentary Enclosures*, with an area of *Large Modern Fields* in the south-west, rough similar in extent to the Boulder Clay Woodlands biodiversity character type.

6.5.7 **Study Area 4: Nene Valley West** contains a mixture of *Fragmented Parliamentary Enclosures* and *C.19th Parliamentary Enclosures*.

6.5.8 **Study Area 5: North-West** Contains *Pre C.19th Enclosures* and *C.19th Parliamentary Enclosures* on the higher land, with *Modern Fields* dominating the valley of the Brampton Nene.

7.0 THEME FIVE: STRATEGIC GREEN INFRASTRUCTURE

7.1 Introduction and Background

7.1.1 Refer to figure 19: Strategic Biodiversity Network; Fig. 20: Sustainable Movement Network and Figure 21: Strategic Green Infrastructure Framework.

7.1.2 The following section provides a baseline review of the Green Infrastructure resource for Northampton, and draws from the findings of the Northamptonshire Strategic Green Infrastructure Assessment: "Green Infrastructure- Making the Connection".

7.1.3 The following paragraphs provide an overview of the Northamptonshire Strategic Green Infrastructure Assessment. The Northamptonshire Strategic Green Infrastructure (GI) Assessment identifies a series of strategic and local GI corridors, as well as two connective networks; the Biodiversity Network and the Sustainable Movement Network. These are described below.

7.2 The West Northamptonshire Biodiversity Network

7.2.1 Refer to Fig. 19: Strategic Biodiversity Network

7.2.2 The Strategic Biodiversity Network seeks to connect fragmented habitats displayed across much of the county in order to assist species persistence and habitat function. The network presented in the Northamptonshire Green Infrastructure Strategy identifies a range of habitat

reservoirs and habitat links around and within Northampton that builds on the distribution of extant habitat in order to achieve a spatial map that can help target habitat protection and enhancement. This strategic plan has been reviewed and refined in consultation with the Wildlife Trust.

- 7.2.3 Habitat corridors have been identified where existing habitat reservoirs of the same or similar Biodiversity Action Plan (BAP) habitats form a distinct network through the landscape. However, habitat creation should not be purely restricted to within these – identifying habitat networks is not an exact science.
- 7.2.4 In the case of the Acid Grassland habitats this has been restricted to where the correct geology and soil types exist to support this habitat. Heathland may also occur on the same geology and soil types as acid grassland and is an important habitat within the acid grassland corridor, especially around Harlestone Heath and Harlestone Firs; the only remaining ericaceous heathland sites in Northamptonshire.
- 7.2.5 The Nene Valley and its tributaries form an important Lowland Meadow habitat corridor, encompassing rivers and areas of open water. Both Lowland Meadow and Open Water habitats continue beyond the Core Study Area. The Open Water is particularly significant to the east of the Core Study Area, in the proposed Special Protection Area.
- 7.2.6 There are two woodland habitat corridors within the Core Study Area (and continuing beyond it). To the west of Northampton is a corridor including Nobottle Ancient Woodland, and to the east and south-east is a woodland corridor linking parkland at Overstone with Yardley Chase and Salcey Forest. A narrower woodland corridor runs to the south of the Nene Valley, and includes Hunsbury Hill.
- 7.2.7 Habitat reservoirs have been categorised by BAP habitat, on the basis of the habitat in which their biodiversity value lies. For example, areas of plantation woodland on acid soils, which show relicts of acid grassland or heathland habitats (such as Harlestone Firs and Lings LNR) have been categorised as Acid Grassland. These sites should be seen as target areas for acid grassland and heathland restoration. They are generally located in the north of the Core Study Area. Other habitat reservoirs shown on Fig. 19 are Calcareous Grassland; Floodplain Grazing Marsh; Lowland Fen; Lowland Meadow; Open Mosaic; Open Water; Parkland and Woodland. Of these, Acid Grassland, Lowland Meadow and Woodland are linked by identified habitat corridors.
- 7.2.8 Whilst the plan presented in fig. 19 represents a refinement of the strategic plan presented in the Green Infrastructure Strategy, it remains indicative of how habitat reservoirs and links might be achieved. A more refined view at master planning and detailed design stages will help refine the strategic plan as well as react appropriately to local conditions and exploit opportunities as and when they arise. For example, a new development on the fringes of the town should help deliver in part or total a habitat link between two or more of the reservoirs identified. The route that this follows and the nature of the link will vary depending on local conditions.

7.3 The Sustainable Movement Network for West Northamptonshire

- 7.3.1 Refer to Fig. 20: Sustainable Movement Network
- 7.3.2 The Sustainable Movement Network identifies the principal networks and opportunities for sustainable people movement from centres of settlement to the countryside. By building upon

the network of existing rights of way, it seeks to link assets and destinations to villages and towns with a hierarchy of routes, that where possible, takes advantage of areas of green space.

- 7.3.3 The network is described as operating from doorstep to countryside, within a structured hierarchy, with each level performing a separate function.
- 7.3.4 The top tier, comprising Primary and Secondary routes, are identified for the entire county. A network of Inter Neighbourhood Connectors has also been proposed for Northampton.
- 7.3.5 The tiers in the movement hierarchy are described below:

Primary Network – Green Way

- Strategic links between major settlements through open countryside, composed of the Public Rights of Way (PROW) network and cycle routes.

Primary Network- Blue Way

- Similar in operation and function to Green Ways, but their routes are dictated by watercourses, including rivers, navigations and canals.

Secondary Network- Countryside Connectors

- Link towns, villages and hamlets together and to assets in the wider countryside, composed of the PROW network and cycle routes.

- 7.3.6 The Primary Network of Blue Ways around Northampton comprise the Nene Valley Blue Way, which links with the Grand Union Canal Blue Way between Blisworth and Gayton.
- 7.3.7 Primary Green Ways run into Northampton from the north (the Brampton Valley Green Way), the south (the Wootton-Salcey Green Way) and the west (the Nene Valley Green Way and the Althorp Green Way). The Forest Green Way circles the town to the south-east, and the Wellingborough, Kettering and Brixworth Green Way runs to the north-east of the town.
- 7.3.8 Between these Primary Ways is a more dense Secondary network of Countryside Connectors, which link Northampton with the surrounding countryside. Different urban areas of Northampton are connected by a network of Inter-Urban Neighbourhood connectors.

7.4 Strategic Green Infrastructure Corridors

- 7.4.1 Refer to Fig. 21: Strategic Green Infrastructure Framework
- 7.4.2 The GI Study defines the Strategic Infrastructure Framework as an interconnected network of Sub Regional and Local GI Corridors. The Strategic Green Infrastructure Plan for Northamptonshire illustrates the interconnected network of Sub Regional and Local GI Corridors across the county. They are not intended to indicate rigid corridors for Green Infrastructure provision, but instead identify broad landscape zones within which Green Infrastructure related proposals and priorities for action and delivery of GI should be focused. These multi-functional zones will encompass a range of objectives. It should be regarded as a conceptual framework to aid the decision-making process with regards to GI delivery on the ground. It is not intended to be prescriptive or inflexible, and as a consequence the network delivered in the longer term may vary depending on a multitude of strategic and local issues, not least those relating to the aspirations of local communities, land ownership and a changing development context.

- 7.4.3 Northampton is located at the junction of four Sub-Regional Infrastructure corridors, which form a cross shape and meet in the centre of the town. The Nene (Newnham – Northampton) is to the west of the town and The Nene (Northampton-Wansford) is to the east. The Brampton Arm (Northampton- Market Harborough) is to the north of Northampton and Northampton- Salcey (Milton Keynes Link) runs to the south.
- 7.4.4 Local Green Infrastructure Corridors within the Core Study Area include the Nether Heyford - Milton Keynes and Northampton Grand Union Canal Spur, which runs to the south-west of Northampton and connects with The Nene Sub-Regional corridor near Upton Mill. There is also an east-west route of Local Green Infrastructure, which includes the Northampton-Daventry and Wellingborough-Northampton corridors. These run to the north of The Nene, and connect with The Brampton Arm Sub-Regional corridor.

7.5 Green Infrastructure Networks

- 7.5.1 Fig. 27 shows the two Green Infrastructure Networks for Northampton on the same drawing. When the Biodiversity Network (fig. 19 and section 7.2) and the Movement Network (fig. 20 and section 7.3) are superimposed, corridors, which contribute to both networks, can be identified.
- 7.5.2 The Nene and Brampton valleys make a significant contribution to both the Biodiversity and Movement Networks. The acid grassland corridor, which runs west from the Brampton valley through Harlestone Firs, and the woodland corridor to the west of this, also contains a Primary Movement Network. The lowland meadow Biodiversity corridor along the Grand Union Canal also contains a primary route.
- 7.5.3 Within Northampton urban area, there are several locations where the Secondary Movement Network runs through Open Space sites, which are also Habitat Links. These include woodland, grassland and lowland meadow.

PART B: SENSITIVITY REVIEW

8.0 SENSITIVITY REVIEW

8.1 Introduction and Methodology

- 8.1.1 The following section assesses the sensitivity of landscapes, and landscape, biodiversity and cultural heritage features under a series of key themes derived from the baseline information presented in the preceding section. However, consideration is given to other baseline datasets and information sources to provide a comprehensive overview and context.
- 8.1.2 At the national level, the area around Northampton can be identified as being of moderate to low landscape sensitivity, because of the absence of any national landscape designations (Area of Outstanding Natural Beauty; National Park). However, for the purposes of this assessment, a more localised review of sensitivity has been undertaken, observing local, town wide assets and their sensitivity.
- 8.1.3 The assessment of landscape sensitivity has therefore been undertaken at the strategic scale using information and data that have been available at the town-wide scale of the study. As such, judgements on the inherent sensitivity of landscapes, views, settings and features are considered at this broad scale. More detailed research and further site-specific assessment would be necessary to confirm the levels of sensitivity attributed to individual features.
- 8.1.4 Sensitivity is defined in Landscape Character Assessment Topic Paper 6, published jointly by the Countryside Agency and Scottish Natural Heritage (2002). A distinction is made between overall landscape sensitivity, which refers to the inherent sensitivity of the landscape itself, irrespective of the type of change that may be under consideration and landscape sensitivity to a particular type of change. The former definition is most relevant to strategic work over a large area, such as in the preparation of regional and sub-regional strategies. The second definition is appropriate for studies such as this, which relate to a relatively small area and to a particular type of change.
- 8.1.5 This assessment adopts the second definition of landscape sensitivity and is presented below:

***'Landscape sensitivity to a specific type of change:** This term should be used where it is necessary to assess the sensitivity of the landscape to a particular type of change or development. It should be defined in terms of the interactions between the landscape itself, the way that it is perceived and the particular nature of the type of change or development in question.²*

² Countryside Agency and Scottish Natural Heritage, Landscape Character Assessment Topic Paper 6: Techniques and Criteria for Judging Capacity and Sensitivity

- 8.1.6 This assessment considers and assesses heritage and biodiversity features as a component of the landscape resource. Sensitivity scores have been attributed to features identified in the baseline data. The aim of this exercise has been to produce a sensitivity analysis of heritage and biodiversity features which uses the designation level of a site as a starting point of determining sensitivity, but which then applies professional knowledge and judgement to upgrade the sensitivity levels of lower-designation and non-designated sites where appropriate.
- 8.1.7 It should be noted that the process was a desk-based review, undertaken by local experts in these fields. No site investigation or verification of the features identified has been undertaken specifically for this study. Confirmation of the survival of features assessed under these themes and their inherent sensitivity would be required at the more refined level of analysis and investigation, such as that conducted as part of an Environmental Statement. Any proposed developments or projects, which may have an impact on the pSPA, would be subject to a Habitat Regulations Assessment.
- 8.1.8 Following on from the definition of 'sensitivity', it is essential that a clear definition of the term **'the particular type of change or development'** is established, as this provides the reference for the consideration of the sensitivity of landscapes and environmental features to the specific change, and its type and scale. In the context of this study, 'change or development' is defined as major mixed-use urban extension development in excess of 5ha³. However, some assets could still be sensitive to development of less than 5ha.
- 8.1.9 It is important to note that the findings of this Sensitivity Assessment are not applicable to the assessment of the sensitivity of the landscape or environmental features to other types of development, for example major infrastructure such as road or rail schemes, or renewable energy initiatives such as wind farms. As such, the following section presents an examination of the environmental resource within and around Northampton under a series of Strategic Themes. Reference to supporting plans is made where relevant.
- 8.1.10 It should be noted that a nominal 1km potential zone of influence has been defined for the purposes of marking a setting for the villages around Northampton. At this strategic scale of assessment, a 1km potential zone of influence was regarded as sufficient to demarcate the setting of each village and to define an area of land, within which development associated with the expansion of Northampton is more likely to lead to direct adverse impact on the settlement's 'separateness' and village identity. Where separation between settlements or development is less than 1km, a more localised scale of assessment will be required to be able to define setting and impacts more precisely, based on analysis of views, vistas and factors of landform, vegetation and local perceptions.

8.2 Sensitivity Categories and Definitions

- 8.2.1. The sensitivity analysis has been examined under the following four main themes: Biodiversity; Cultural Heritage; Landscape and Visual; and Flood Zones and Minerals.
- 8.2.2. Sensitivity, and the potential for development, is assessed under five categories: High, High-Medium (for Landscape & Visual and biodiversity), Medium, Low and No Known Assets or Issues. A summary of the definition of each sensitivity category is presented below.

³ This 5ha threshold is derived from an interpretation of EIA Regulations Indicative Thresholds and Criteria – Appendix 3 Section 10b.

8.2.3. An assumption concerning the scale of development against sensitivity has been made (refer to Section 8.1.5). The assessment considers sensitivity to direct impacts through loss or damage of sites and features. Mitigation such as buffer planting has not been considered. In addition, due to the scale of assessment each type of designated site has been categorised as having equal weight, for the purposes of highlighting sensitivity at the strategic level. In the case of non-designated sites (for example Potential Wildlife Sites and Known Archaeological Assets) local knowledge and professional judgement have been applied in determining the category of sensitivity as either low or medium.

8.2.4. **High Sensitivity**

Definition: Significant constraints such that development is inappropriate

Features and areas identified as having international or national statutory designation status are considered to be of high sensitivity. High-sensitivity sites are regarded as presenting a significant constraint to development, such that large-scale development would result in significant harm. Development is regarded as inappropriate or would present wide-ranging challenges to accommodate in these areas.

8.2.5. **High-Medium Sensitivity** (for Biodiversity and Landscape and Visual only)

Definition: Significant constraints identified, although smaller scale development may be possible subject to further detailed investigation and appropriate mitigation.

This category includes locally-designated biodiversity sites and areas identified as sensitive to smaller scale development in urban fringe and rural areas within the Core Study Area.

8.2.6. **Medium Sensitivity**

Definition: Significant constraints identified, although some development may be possible subject to further detailed assessment and appropriate mitigation.

Features and areas are identified as being of medium sensitivity on account of their local significance or their inclusion within or association with a wider complex of sites and features of interest. Some non-designated sites have been included in this category where appropriate. In some instances the exact nature of the resource may not be fully understood or documented, but is nevertheless identified as a significant constraint to development. Some development within areas identified as medium sensitivity may be possible although further investigation will be required to fully evaluate the significance of the features and areas of landscape. Where features are not identified as being of high sensitivity, appropriate mitigation may be required to limit adverse impact.

8.2.7. **Low Sensitivity**

Definition: Some constraints identified, although development may be possible subject to further detailed investigation and appropriate mitigation.

Features and areas identified as being of low sensitivity are generally not designated but regarded as a locally important asset, which subject to further investigation may qualify for designation in the future. Development within areas identified as low sensitivity may be possible although further investigation will be required to fully appreciate the significance of features and areas of landscape. Where features are not then identified as being of moderate or high sensitivity appropriate mitigation will be required to limit adverse impact.

Lowest Sensitivity

- 8.2.8. Where it is considered that No Known Assets or Issues exist, development may be possible subject to further investigation and appropriate mitigation. While the likelihood of discovering high, medium or low sensitivity assets is less likely, this cannot be discounted.
- 8.2.9. In the case of landscape and visual sensitivity, the alternative term of Negligible is introduced, to represent the lowest threshold of sensitivity. As all areas are visible, and therefore have some degree of visual impact, it is inappropriate to use the term 'No Known Assets or Issues'. The term 'Negligible' therefore applies to those areas where it is considered that development would either be appropriate to local character or have a negligible adverse visual impact.
- 8.2.10. Whilst sensitivity analysis across the four main themes identifies areas that may be regarded as being of high, high-medium, medium and low sensitivity to new development, it does not necessarily preclude development, which may, through appropriate design and planning, be able to offer greater certainty in the long term protection and potential enhancement of features, or indeed make a positive contribution to the town and its visual setting.

8.3 Biodiversity Sensitivity

8.3.1 Refer to Figure 22: Biodiversity Sensitivity

8.3.2 All designated biodiversity and nature conservation sites were graded according to their sensitivity. In addition, Potential Wildlife Sites (PWS) were also graded. PWS are sites where the correct conditions may still exist to form the starting point for creation of habitats and green corridors, and without thorough surveys we cannot rule out the possibility that a site contains a high level of biodiversity. PWS for Northampton were separated into medium and low sensitivity categories based on the level of information the Wildlife Trust had about them; their closeness to meeting the wildlife site criteria, and their position in an ecological unit or habitat corridor. This resulted in 153 as medium and 20 as low.

8.3.3 High Sensitivity

In accordance with PPS9, Internationally and nationally-designated sites (i.e. potential Special Protection Area (pSPA) and Sites of Special Scientific Interest (SSSIs) have been graded as high sensitivity in order to ensure a maximum level of protection.

8.3.4 High- Medium Sensitivity

PPS 9 recognises that Local Wildlife Sites have a fundamental role to play in: *helping to meet overall national biodiversity targets; contributing to the quality of life and the well-being of the community, and in supporting research and education.* This is particularly the case in Northamptonshire, which has a much lower proportion of its area designated SSSI (2% instead of the national average of 7.5%). SSSI designations in Northamptonshire do not currently take into consideration the key principles of habitat connectivity or adaptation to climate change. Local Wildlife Sites are therefore the best examples of particular habitats or species assemblages in Northamptonshire, and play a major role in connecting areas of land with important biodiversity. The vast majority of Local Wildlife Sites are comprised of a Biodiversity Action Plan habitat and support BAP species. The main habitats represented by Local Wildlife Sites in the Northampton Area are lowland dry acid grassland; lowland meadow; lowland mixed deciduous woodland and rivers, all of which are priority habitats in the BAP. Local Wildlife Sites are therefore designated as high-medium sensitivity.

8.3.5 Wildlife sites with public access, which perform biodiversity, recreational and educational functions are also considered to be of high-medium sensitivity. Such sites include designated

Regionally-Important Geological Sites (RIGS), Local Nature Reserve (LNR), Local Wildlife Sites (LWS) and Wildlife Trust Reserves (All Wildlife Trust Reserves are Local Wildlife Sites).

8.3.6 **Medium Sensitivity**

Non-designated sites within habitat networks, which are of national importance, as described in PPS9, are considered to be of medium sensitivity. Consequently, such sites have been included in the medium sensitivity category. Examples include the non-designated Potential Wildlife Sites in the Nene valley to the east of Northampton, which form a habitat link between the internationally-designated pSPA sites of the Nene Valley.

8.3.7 Also included in the medium sensitivity category are PWS, which are very close to meeting the LWS criteria, and with a second survey (perhaps at a different time of year) the site may meet the criteria. PWS sites which have the potential to recover through habitat restoration, or which contribute to a larger ecological unit are also included in this category.

8.3.8 Priority Target Areas for Additional Acid Habitat Survey are considered to be of medium sensitivity, due to the relative rarity of this habitat.

8.3.9 In some instances the exact nature of the resource may not be fully understood or documented, but is nevertheless identified as a significant constraint to development. Some development within areas identified as medium sensitivity may be possible, although further investigation will be required to fully evaluate the significance of the features and areas of landscape. Where features are not identified as being of high sensitivity, appropriate mitigation will be required to limit adverse impact.

8.3.10 **Low Sensitivity**

This category includes Potential Wildlife Sites which have not been surveyed and are isolated from other similar sites, or which have been surveyed but were shown to be of fairly low diversity (although higher than most surrounding land) and isolated from other similar sites. The value of these sites is unknown in many cases, and their sensitivity may be changed after comprehensive survey.

8.3.11 Development within areas identified as low sensitivity may be possible although further investigation will be required to fully appreciate the significance of features and areas of landscape. Where features are not then identified as being of moderate or high sensitivity appropriate mitigation will be required to limit adverse impact.

8.3.12 **Lowest Sensitivity**

The remainder of the Core Study Area (subject to survey)

8.3.13 **Notes:**

It should always be borne in mind that decisions on site sensitivity have been made using the information currently available for each site. For some PWS very little information is available, and therefore further investigations of these sites should be made prior to any development occurring in their vicinity.

Sensitivity data has not been compiled for PWS sites beyond the study boundaries.

8.3.14 Study Area 1: North-East

The majority of high-medium sensitivity sites in this Study Area are LNRs (of which there are four), plus the extensive RIGS site at Bradlaugh Fields.

8.3.15 The majority of medium-sensitivity sites are small pockets of deciduous woodland (such as those around Ecton), the lake at Overstone Park and urban grassland and woodland sites. Much of the northern part of this Study Area is considered to be of medium sensitivity due to their identification as priority for additional acid habitat survey. Other medium-sensitivity sites, which contribute to stream corridors include PWS, which follow the northern part of the Brampton Nene, the Overstone lakes and the Billing Brook.

8.3.16 Low sensitivity sites include the lake in Abington Abbey grounds.

8.3.17 Study Area 2: Nene Valley East

All of the nationally/ internationally designated nature conservation and biodiversity sites in this Study Area are considered to be of high sensitivity, due to the high conservation value of the open water and wet meadows of the Nene Valley. This Study Area includes part of the internationally-designated pSPA, which extends eastwards along the Nene Valley and has been designated for the large numbers of over-wintering birds which its habitat supports. The LNR at Barnes Meadow and numerous LWS are considered to be of high-medium sensitivity. PWS in the Nene valley contribute to the habitat link between different parts of the Nene Valley pSPA, and are therefore considered to be of medium sensitivity.

8.3.18 Study Area 3: South

This Study Area contains relatively few high-sensitivity sites, although extensive Ancient Woodland SSSI/ LWS occur at Salcey Forest and Yardley Chase, immediately outside the Study Area to the South-East.

8.3.19 High-medium and medium sensitivity sites within the Study Area are generally within the urban area (eg. LWS at Hunsbury Hill), or form linear features through the countryside, including the embankments/ cuttings of disused and active railway lines and the Grand Union Canal.

8.3.20 There are extensive medium sensitivity PWS at Courteenhall (parkland) and the new planting and habitat creation around industrial development at Hardingstone. Land around Blisworth and Gayton is considered to be of medium sensitivity due to its identification as priority for additional acid habitat survey.

8.3.21 There are numerous smaller medium and low sensitivity sites, the majority of which are either small woodlands, or unimproved/ semi-improved pasture associated with isolated patches of ridge and furrow.

8.3.22 Study Area 4: Nene Valley West

Within the urban area are Nene Valley LWS, including the Wildlife Trust Reserves at Storton's Pits and Duston Meadow. These are considered to be of high-medium sensitivity. Further west, towards Kislingbury, are extensive areas of grassland adjacent to the River Nene, which are PWSs considered to be of medium sensitivity. An area of parkland at Upton is also considered to be of medium sensitivity.

8.3.23 There are further isolated grassland PWSs which are considered to be of medium and low sensitivity.

8.3.24 **Study Area 5: North-west**

This area contains a large area of high-medium sensitivity including Harlestone Heath and Harlestone Firs, which occur over Acid Sand geology. This is a rare habitat, and represents the only example of Ericaceous heathland in the County. Harlestone Heath is designated LWS and part is a Wildlife Trust Reserve. The associated extensive area of acid grassland is also considered to be of high-medium sensitivity.

8.3.25 There is a large area which has the potential to be restored as acid grassland/ heathland habitat between Harlestone Firs and the built-up area of Kings Heath. A small area has already been designated PWS. Much of the northern part of this Study Area is considered to be of medium sensitivity due to its identification as priority for additional acid habitat survey.

8.3.26 The wet meadows and tributaries of the Brampton Nene are considered to be of high-medium sensitivity where they are designated LWS or LNR (including Kingsthorpe LNR) and medium sensitivity where they are designated PWS.

8.3.27 There are several areas of deciduous woodland which are considered to be of medium sensitivity, including those in Althorp Park. Nobottle ancient woodland is just outside the Study Area boundary.

8.3.28 Fig. 28 shows the Green Infrastructure Networks overlaid on Biodiversity Sensitivity. It shows a key correlation between high and high-medium sensitivity sites and the Primary Movement Network along river valleys and (to a lesser extent) through woodland. The opportunities to further enhance the accessibility and biodiversity value of the Nene and Brampton valleys are discussed in Part C. As would be expected, the majority of areas, which are Combined Habitat Links and Combined Habitat Reservoirs within the Biodiversity Network, are considered to be of high or high-medium sensitivity.

8.4 **Cultural Heritage Sensitivity**

8.4.1 Refer to Fig. 23: Cultural Heritage - Sensitivity

8.4.2 All designated archaeological and built heritage sites were graded according to their sensitivity, as follows:

8.4.3 **High Sensitivity**

Internationally and nationally designated sites with statutory protection (i.e. Scheduled Ancient Monuments, Registered Parks and Gardens, Registered Battlefields, Listed Buildings, and Conservation Areas) have been graded as high sensitivity.

8.4.4 **Medium Sensitivity**

This category includes locally significant non-statutorily designated archaeological sites such as Non-registered Parks and Gardens and Known Archaeological Assets, which have been identified as presenting significant constraints to development due to their extent, nature or state of preservation. These sites include rare monument types of national or regional importance identified on the Northamptonshire Historic Environment Record (for example, the nationally-significant Neolithic Causewayed Enclosures on Dallington Heath). The majority of ridge and furrow areas (a regionally-distinctive landscape type which is being diminished as a result of development and ploughing, but which provides a visual and tangible link with the past) are initially considered to be of medium sensitivity. Further investigation would be required on a site-by-site basis.

8.4.5 In some instances the exact nature of the resource may not be fully understood or documented, but is nevertheless identified as a significant constraint to development. Some development within areas identified as medium sensitivity may be possible although further investigation will be required to fully evaluate the significance of the features and areas of cultural heritage remains. This may take the form of full archaeological assessment, excavation where appropriate and a suitable mitigation strategy where required to limit adverse impact.

8.4.6 **Low Sensitivity**

This category includes cultural heritage sites which have been identified but which are (for example) in continuing use, such as historic road routes or railways, or where industrial remains are thought to be deeply buried. The value, extent and state of preservation of these sites is unknown in many cases, and their sensitivity may be changed after comprehensive survey.

8.4.7 Development within areas identified as low sensitivity may be possible although further investigation will be required to fully appreciate the significance of features and areas of cultural heritage remains. Where features are not then identified as being of moderate or high sensitivity appropriate mitigation will be required to limit adverse impact.

8.4.8 **Lowest Sensitivity**

The remainder of the Core Study Area. Additional currently unknown archaeological remains may be present in these areas (for example masked by surviving medieval ridge and furrow remains which may preserve relict landscapes). Proposed development will therefore need to be informed by schemes for appropriate archaeological assessments, redesign and mitigation where new cultural heritage assets are identified.

8.4.9 **Notes:**

It should be borne in mind that decisions on site sensitivity have been made using unvalidated information currently available for each site, based upon records held on the Northamptonshire Historic Environment Record. For some assets very little information is available, and therefore further investigations of these sites should be made prior to any development occurring in their vicinity.

This report does not form an official statement of sensitivity by Northamptonshire County Council's Historic Environment Record.

Sensitivity data has not been compiled for Cultural Heritage Assets beyond the study boundaries.

8.4.10 **Study Area 1: North-East**

The majority of high-sensitivity sites in this Study Area are designated sites such as the Registered landscape park at Boughton Hall, and Scheduled Monuments. The historic core of Northampton is particularly sensitive and great care should be taken with any proposals for development within the Saxon or medieval core of the town. The Conservation Area and its surrounding area in Abington Park is also identified as high sensitivity due to preserved remains of the deserted medieval village and associated parkland remains, a particularly rare survival in an urban context.

8.4.11 Medium-sensitivity areas include extensive areas of prehistoric and Romano-British occupation in the vicinity of the Bramptons to the North West, and the Ecton ridge. The majority of medium-sensitivity sites are more isolated crop mark sites of multi-period occupation, the landscape park at Overstone Lodge and areas of Saxon and medieval occupation in and surrounding historic village cores such as Ecton village. Many buildings associated with the Northampton boot and shoe industry are identified within Northampton itself, both within and

outside of the medieval historic core. The built heritage associated with this industry is increasingly at risk from demolition and redevelopment pressures.

8.4.12 Low sensitivity sites include the heavily developed medieval deer park at Moulton Park, and areas of industrial remains associated with ironstone extraction north of Boughton Park.

8.4.13 Study Area 2: Nene Valley East

Highly sensitive sites in this Study Area are the associated with the Registered Northampton Battlefield and Scheduled Monuments at Clifford Hill and Cogenhoe.

8.4.14 Cultural Heritage Assets of medium sensitivity are identified within the floodplain and on the valley sides of the Nene Valley. The historic municipal park landscape at Becketts Park, remains associated with shrunken or deserted medieval villages and associated surviving medieval ridge and furrow and the historic London and North West Railway line. Other sites include prehistoric ritual and settlement sites such as Iron Age occupation at Little Houghton and medieval settlement remains associated with the Scheduled site at Cogenhoe.

8.4.15 Low sensitivity sites are identified associated with some modern industrial remains of gravel extraction in the Nene Valley and some undated and medieval industrial activities.

8.4.16 Study Area 3: South

This relatively large Study Area contains more extensive sites of High Sensitivity, associated with the registered landscape parks at Horton and Courteenhall, as well as Scheduled Monuments including Hunsbury Iron Age Hill Fort and the extensive Registered Battlefield of the Battle of Northampton.

8.4.17 There are extensive medium sensitivity remains throughout the southern Study Area. Several medieval villages, associated surviving ridge and furrow remains and medieval deer parks, comprise large portions of the cultural heritage assets, interspersed with prehistoric and Romano-British settlement and industrial remains.

8.4.18 There are low sensitivity sites mainly associated with historic roads still in use, or industrial activity of various historical periods.

8.4.19 Study Area 4: Nene Valley West

Highly sensitive sites in this study area include medieval and Saxon remains of Northampton town and the western suburbs. Upton contains a Grade I listed church and hall, and a Scheduled Monument.

8.4.20 Medium sensitivity sites comprise medieval settlement remains and any surviving remains of Duston Roman town, which was extensively damaged by ironstone extraction. There are records of early prehistoric ritual and settlement in the area and any remains of these periods would also be of medium sensitivity. There are extensive ridge and furrow remains around Kislingbury.

8.4.21 Low sensitivity sites are very limited in this area, and include known archaeological assets along the River Nene.

8.4.22 **Study Area 5: North-west**

High sensitivity landscapes in the Study Area (other than those areas associated with discrete Scheduled Monuments, such as at Harpole Roman villa) can be found associated with Althorp Registered parkland.

8.4.23 There is an extensive well-preserved landscape of prehistoric activity which runs from Kings Heath, through Harlestone Firs and surrounding Harlestone and the Bramptons. A nationally important Neolithic Causewayed Enclosure, one of only two surviving in the county and probably intimately linked with the valley bottom example at Briar Hill, which was destroyed by an earlier phase of urban expansion, is associated with extensive settlement and ritual landscapes. In Harlestone Firs these features are particularly notable as they survive as a remarkable set of upstanding earthworks. To the north these features continue to form one of the most extensive and intact prehistoric landscapes in the county, and are of an extremely sensitive nature. However, as they are not statutorily designated at the present time, they are only shown as being of medium sensitivity.

8.4.24 Further Medium sensitivity landscape scale sites have been identified in this Study Area, such as the medieval deer park on the edge of the nationally important remains at Holdenby House (the house itself is just outside the Core Study Area, and comprises Scheduled village remains, Registered Landscape parkland and ridge and furrow remains). The relict parkland at Harlestone Golf Course, which still preserves elements of the exceptional planned landscape park, is adjacent to Althorp Park and considered to be of medium sensitivity. Scattered prehistoric, Romano-British and medieval settlement remains are also generally considered to be of medium sensitivity, as are medieval settlement remains in the area of Kingsthorpe village within the urban area of Northampton.

8.4.25 Low sensitivity remains are not extensive in this area, generally being confined to ironstone extraction in the area to the north-west of Boughton landscape park.

8.4.26 Fig. 29 shows Green Infrastructure Networks overlaid on Cultural Sensitivity. The primary movements meet in the centre of Northampton, which is considered to be of high sensitivity in cultural heritage terms. There is also a correlation between the Primary Movement Network and high/medium cultural sensitivity areas on the north-west edge of Northampton i.e. Dallington Heath, around Harlestone and Althorp Park. The potential for increasing interpretation along the Movement Networks is discussed further in Part C. There is a strong correlation between the Combined Habitat Reservoirs and high sensitivity cultural sites, particularly in areas of historic parkland.

8.5 Landscape and Visual Sensitivity

8.5.1 Refer to Fig. 24: Landscape and Visual- Sensitivity

8.5.2 The assessment of landscape and visual sensitivity has been undertaken at a **strategic level**. The following sections identify the overall sensitivity of the landscape within each Study Area based upon the primary landscape characteristics identified. Given the impact of local landform and vegetation on landscape impact at the local (scheme) level, more detailed site-specific appraisals would be required to reach a definitive position on actual sensitivity to change. These would need to be undertaken for a specific development proposal.

8.5.3 Landscape and visual sensitivity takes account of topography (which affects visibility), and also the function of the landscape. For example, does an area function as a strategic gap, or make a distinctive contribution to the setting of Northampton or one of the surrounding villages? The different sensitivity gradings are set out below:

8.5.4 High Sensitivity

The landscapes in these areas contain significant constraints such that development is inappropriate. They include key ridgelines and elevated land; areas of distinctive landform which have intervisibility with and contribute to the setting of Northampton; areas of high quality landscape; landscape which functions as a gap preventing the physical or visual coalescence of Northampton and surrounding settlements; distinctive settings of villages and open spaces within Northampton.

8.5.5 High-Medium Sensitivity

These areas contain significant constraints, although smaller-scale development may be appropriate subject to further detailed assessment and appropriate mitigation. They include areas of gently undulating landform which has intervisibility with Northampton and generally contributes to the setting of the town; Areas of rural landscape which have a stronger visual connection with the surrounding countryside than with Northampton and some areas of landscape which functions as a gap preventing the physical or visual coalescence of Northampton and surrounding settlements are included in this category.

8.5.6 Medium Sensitivity

Significant constraints have been identified in these areas, although some development may be possible subject to further detailed investigation and appropriate mitigation. Medium-sensitivity landscapes include areas which are not visually prominent and do not make a major contribution to the setting of Northampton.

8.5.7 Low Sensitivity

Some constraints have been identified in these areas, although development may be possible subject to further detailed investigation and appropriate mitigation. These areas have the least visual prominence and make a limited contribution to the setting of Northampton. They do not function as a gap between settlements.

8.5.8 Much of the Study Area is of high-medium sensitivity, with some areas of high sensitivity and pockets of low sensitivity as described below:

8.5.9 Study Area 1: North East

High sensitivity areas include the prominent landform of the Ecton ridge, and Overstone Park. Strategic gaps, which prevent the coalescence of Northampton with villages to the north, are also considered to be of high sensitivity. Land within north Northampton is highly sensitive due to its height, as demonstrated by the visibility of industrial buildings constructed on elevated land at Moulton Park.

8.5.10 The open spaces within Northampton such as Bradlaugh Fields and Abington Abbey, are considered to be of high sensitivity due to their important role as green spaces within the town and the contribution they make to its 'green' appearance.

8.5.11 There are pockets of lower visual sensitivity north-east of Round spinney and north of Overstone and of Whitehills.

8.5.12 The remainder of the Study Area is considered to be of high-medium sensitivity. It is an attractive rural landscape where medium/large scale development is likely to appear incongruous.

8.5.13 Study Area 2: Nene Valley East

This Study Area is relatively enclosed by landform and vegetation (especially in summer), and is therefore of medium/ low visual sensitivity. It forms the foreground of views from the south across the Nene Valley, but even so the mobile home/ static caravan parks on the valley floor, for example at Billing Aquadrome, are not visually prominent in these views.

8.5.14 Further south, the more open landform around the SSSI is more visually sensitive, and is prominent in views across the Nene Valley, and in views from the A45 within the valley.

8.5.15 Study Area 3: South

Within this Study Area there are three discrete areas of high-sensitivity landscape. These are 1) the ridge of land which runs from Cogenhoe to Hunsbury Hill, which is visually prominent and forms the southern setting to Northampton. 2) The area south and south-east of Hackleton and Piddington, due to the attractiveness of the countryside and strong visual links with the historic landscape of the surrounding wooded areas. 3) The Courteenhall estate, as an example of a traditional parkland estate. Delapre Abbey is also highly sensitive due to the size and openness of the site.

8.5.16 There are pockets of lower visual sensitivity land between the M1 and the existing southern edge of Northampton, and in the shallow “bowl” of land between Wootton and Grange Park.

8.5.17 The remainder of the Study Area is an open rural landscape of high-medium sensitivity, where medium or large scale development would appear incongruous.

8.5.18 Study Area 4: Nene Valley West

This Study Area has views across the open Nene Valley from the north and south, and is therefore considered to be of high-medium sensitivity. The landform is slightly more enclosed around and to the west of Kislingbury, but this area is attractive countryside where development would appear incongruous. The whole of this Study Area is therefore considered to be of high-medium sensitivity.

8.5.19 Study Areas 5: North-West

This Study Area contains a wide variation in sensitivity within a relatively small area. Areas of high sensitivity which contribute to the distinctive setting of Northampton include the Brampton Valley, Kings Heath, Dallington Golf Course and the hills to the west of Harpole.

8.5.20 The Countryside around Harlestone, Church Brampton and Chapel Brampton forms an important setting to these villages. Beyond these villages to the north-west is an area of exceptionally attractive rural countryside, which is considered to be highly sensitive to change/development.

8.5.21 There are small pockets of land of medium/low landscape and visual sensitivity, including the lower slopes of land to the south of St Crispin’s Hospital, and the plateau to west of New Duston.

8.5.22 The remaining land is of high-medium landscape and visual sensitivity.

8.5.23 Fig. 30 shows Green Infrastructure Networks overlain on landscape and visual sensitivity. It shows that the Movement Network runs through landscapes of all levels of sensitivity. There is, however, a fairly strong correlation between areas of high landscape and visual sensitivity and Combined Habitat Reservoirs, particularly where they occur in parkland and woodland.

8.6 Flood Zones and Minerals Sensitivity

8.6.1 Refer to Fig. 25: Flood Zones and Minerals- Sensitivity

8.6.2 The Core Study Area contains Flood Zones (associated with the River Nene and its tributaries) and Protected Areas for Minerals Sites (PAMS). Both of these factors affect the suitability of sites for development, and the following levels of sensitivity have been ascribed to them:

8.6.3 High Sensitivity

This category includes all Protected Areas for Minerals Sites and land within Flood Zone 3 (high risk with annual probability of flooding of 1% or greater).

8.6.4 Medium Sensitivity

This category includes land within Flood Zone 2: (low-medium risk with annual probability of flooding of 0.1-1%).

8.6.5 Low Sensitivity

The remainder of the study area is considered to be of low sensitivity regarding flood zones and minerals.

8.6.6 Study Area 1: North-East:

Extensive PAMS to the north of Boughton and Moulton is considered to be high sensitivity, as are smaller PAMS west of Boughton and east of Moulton. Overstone Park lake, the Ecton and Billing Brooks and the northern part of the Brampton Stream are associated with areas of Flood Zone 3 (high sensitivity).

8.6.7 Study Area 2: Nene Valley East

The majority of this study area is considered to be of High Sensitivity, due to the extensive areas of Flood Zone 3 in the Nene Valley, and also the extensive PAMS in the centre of the Study Area. At the edges of the Study Area there are narrow bands of Flood Zone 2 (medium sensitivity).

8.6.8 Study Area 3: South

There is a cluster of high sensitivity PAMS sites around Rothersthorpe and west of Blisworth. There is also an extensive high-sensitivity PAMS site west of Grange Park. The Wootton Stream (which runs from Horton to its confluence with the Nene at Upton) and its tributaries are surrounded by areas of Flood Zone 3, which is of high sensitivity to development.

8.6.9 Study Area 4: Nene Valley West

The River Nene is surrounded by a broad band of Flood Zone 3 (high sensitivity), with some areas of Flood Risk 2 (medium sensitivity) at the edges of the floodplain. There are also several PAMS associated with this section of the Nene Valley.

8.6.10 Study Areas 5: North-West

The Southern Part of the Brampton Valley and its tributaries are within Flood Zone 3, and are therefore considered to be of high sensitivity to development. There are also two PAMS sites within the Study Area: one south of Harlestone, and one within the urban area of New Duston.

8.6.11 Fig. 31 shows Green Infrastructure Networks overlain on floodzones and minerals sensitivity. As would be expected, where the Movement Network follows the valley floors (e.g. Nene and Brampton Valleys) it is closely associated with areas of high floodzone sensitivity. Combined Habitat Networks and Combined Habitat Links also occur in these areas.

8.7 Summary of Sensitivity by Quadrant

8.7.1 A summary of the findings of the sensitivity analysis for each of the five quadrants, and particularly with regard to the key areas of high sensitivity and constraints, are described below. It should be emphasised that whilst a designation of high sensitivity does not preclude development, any development in these areas would require full justification, strong mitigation and site-specific schemes to achieve the appropriate design and type of development in such locations.

8.7.2 Study Area 1: North-East

The Biodiversity Sensitivity analysis identified areas of **high-medium sensitivity** in the Brampton valley, the Nature Reserves at Moulton, Bradlaugh Fields and Lings Wood, and other scattered sites within the urban and rural areas, the majority of which are wooded. In addition, much of this Study Area is considered to be of **medium sensitivity** as a priority area for acid habitat survey.

8.7.3 The Cultural Heritage Sensitivity analysis showed a fairly complex pattern in this Study Area. Areas of **high sensitivity** include Scheduled Monuments, the historic core of Northampton, the area surrounding Abington Abbey, Boughton Park and village Conservation Areas. **Medium sensitivity** sites are dominated by non-registered parks and gardens, including Overstone Park, Ecton Park, Eastfield Park and the Old Race Course. They also include the area of known Roman and prehistoric archaeological assets to the west of Pitsford, and the Ecton Ridge.

8.7.4 Analysis of Landscape and Visual Sensitivity indicates that the areas of **high sensitivity** are the southern part of the Brampton valley, the high land around Moulton Park, land which separates Moulton village and Northampton, and the Ecton Ridge (including Overstone Park). Large and distinctive open spaces within Northampton are also considered to be of **high sensitivity**. The majority of this Study Area is considered to be of **high-medium** landscape and visual sensitivity.

8.7.5 Flood Zones and Minerals Sensitivity analysis shows scattered **high sensitivity** Protected Area for Minerals Sites, including an extensive area north of Boughton and Moulton. The Brampton valley is also considered to be **high sensitivity** due to flood risk.

8.7.6 Reading the various sensitivity analyses drawings together, it can be seen that the Brampton Valley, Overstone Park, the Ecton Ridge and the large Open Spaces within Northampton have notable concentrations of **high, high-medium and medium sensitivity** sites.

8.7.7 Study Area 2: Nene Valley East

This Study Area has a concentration of **high and high-medium sensitivity** Biodiversity sites associated with the open water and wet meadows of the Nene Valley. Some of these sites are of international importance and have been provisionally designated accordingly.

8.7.8 Sites of **high sensitivity** for Cultural Heritage are relatively small in this Study Area, and are limited to the Scheduled Monuments at Clifford Hill and Cogenhoe, part of the Historic Battlefield around Delapre Abbey, and the Conservation Area in Cogenhoe village.

8.7.9 Landscape and Visual Sensitivity analysis shows that the open and higher land in the southern part of the study area is of **high sensitivity** as it contributes to the southern setting of Northampton. The lower-lying land on the Nene Valley floor is relatively enclosed, and is therefore of **medium sensitivity**.

- 8.7.10 The vast majority of this Study Area is of **high sensitivity** as a Floodzone, or as a Protected Area for Minerals Site.
- 8.7.11 The majority of this Study Area is of **high sensitivity** for both its biodiversity value and its flood-risk sensitivity. The middle part of the Study Area is also **highly sensitive** in landscape and visual terms.
- 8.7.12 **Study Area 3: South**
The majority of **high-medium sensitivity** Biodiversity sites are concentrated within the urban area of Northampton, and include the publicly-accessible sites of Hunsbury Hill and part of Barnes Meadow Local Nature Reserve. There are also **high-medium sensitivity** linear features, including the Grand Union Canal and the dismantled railway line, which runs through Great Houghton. There are extensive blocks of **medium sensitivity** land including the Courteenhall estate and a priority area for acid grassland habitat survey around Blisworth and Gayton.
- 8.7.13 **High sensitivity** Cultural Heritage sites in this Study Area include the designated sites of Courteenhall estate, Northampton Battlefield (around Delapre Abbey) and Hunsbury Hill Fort. There are also several villages with Conservation Areas. **Medium sensitivity** sites are scattered throughout the Study Area, and include the Grand Union Canal, extensive areas of ridge and furrow (an irreplaceable resource which provides a tangible link to past systems of land management) and non-registered parks and gardens.
- 8.7.14 Landscape and Visual sensitivity analysis shows that the **high sensitivity** areas are the ridge which runs between Whiston and Hunsbury Hill, the Courteenhall estate, and the area south-east of Hackleton, which is visually associated with Yardley Chase and Salcey Forest. The majority of this Study Area is of **high-medium** landscape and visual sensitivity.
- 8.7.15 Analysis of Flood Zones and Minerals sensitivity shows ribbons of **high sensitivity** land at risk of flooding from the Wootton Stream, and scattered Proposed Areas for Mineral Extraction Sites in the western part of the Study Area.
- 8.7.16 Cumulatively, the sites with the greatest concentration of **high/ high-medium sensitivity** ratings are Hunsbury Hill, Courteenhall, the area south-east of Hackleton and the Grand Union Canal.
- 8.7.17 **Study Area 4: Nene Valley West**
Biodiversity Sensitivity analysis shows sites of **high-medium sensitivity** associated with open water and wet meadow alongside the River Nene. These include Stornton's Pits and Duston Mill Wildlife Trust Reserves, and other Local Wildlife Sites. Further west, towards Kislingbury, the Biodiversity sites alongside the Nene are considered to be of **medium sensitivity**.
- 8.7.18 **High sensitivity** Cultural Heritage sites in this Study Area include the urban Historic Core of Northampton, non-registered parkland at Upton and Kislingbury village Conservation Area. Upton Mill (Scheduled Monument) is also of **high sensitivity**. There are also several smaller **medium sensitivity** Cultural Heritage sites including extensive areas of ridge and furrow around Kislingbury.
- 8.7.19 The vast majority of this Study Area is considered to be of **high-medium** sensitivity in Landscape and Visual terms, due to the long and relatively open views across the Nene Valley. There is a small area of elevated land around the stadium, which is considered to be of **high sensitivity**.

- 8.7.20 Analysis of Flood Zones and Minerals Sensitivity shows a band of land on both sides of the River Nene through this Study Area is of **high sensitivity** due to its flood risk.
- 8.7.21 The majority of **high sensitivity** designations in this Study Area are associated with the River Nene, and reflect its Biodiversity value and flood risk.
- 8.7.22 **Study Area 5: North-West**
High-medium sensitivity biodiversity sites in this Study Area include Harlestone Heath and Harlestone Firs (the only examples of Ericaceous heathland in Northamptonshire); Dallington Heath (extensive acid grassland site) and the wet meadows associated with the southern part of the Brampton Valley. Much of the northern part of this Study Area (and some areas within the Urban Area) is considered to be of **medium sensitivity** due to their identification as priority areas for additional acid habitat survey.
- 8.7.23 Cultural Heritage Sensitivity Analysis shows sites of **high sensitivity** at Althorp Park, and the Roman Villa Scheduled Monument north of Harpole. **Medium sensitivity** sites include the prehistoric remains (including a Causewayed Enclosure) found around the Bramptons, Harlestone and Kings Heath; the medieval Deer Park of Holdenby Hall; relict parkland at Harlestone village, and extensive ridge and furrow areas west of Harpole.
- 8.7.24 In terms of Landscape and Visual Sensitivity, the majority of this Study Area is considered to be of **high sensitivity**. Parts of this area (such as Kings Heath and the Brampton valley) play an important role in the distinctive setting of Northampton, and other parts (north-west of Chapel Brampton and Harlestone) are extremely attractive landscapes in their own right.
- 8.7.25 Analysis of Flood Zones and Minerals sensitivity shows that the Brampton Valley and its tributaries are of high risk of flooding, and are therefore considered to be of **high sensitivity**. There is also one Proposed Area for Minerals Sites near Harlestone Heath, which is considered to be of **high sensitivity**.
- 8.7.26 The area around Harlestone, Chapel Brampton and Kings Heath is extremely valuable in terms of its biodiversity, cultural heritage and landscape and visual qualities, and is therefore considered to be of exceptionally **high sensitivity**. This **high sensitivity** continues down the Brampton Valley almost to the centre of Northampton.

8.8 Conclusion: Combined Sensitivity

- 8.8.1 Fig. 26 shows the combined sensitivity of the Core Study Area, i.e. the four separate sensitivity maps overlaid on a single drawing. The conclusions from the exercise have identified areas that would be more, or less, challenging for new development at a strategic scale, and for which further study would be required before any definitive judgment should be made. It should be emphasised that whilst a designation of high sensitivity does not preclude development, any development in these areas would require full justification, strong mitigation and site-specific schemes to achieve the appropriate design and type of development in such locations.
- 8.8.2 The majority of the Core Study Area is considered to be of high or high-medium sensitivity. However, there are some areas outside of the urban area of Northampton which are of medium and low sensitivity, as set out below. Some medium/ low sensitivity sites are bisected by areas of higher sensitivity (such as river corridors or archaeological considerations) and these issues would need to be resolved through scheme designs and addressed fully through Environmental Statements.

8.8.3 Areas of High Sensitivity

A visual survey and analysis of the Core Study Area and adjacent landscapes identified the key issues and principles that are critical to, or supportive of, the distinctive setting of Northampton. The findings of this assessment (see figs. 14 and 24) have guided the identification of areas of highest visual sensitivity, within which large-scale significant development would present wide-ranging challenges. These areas comprise:

- Areas of distinctive landform, which are visible from/, have views to Northampton and contribute to the setting of the town. Such areas include the limestone ridge to the south-east of the town between Whiston and Hunsbury Hill; The Ecton Ridge to the east of the town; The Brampton Valley, including Kings Heath and Dallington Golf Course, and the rolling hills on the north-western side of Northampton.
- Landscape which functions as a gap preventing the visual or physical coalescence of Northampton with surrounding settlements. Such areas include the land between Northampton and Boughton and Moulton; the Ecton Ridge, which separates Northampton and Earls Barton, and land between Harpole and Northampton. These areas also often form the distinctive settings of ironstone villages.
- Large open spaces within the built-up area of Northampton, such as Abington Abbey grounds, Delapre Abbey Estate, and the Racecourse, which contribute to the character and sense of openness within the town.
- Areas of high land within Northampton, such as Moulton Park.
- Land with strong associations with the historic wooded landscapes of Salcey Forest and Yardley chase.
- Land covered by national or international designations for its cultural, heritage or biodiversity value.
- Land within Flood Zone 3 and Protected Area for Minerals Sites.

8.8.4 Areas of high-medium sensitivity (outside the urban area)

The majority of land to the south and west of Northampton, and smaller areas of land to the north and east are of medium- high visual sensitivity. They include:

- Rural landscape with gently undulating landform, which has intervisibility with Northampton and generally contributes to the setting of the town. (for example, the land around Rothersthorpe, Gayton and south of Pitsford)
- Rural landscape which has a stronger visual connection with the surrounding countryside than with Northampton, and where medium or large-scale development would appear incongruous. (For example, the countryside north and west of Hackleton)
- Land covered by local/ non-statutory designations for their biodiversity value.

8.8.5 Areas of medium overall sensitivity (outside the urban area)

There are several areas of land around the edges of Northampton, which are considered to be of medium sensitivity (although some contain pockets of higher sensitivity land within them). These areas include:

- Land to the north of Whitehills
- Land to the east and west of Moulton village
- Land north of the Round Spinney Industrial Estate, between “The Avenue” and “Billing Lane”
- Land on the northern side of the Nene valley, south of the A45.
- Land to the east of Cogenhoe village
- Land to the south of Wootton/ east of Grange Park
- Land to the west of New Duston

8.8.6 Areas of low overall sensitivity (outside the urban area)

There is one area on the edge of Northampton, which is considered to be of low overall sensitivity. This area is:

- Land between the M1 and the existing southern edge of Northampton, to the east of junction15a.

PART C: GREEN INFRASTRUCTURE STRATEGY

9.0 GREEN INFRASTRUCTURE

9.1 Introduction

9.1.1 This section takes the results of the baseline data and sensitivity analyses presented in Parts A and B, and incorporates them into a Green Infrastructure Strategy for Northampton. This section begins with an introduction to Green Infrastructure, and then examines the Green Infrastructure requirements for Northampton. It takes into account National and Regional policies and standards, and the findings of the recent PPG17 Open Space, Sport and Recreation Needs Assessments and Audits. The findings are then brought together in a series of recommendations for the delivery of a Green Infrastructure strategy.

9.1.2 This strategy will inform the Joint Core Strategy, which all other documents (such as Open Space Strategies) will be in conformity with.

9.2 What is Green Infrastructure?

9.2.1 Green Infrastructure (GI) can be defined as a planned network of multifunctional Green Spaces and interconnecting links. The Northamptonshire Strategic GI Assessment has adopted a strategic and collaborative approach that, through regeneration, conservation and land management, addresses the environmental, social and economic aspects of growth and development, changes within both urban and rural landscapes and the fragmentation of habitats.

9.2.2 The key principles of Green Infrastructure (as set out in the *Green Infrastructure Guide for the East Midlands* (EMGIN, 2008)) are as follows:

- Contribute to the management, conservation and enhancement of the local landscape.
- Contribute to the protection, conservation and management of historic landscape, archaeological and built heritage assets.
- Maintain and enhance biodiversity to ensure that development and implementation results in a net gain of Biodiversity Action Plan habitats.
- Provide connectivity and avoid the fragmentation of habitats, sites and natural features, to increase the potential for natural regeneration and the migration of species of flora and fauna, which may be affected by changing climatic or other conditions.
- Be designed to facilitate sustainable longer-term management.
- Be delivered through enhancement of existing woodlands and also by the creation of new woodlands and forest areas.
- Create new recreational facilities particularly those that present opportunities to link urban and countryside areas.
- Take account of and integrate with natural processes and systems.
- Be managed and funded in urban areas to accommodate nature, wildlife and historic and cultural assets, and provide for sport and recreation.
- Be designed to high standards of quality and sustainability to deliver social and economic, as well as environmental benefits.
- Provide a focus for social inclusion, community development and lifelong learning.

9.2.3 At the strategic level, GI is an environmental system that supports the health, wellbeing and aesthetic values of communities and the maintenance of functional ecosystems. It provides an asset that enables the environment to support and maintain natural and ecological processes, and sustains land, air and water resources.

9.2.4 The Green Infrastructure Network for Northampton is shown on Fig 27. This plan illustrates habitat reservoirs and corridors, and sustainable movement networks.

9.3 Green Infrastructure Provision: Biodiversity Network

9.3.1 As a development of the principles and processes underlying the Northamptonshire Green Infrastructure Strategy, a Biodiversity Network has been developed for Northampton. This network has been created in partnership with The Wildlife Trust to build on the existing biodiversity resource. This new plan takes forward strategic biodiversity networks identified at the county scale in the GI Framework for Northamptonshire and seeks to be more responsive to known assets and opportunities.

9.3.2 The Biodiversity Network focuses on identified areas of habitat reservoirs and the opportunities for connectivity of these core areas through the establishment of habitat links. These are shown on Fig. 27. Proposed developments should incorporate opportunities for the delivery of biodiversity habitat links and enhancement, and the expansion of existing habitat reservoirs.

9.3.3 This will include the establishment of mixed habitats appropriate to the area including species rich grassland, acid grassland, native woodland and wetland. By combining the specific aims of habitat enhancement and connectivity, with other goals such as providing accessible natural greenspace, pedestrian links and landscape mitigation, it will provide multi-functional landscapes and, as such, deliver the broader principles that are inherent in the Green Infrastructure concept.

9.4 Green Infrastructure Provision: Sustainable Movement Network

9.4.1 The provision of a sustainable movement network is an important aspect of GI. It will include provision for sustainable patterns for walking, cycling, and where appropriate, horse riding. Northampton's GI network will focus on the need to establish a structure of safe green routes. These will aim to link the environmental and, wherever possible, cultural and leisure assets.

9.4.2 The sustainable movement network contains three different elements. **Strategic Infrastructure Corridors** (illustrated on fig. 21) are an interconnected network of Sub Regional and Local GI corridors. They are not intended to indicate rigid corridors for Green Infrastructure provision, but instead identify broad landscape zones within which Green Infrastructure-related proposals should be focussed.

9.4.3 The **Primary Network** (illustrated on fig. 20) is made up of strategic links between major settlements, and is composed of the Public Rights Of Way network and cycle routes. Green Ways run through open countryside, while Blue Ways follow water courses such as rivers and canals.

9.4.4 The **Secondary Network** (illustrated on fig. 20) links villages and hamlets together, and to assets in the wider countryside. It is composed of the Public Rights Of Way network and cycle routes. A network of Inter-Urban Neighbourhood Connectors has also been proposed for Northampton, which link different parts of the town with each other and connect to other parts of the sustainable movement network.

10.0 POLICY FRAMEWORK

10.1 Introduction

10.1.1 The provision of a comprehensive network of green infrastructure with multi-functional benefits is recognised at National, Regional and Local Levels. At a National level, the Supplement to PPS1: Planning and Climate Change (2007) recognises *the contribution to be made from existing and new opportunities for Open Space and Green Infrastructure to urban cooling, sustainable drainage systems and conserving and enhancing biodiversity*. Policy requirements within the Regional Spatial Strategy (RSS) are outlined below. The MKSM Sub-Regional Strategy sits within the RSS.

10.1.2 At a local level, while the West Northamptonshire Joint Planning Unit has yet to finalise the Joint Core Spatial Strategy and policy framework, the provision of GI is supported by CLG and policy in the RSS. West Northamptonshire Development Corporation is also working with RNRP and the Local Authorities to develop a comprehensive approach to the delivery of GI within the growth area. On this basis the inclusion of GI networks should form an integral part of the town's infrastructure requirements for growth.

10.2 Regional Spatial Strategy for the East Midlands (RSS8)

10.2.1 The principle of delivering Green Infrastructure is now embedded within the Regional Spatial Strategy. It should be noted that the Secretary of State proposed changes to RSS8 on 22nd July 2008 are currently out for consultation. This consultation draft is referred to below. Relevant changes include an increase in housing provision in the East Midlands, including an increase in housing figures for Northampton to 40,400 new homes by 2026. The vehicle for this growth will be the MKSM Sub-Regional Strategy.

10.2.3 RSS8 supersedes RPG8 (2005). The policies in the proposed changes to RSS8 will set the context for the preparation of the West Northamptonshire Local Development Framework and help in the development of related policy. Of direct relevance are the following policies

10.2.4 Policy 1 Regional Core Objectives

To secure delivery of sustainable development within the East Midlands, all strategies, plans and programmes should meet the following core objectives:

c) To protect and enhance the environmental quality of urban and rural settlements to make them safe, attractive, clean and crime free places to live, work and invest in, through the:

- *promotion of "Green Infrastructure"*
- *enhancement of the "urban fringe"*

g) To protect and enhance the environment through the:

- *protection, enhancement, sensitive use and management of the Region's natural resources...*

h) To achieve a "step change" increase in the level of the Region's biodiversity through:

- *The management and extension of habitats, both to secure net gains in biodiversity and to facilitate species migration to allow the biosphere to adapt to climate change, and*
- *Ensuring that no net loss of priority habitats or species is allowed to occur.*

- 10.2.5 **Policy 26: Protecting and enhancing the Region's Natural and Cultural Heritage** explains that sites of Natural, Cultural and Environmental importance should be *protected*, *appropriately managed and enhanced*. In particular *damage to other natural and historic assets or their settings should be avoided wherever and as far as possible, recognising that such assets are usually irreplaceable*.
- 10.2.6 **Policy 27: Regional Policies for the Historic Environment** notes that *the historic environment should be understood, conserved and enhanced, in recognition of its own intrinsic value, and its contribution to the Region's quality of life*. To achieve this aim, Local Planning Authorities should (amongst other things) *identify and assess the significance of specific historic assets and their settings; use characterisation to understand their contribution to the landscape or townscape in areas of change, and recognise the opportunities for enhancing existing tourism attractions and for developing the potential of other area and sites of historic interest as part of Green Infrastructure, having regard to potential impacts on biodiversity*.
- 10.2.7 **Policy 28: Regional Priorities for Environmental and Green Infrastructure** relates directly to Green Infrastructure. It states that: *Local Authorities, statutory environmental bodies and developers should work with the voluntary sector, landowners and local communities to ensure the delivery, protection and enhancement of Environmental Infrastructure across the Region. Such infrastructure should contribute to a high quality natural and built environment and to the delivery of sustainable communities. Local Authorities and those responsible for the planning and delivery of growth and environmental management across the Region should work together to:*
- *...within Local development Frameworks develop "green infrastructure plans" based on character assessment of existing natural, cultural and landscape assets, and the identification of new assets required to meet the needs of existing and expanding communities;*
 - *Increase access to green space that can be used for formal and informal recreation, educational purposes and to promote healthy lifestyles, without increasing pressures on sensitive sites, especially those designated under the European Habitats Directive, and*
 - *Identify delivery and funding mechanisms for the creation and future management of Green Infrastructure, including from the planning system and other funding sources such as EU funded Environmental Stewardship Schemes.*
- 10.2.8 **Policy 29 Priorities for enhancing the Region's Biodiversity** gives priorities for enhancing the Region's biodiversity, *including the creation, protection and enhancement of network of semi-natural green space sun urban areas and features of the landscape which act as corridors and "stepping stones", essential for the migration and dispersal of wildlife*.
- 10.2.9 **Policy 30: Regional Priorities for Managing and Increasing Woodland Cover** states that ancient semi-natural woodlands, and woodlands of national and regional importance should be protected. *Opportunities should be taken to increase woodland cover as part of new development, including in the Northampton Growth Areas, where woodland creation and linkages should feature as a significant component of new Green Infrastructure*. In addition, *opportunities should be taken to secure sustainable management of all woodland, and to increase public access to high-quality, multi-functional woodland close to communities as part of the development of Green Infrastructure*.
- 10.2.10 **Policy 33 Regional Priorities for Strategic River Corridors** promotes the development of strategic River Corridors (including the Nene Valley) for Green Infrastructure purposes including multifunctional importance for wildlife, landscape and townscape, recreation, the historic environment and flood risk.

10.2.11 **Policy 40 Regional Priorities for Culture, Sport and Recreation** ensures that adequate sport and recreational facilities are provided in both urban and rural areas to serve existing and new populations.

10.3 Open Space, Sport and Recreational Needs Assessment and Audits

- 10.3.1 Each of the Local Planning Authorities within the Core Study Area has prepared an *Open Space, Sport and Recreation Audit and Needs Assessment (OSSR) Report* in line with the requirements of PPG17 (See Appendix 3 for full document references). The results of these studies were used as a basis for the development of each Borough's Quality, Quantity and Accessibility Standards. The different standards set by the three Local Planning Authorities reflect the characteristics of each Authority's area, especially in relation to their differing rural and urban ratios.
- 10.3.2 A summary of the Standards for each Local Planning Authority can be found in *Tables 1-3: Open Space Standards*. It should be noted that although the OSSR Reports considered all the open space typologies required by PPG17, standards have not been set for Cemeteries and Churchyards, Green Corridors and Civic Spaces. This is because by their very nature these typologies are difficult to plan for.
- 10.3.3 It was not the purpose of the OSSR Reports to identify Green Corridors, and therefore they do not adequately do this. In some instances it may be worth re-designating some spaces from one typology to another if they clearly make a strategic contribution to a developing GI framework.
- 10.3.4 The Audits also took into consideration the implications of 30,000 new homes (the target growth) on open space provision in Northampton. In the light of the emerging RSS8, this target growth is likely to increase to 40,400 new homes, and consequently all infrastructure requirements may now be increased. One of the key issues in Northampton at the moment is the lack of provision for Children and Young People, and Green Infrastructure has the potential to aid in the delivery of improved provision for them.

Type of Open Space	Local Quantity Standard (ha/1000 population)	Current level of provision (ha/ 1000 population)	Projection of Open Space to 2021 (ha/ 1000 population)
Parks and Gardens	1.64	1.63	1.27
Natural and Semi-Natural Open Space	2.86	2.85	2.22
Amenity Greenspace	1.43	1.42	1.1
Provision for Children	0.12	0.02	0.02
Provision for Young People	0.12	0.01	0.01
Outdoor Sports Facilities	1.88	2.86	1.42
Allotments and Community Gardens	0.2	0.47	0.37

Table 1: Open Space Standards for Northampton Borough
 Data taken from PMP/ Northampton Borough Council (2006)
Open Space, Sport and Recreation Needs Assessment and Audit.

Type of Open Space	Local Quantity Standard (ha/1000 population)	Current level of provision (ha/ 1000 population)	2026 Scenario, assuming no new sites (ha)*
Parks and Gardens	1.64	0	0
Natural and Semi-Natural Open Space	1.71	3.16	+12.82
Amenity Greenspace	0.80	0.12	-19.73
Provision for Children	0.1	0.0699	-1.42
Provision for Young People	0.05	0.0307	-0.79
Outdoor Sports Facilities	2.1	2.15	-17.00
Allotments and Community Gardens	0.3	0.26	-2.66

* Based on projected population figures to 2026 should the annual housing requirements be satisfied.

Table 2: *Open Space Standards for Daventry District (Northampton fringe sub-area).* Data taken from PMP/ Daventry District Council (2008) *Draft Open Space, Sport and Recreation Needs Assessment and Audit*. Note: this document is in draft form only and has not yet been adopted.

Type of Open Space	Local Quantity Standard (ha/1000 population)	Current level of provision (ha/ 1000 population)	Projection of Open Space to 2021 (ha/ 1000 population)
Natural and Semi-Natural Open Space	0.5	-0.37	No figures available
Amenity Greenspace Including parks and gardens)	1.07	1.07	No figures available
Provision for Children	0.95 play areas	0.86 play areas	No figures available
Provision for Young People	0.2 facilities	0.14 facilities	No figures available
Outdoor Sports Facilities	2.0	2.48 excluding golf courses	No figures available
Allotments and Community Gardens	0.38	0.38	No figures available

Table 3: *Open Space Standards for South Northamptonshire Council (rural areas)*
Data taken from PMP/ Northamptonshire District Council (2006) *Open Space, Sport and Recreation Needs Assessment and Audit*.

10.3.5 The tables above show that the majority of Open Space types currently meet the local quantity standards, although they will not be met if population increase occurs without a corresponding increase in Open Space provision. The tables also show a marked shortfall in the existing provision for children and young people, and this should be addressed as a priority. It should be noted that the projections of future Open Space for Northampton Borough is based on a target growth of 30,000 new homes by 2021. This target has now been superseded, and should be 40,400 new homes by 2026. This leaves a potentially bigger shortfall in Open Space provision.

Areas which fall below the Local Accessibility Standards for Parks and Gardens and Amenity Greenspace are shown on fig. 32.

11.0 DELIVERY OF GREEN INFRASTRUCTURE

11.1 Introduction

11.1.1 So far this study has undertaken a detailed analysis of data, which has resulted in a series of illustrations that identify valuable assets. The principle underpinning information for this section includes:

Fig. 5: Designated Nature Conservation, Biodiversity and Geological Sites

Fig. 6: Cultural Heritage

Fig. 7: Strategic and Local Green Space

Fig. 8: Existing Leisure, Recreation and Tourism Destinations

Fig. 9: Access and Movement

Green Infrastructure networks are illustrated on the following drawings:

Fig. 19 Biodiversity Network

Fig. 20: Movement Network

Fig. 21: Strategic Green Infrastructure Network

11.1.2 This section will use all the available data to provide a strategy to direct the development of Green Infrastructure for Northampton and will also identify principle routes of importance with specific reference to:

- Potential Improvements to the Movement Network;
- Potential Improvements to Open Space Provision; and
- Enhancement of Biodiversity.

These improvements are illustrated on fig. 32

11.2 Establishment of key “GI Routes”

11.2.1 Examination of Fig. 32, and previous drawings such as the Green Infrastructure Network and sensitivity drawings (Figs. 27-31) enables the identification of areas in which the Primary Movement Network and areas of high Biodiversity and Cultural Heritage sensitivity occur together. These “GI Routes” also contain extensive Open Space sites and have a recreational function. They are illustrated on Fig. 32.

The key GI Routes are as follows:

- The Nene Valley
- The Brampton Valley
- Brampton Valley – Althorp Park via Dallington Heath
- Northampton town centre- Salcey Forest.

11.3 Potential Improvements to the Movement Network

Six separate types of improvements to the Movement Network have been identified, as follows:

11.3.1 Filling gaps and improving poor quality links in the Primary Movement Network

(shown as vertical yellow hatches on fig. 32)

- i) There is potential to improve movement linkages between the Delapre Estate (including the historic battlefield) and Becketts Park, on the northern bank of the River Nene. Such a link would be a key route from the town centre to the public open space at Delapre, the Northampton Registered Battlefield site and the southern banks of the Nene and Midsummer Meadow.
- ii) Continuity of access should also be sought along the River Nene, particularly between Upton and Brackmills, thereby increasing the potential of the north - south link between the valley and the town centre.
- iii) There are some locations (e.g. Green Way 4, south-east of Horton; Green Way 12, north of Mears Ashby) where the Primary Movement Network across stretches of countryside does not follow any existing public rights of way. This needs to be addressed, either through the re-routing of the Green Ways, or (preferably) by the establishment of new PROWs to link the existing ones.

11.3.2 Variations to the routes of Movement Networks to improve connections between Open Spaces and enhance GI corridors.

(Shown as yellow dots on Fig. 32)

- iv) At the moment, the riverside footpaths of the Brampton Valley Way and the Nene Valley Way do not join up, as there is a short stretch of inaccessible riverbank to the east of Towcester Road. Instead they both leave the river and meet in the town centre. Whilst access into the town centre should be retained, joining these routes along the rivers would increase the permeability of the town, improve the quality of the linkages between primary routes, and improve accessibility.
- v) The Brampton Valley Way currently leaves the river near Kings Heath, and follows urban roads and paths into the town centre. It would be preferable to use existing green spaces alongside the river (e.g. Millers Meadow, Victoria Park and Foot Meadow). However, in order for this to be achieved, it will be necessary to improve physical linkages (e.g. under-bridge paths or improved road/ rail crossings) and signage between the different spaces.
- vi) To the east of Northampton, the Nene Way currently diverts along roads through the village of Cogenhoe. Ideally, access to the riverbank should be reinstated, possibly along the route of the disused railway line. This improvement in public access to this area should be undertaken in conjunction with the protection and enhancement of the river corridor habitat, as this section of the Nene is part of the habitat link between parts of the internationally-designated pSPA.

11.3.3 Potential routes along disused railway lines

(Shown with a yellow railway symbol on fig. 32)

- vii) Dismantled Railways (e.g. Brackmills - Olney) could be opened up as new PROWs. Part of this line is already a Potential Wildlife Site because of its grassland habitat, and there is potential to increase this habitat in association with opening up the path.

11.3.4 Improvements to sections of the Movement Network currently on roads.

(Shown with a yellow horizontal hatch on fig. 32)

- viii) There are also stretches of the primary and secondary movement network which follow roads rather than PROWs (e.g. the Countryside Connectors between Rothersthorpe and Kislingbury). Where this occurs, adequate footpaths/ verges should be provided to enable safe walking. Ideally this should occur in conjunction with improving the biodiversity of habitat corridors along the verges. This would be particularly valuable along identified acid grassland habitat corridors (e.g. between Boughton and Moulton) as it is a rare habitat in Northamptonshire.

11.3.5 Improved Design and Interpretation along GI Routes and at GI Sites

(Shown as numbered yellow circle on fig. 32)

- ix) Figure 27 demonstrates that many routes are both habitat links and access routes. These occur along river valleys (Brampton and Nene) but also along woodland habitat links, such as around Harlestone. Sensitive design and minor modifications of routes (e.g. keeping continuous verges) can enable improvements in terms of both access and biodiversity. There is also the potential to increase the educational value of these areas, and also areas of archaeological and/ or cultural interest through interpretation, guided walks etc. Of particular note is the potential to improve the quality of interpretation facilities at key sites such as the Upper Nene Valley Gravel Pits SSSI/ pSPA, Dallington Heath, and Local Wildlife Sites at the start of the Brampton Valley Way.

In order to raise public awareness of the Green Infrastructure Network, it's marketing and branding needs to be improved. This can be achieved through consistent signage and interpretation. If the network is not clearly communicated then it will not be used to its full potential.

11.3.6 Improved signage along the Nene Way

- x) At present, signage along the Nene Way is not always adequate, particularly where the route crosses bridges. It is therefore currently difficult and frustrating to follow. Signage along the Nene way needs to be improved in order to encourage people to use it. The Environment Agency (EA) would consider the branding and marketing of the GI network within its own watercourse signage. This potential partnership with the EA to improve signage should be developed.

11.3.7 Additional links to the Movement Network to increase accessibility of Open Spaces.

(Shown as yellow crosses on fig. 32)

- xi) At present, the density of Inter-Urban-Neighbourhood-Connectors (IUNCs) is not consistent across the Borough. For example, much of Duston is not served by such routes. Additional IUNCs may therefore be required in order ensure that they link areas of the Borough with lower accessibility scores (shaded purple on fig. 32) with suitable public open spaces. Maintenance of the IUNCs must remain of a high standard, in order to ensure that they continue to be of high quality, and well used.

Once example is the need for improved access into the new Country Park at Upton, as highlighted in the Northampton OSSR Report.

11.4 Potential Improvements to Open Space Provision

11.4.1 Maintaining the Quality and Accessibility of existing Green Space

- i) It is important that the quality and accessibility of existing Green Space remains high, to ensure continuing levels of usage, and to avoid people being deterred from using the sites. Accessibility and quality issues raised during the OSSR Audit should be addressed on a site-by-site basis. Where there are accessibility issues (shown with a diagonal black hatch on fig. 32), the GI network should be examined to see if it can increase the level of accessibility.

11.4.2 Maximising the Biodiversity of Existing Open Spaces

- ii) Fig. 32 shows open spaces within or in close proximity to habitat reservoirs or habitat corridors with a vertical black hatch. The types of corridors are shown on fig. 27 and include grassland, woodland and water/ lowland meadow. These sites should be managed to maximise the biodiversity value of each site, and of the network of sites as a whole. This linkage can be increased through the provision of additional green corridors between open space sites, which would provide both access and habitat connections. Further suggestions for enhancing the biodiversity of the Green Infrastructure Network are given in section 11.5 below.

11.4.3 Increasing Open Space provision in areas currently deficient

- iii) The Northampton OSSR Audit identified parts of the Borough which are outside the recommended catchments for Amenity Greenspace and Parks and Gardens. The approximate extents of these areas are shown shaded purple on fig. 32. Increased GI provision should address these areas (although it should be noted that these areas are within the recommended catchment for Natural and Semi-Natural Greenspace).

Existing Open Spaces within these areas of deficit can be identified on fig. 32 where the Green and Purple shading overlap. These Open Spaces have a particularly important role in providing a recreational function for local people, and should be managed accordingly. Such areas are extensive within the Nene Valley (to the east and west of the town centre) and occur in smaller pockets throughout Northampton.

The OSSR reports for Daventry District and South Northamptonshire also identified villages all or part of which are outside the recommended catchment for Parks and Gardens, Amenity Greenspace and natural/ Semi-Natural Open Space. These villages are shown with a purple star symbol on fig. 32.

11.5 Additional Enhancement of Biodiversity

11.5.1 Identifying Sites for Future Conservation Programmes

- i) Several of the "gaps" or breaks in the green infrastructure routes described above could be addressed through future conservation and habitat creation programmes which also provide public access. For example, woodland/ copse planting, riverbank clean-up, grassland restoration etc.

11.5.2 Mitigation Planting

- ii) Carefully-sited Community Woodland schemes which are in keeping with the landscape and biodiversity characteristics of the area could improve woodland habitat corridors while at the same time softening the skyline (e.g. around Moulton Park) and also reduce the visual impact

of distribution warehouses (e.g. Hardingstone and Swan Valley). Similarly, increasing wet woodland in the Nene Valley would simultaneously enhance biodiversity value and reduce the visual impact of the static-caravan type developments. However, it should be noted that tree planting is not necessarily the most appropriate form of mitigation for all types of development.

11.6 The Role of Structural Landscape Areas

11.6.1 GI enhancement can also be achieved through the careful design of development sites. The provision of structural landscape areas (usually achieved through the planting of trees/woodland and shrubs) which enhance the landscape infrastructure will be required as part of all major new developments. These structural landscape areas will help to mitigate adverse visual impact, strengthen local character and identity, and integrate new development into its wider landscape setting. The detailed assessment of development proposals may also necessitate off-site planting within the wider landscape. Site specific assessment of landscape and visual issues would be required to ascertain the nature of off-site mitigation proposals, paying particular regard to appropriateness to local character and other visual considerations.

11.6.2 A co-ordinated approach to the planning and design of structural landscape areas will contribute to local delivery of Green Infrastructure. Consistent with the principle of multi-functionality of green infrastructure provision, structural landscape areas have the potential to accommodate a wide range of functions and compatible uses. These potentially rich and diverse areas with a high level of accessibility to local people would contribute to the wider network of GI across and beyond the town. Examples of GI provision achieved through structural landscape include:

- Incorporation of a range of open space uses, including informal play areas and playing fields, and allotment areas (subject to appropriateness of location, discussions with LPA, required standards and the findings of the OSSR Audit);
- Biodiversity enhancement including strengthening and creation of new woodland, wetland and grassland and habitat links, or accommodation of more specific features such as a nature reserve;
- Sustainable water management;
- Sustainable movement network incorporating footpath, cycle ways and bridleways.

11.7 Principles for Delivery

11.7.1 A number of principles for the delivery of Northampton-specific Green Infrastructure projects have been identified through this study. These are set out below, and are compatible with the key principles of Green Infrastructure set out in section 9.2.2 above.

- 1) Projects which contribute to key GI routes, and complete/ improve/ enhance the Primary Movement Network and their associated Biodiversity Networks along river valleys and woodlands should be supported.
- 2) Projects which increase the safety of users of the Movement Network when walking on roads (and at the same time potentially improve the grassland corridors along verges) should be supported.
- 3) Projects which increase the accessibility of Open Space sites, particularly in and close to areas identified in the OSSR Audit as being outside recommended catchments should be supported.

- 4) Additional links to the Movement Network in other areas, including the development of a footpath/ cyclepath and enhanced habitat corridor along the disused railway line between Northampton and Olney should be supported.
- 5) The long-term management and maintenance of existing and future GI assets should be supported.

11.7.2 It should be noted that Green Infrastructure objectives can be achieved through a number of means. For example, the management of Open Space sites within Habitat Reserves/ Habitat Corridors to improve their biodiversity could in some cases be addressed through changes in Council or landowner's management/ maintenance regime. Such changes (e.g in mowing regimes) would not necessarily have a financial implication.

11.7.3 New development also has the opportunity to make a major contribution to Green Infrastructure through its design and structure planting on site, and/or through compensatory measures off site.

11.8 Conclusion

11.8.1 Green Infrastructure makes an extremely valuable contribution to meeting Northampton's infrastructure requirements in terms of Open Space, sport and recreation, and also contributes more broadly to its environment, biodiversity and accessibility. Northampton has great potential to further improve and enhance its existing Green Infrastructure provision in terms of Movement Networks, Open Space and Biodiversity Networks, and this Strategy should enable this potential to be achieved.

PART D: CONCLUSION

12.0 CONCLUSION

- 12.1 Northampton's location at the confluence of the Nene and Brampton rivers, in an area of limestone geology, means that the town and its surroundings are influenced by both river valley and higher landscapes. The diversity of geology and topography, combined with human influences such as the extraction of sand and gravels, have in turn led to a range of landscape and biodiversity character types in the vicinity of the town. The built and cultural environment is also rich, and reflects several thousand years of human occupation. Northampton's development over approx. 1000 years has resulted in a number of distinctive phases of building which can be identified in the various townscape character types, although the majority of the town's development has occurred since 1950. A locally-distinctive feature of the historic core of Northampton and many of the surrounding villages is the use of golden-brown ironstone in buildings. The past prosperity of the town (particularly during the industrial revolution) is also reflected in the number of parks and gardens, some of which were laid out as private estates.
- 12.2 This rich natural, cultural and historic environment is reflected in the number and variety of designated sites within the Core Study Area. These designations are at European, National and Local levels. They occur within the urban area and in the countryside outside it. Although some types of designated site are found throughout the Core Study Area, others are strongly associated with specific landscape character areas. For example, the Nene Valley contains numerous wetland biodiversity sites, which are linked by a biodiversity corridor. The only example of Ericaceous heathland in the County occurs at Harlestone Heath and Harlestone Firs, to the north-west of Northampton. In addition to the existing biodiversity sites, there is also the potential to improve the area's biodiversity through the creation of new habitats (such as acid grassland) where the conditions are suitable. Delapre Abbey (designated as a registered battlefield and historic abbey) is one example of the cultural and historic environment within the Core Study Area.
- 12.3 Northampton and its surrounding villages contain many different types of Open Space. These vary hugely in terms of their size and function, and include private estates such as Althorp Park, large public open spaces such as Northampton Racecourse, and smaller public access sites such as pocket parks. In addition there are several Country Parks and Nature Reserves within the Core Study Area. There are a number of leisure and recreation sites, which attract tourists and day visitors to the area.
- 12.4 The Movement Network, which enables people to travel around the area, is generally good. It includes links at a National scale, such as the M1 and railway line, regional links such as A roads, and roads and paths which serve more local populations. The Nene Valley Way long distance route passes through the Core Study Area, as does the Grand Union Canal.
- 12.5 The Green Infrastructure Strategy for Northamptonshire is well established. It includes a Strategic Infrastructure Framework, a Sustainable Movement Network and a Biodiversity Network. These networks often occur in the same places - such as along river valleys - which combine easy walking/ cycling routes and relatively rich biodiversity.
- 12.6 Each of the existing designated sites can be given a sensitivity rating. For this study, sensitivity maps were created to show Biodiversity Sensitivity, Cultural Heritage Sensitivity, Landscape & Visual Sensitivity and Floodzones & Minerals Sensitivity. These have also been combined into a "Combined Sensitivity" map (fig. 26), that identifies areas which would be more or less challenging for new development at a strategic scale, although further localised studies would be required before any definitive judgement could be made.

The areas of high sensitivity are as follows:

- Areas of distinctive landform, which are visible from/, have views to Northampton and contribute to the setting of the town. Such areas include the limestone ridge to the south-east of the town between Whiston and Hunsbury Hill; The Ecton Ridge to the east of the town; The Brampton Valley, including Kings Heath and Dallington Golf Course, and the rolling hills on the north-western side of Northampton.
- Landscape which functions as a gap preventing the visual or physical coalescence of Northampton with surrounding settlements. Such areas include the land between Northampton and Boughton and Moulton; the Ecton Ridge, which separates Northampton and Earls Barton, and land between Harpole and Northampton. These areas also often form the distinctive settings of ironstone villages.
- Large open spaces within the built-up area of Northampton, such as Abington Abbey grounds, Delapre Abbey Estate, and the Racecourse, which contribute to the character and sense of openness within the town.
- Areas of high land within Northampton, such as Moulton Park.
- Land with strong associations with the historic wooded landscapes of Salcey Forest and Yardley chase.
- Land covered by national or international designations for its cultural, heritage or biodiversity value.
- Land within Flood Zone 3 and Protected Area for Minerals Sites

12.7 Green Infrastructure is enshrined in National, Regional and Local Planning Policies. These include PPS 1 Climate Change Supplement; RSS8 (the *Regional Spatial Strategy* for the East Midlands), and local documents such as the recently–undertaken *Open Space Sport and Recreation* Reports. The latter documents identifies areas which are currently deficient in Open Space provision, and also highlights Open Space sites for which accessibility could be improved,

12.8 The requirements outlined in these planning documents can be integrated with the baseline analysis and landscape sensitivity research to inform a Green Infrastructure Strategy for Northampton. The recommendations of the Green Infrastructure Strategy include initiatives to improve the Sustainable Movement Network and the Open Space Network, and also to enhance Biodiversity. These initiatives include enhancing the existing Sustainable Movement Network, filling gaps in it and providing additional links, improving the accessibility of Open Spaces and maximising their biodiversity.

12.9 Four key “Green Infrastructure Routes” have been identified, within which the Primary Movement Network and areas of high biodiversity and cultural sensitivity occur together. These GI Routes also contain extensive Open Spaces and have a recreational function. Many of the recommendations of the GI Strategy are concentrated in these areas. The key GI Routes are as follows:

- The Nene Valley;
- The Brampton Valley;

- Brampton Valley-Althorp Park via Harlestone Firs;
- Northampton Town Centre- Salcey Forest.

12.10 Green Infrastructure makes an extremely valuable contribution to meeting Northampton's requirements in terms of Open Space, sport and recreation, and also contributes more broadly to its environment, biodiversity and accessibility. In addition, Green Infrastructure provides an opportunity to enhance historic sites and increase awareness and accessibility of cultural heritage. Northampton has great potential to further improve and enhance its existing Green Infrastructure provision in terms of Movement Networks, Open Space and Biodiversity Networks, and this Strategy should enable this potential to be achieved.

12.11 By undertaking the Green Infrastructure Strategy in conjunction with a landscape sensitivity study, it is possible to make a practical and positive contribution to the delivery of sustainable development in and around Northampton.

APPENDIX 1: LIST OF DATASETS

The schedule below presents a summary of data presented on the Baseline Review Figures. For details concerning individual datasets, refer to River Nene Regional Park (RNRP) CIC.

- 1:50,000 Ordnance Survey map
- Aerial Photograph
- Ordnance Survey Landform Profile
- Ordnance Survey Master map
- Canal
- River Channel/ Major Watercourses
- Flood Zones 2 and 3
- Mineral and Waste Approval Sites
- Special Protection Areas (SPA)
- Sites of Special Scientific Interest (SSSI)
- Regionally Important Geological/Geomorphological Sites (RIGs)
- Local Nature reserves (LNR)
- County Wildlife Sites (CWS)
- Potential Wildlife Sites (PWS)
- Broadleaf Woodland
- Ancient Woodland
- Northampton Acid Habitat Target Areas
- Listed Buildings
- Registered Parks and Gardens
- Scheduled Monuments
- Conservation Areas
- Registered Battlefields
- Ridge and Furrow

- Historic Railway Lines
- Roman Road Routes (certain)
- Roman Road Routes (potential)
- Routes of Turnpikes
- Non Registered Parks and Gardens
- Known Archaeological Assets (derived from Historic Environment Record)
- Country Park
- Woodland with Public Access/ Recreation Role
- Parks or Greenspaces
- Allotments
- Cemeteries
- Moorings
- Locks
- Leisure/ Recreation/ Tourist Site or Facility
- Proposed Leisure/ Recreation/ Tourist Site or Facility
- Sustrans Regional Cycle Routes
- Sustrans Connect Proposed Routes
- Long Distance Walking routes
- Cycle Tours and Cycle Routes
- Byways
- Bridleways
- Footpaths
- Transport Infrastructure (Motorways, A Roads, B Roads, Minor Roads), Rail Network and Stations
- Strategic Agricultural Land Classification
- Local Agricultural Land Classification

- Northamptonshire Environmental Character Assessment
- Northamptonshire Current Landscape Character Assessment
- Northamptonshire Biodiversity Character Assessment
- Northamptonshire Historic Landscape Character Assessment
- Strategic Biodiversity Network (Adopted from Northamptonshire Green Infrastructure Strategy)
- Sustainable Movement Network (Derived from Northamptonshire Green Infrastructure Strategy)
- Strategic Green Infrastructure Framework (Derived from Northamptonshire Green Infrastructure Strategy)

APPENDIX 2: GLOSSARY OF TECHNICAL TERMS AND ACRONYMS

AONB Area of Outstanding Natural Beauty
ASL above sea level
BAP Biodiversity Action Plan
BCA Biodiversity Character Assessment
CIC Community Interest Company
CLCA Current Landscape Character Assessment
CLG (Department of) Communities and Local Government
ECA Environmental Character Area
GI Green Infrastructure
HLCA Historic Landscape Character Assessment
LNR Local Nature Reserve
LSGI Landscape Sensitivity and Green Infrastructure
LWS Local Wildlife Site (formerly known as County Wildlife Site)
MKSM Milton Keynes South Midlands (Regional Growth Area)
PAMS Protected Areas for Minerals Sites
pSPA proposed Special Protection Area
PWS Potential Wildlife Site
RIGS Regionally Important Geological/ Geomorphological Sites
RNRP River Nene Regional Park
RSS Regional Spatial Strategy
SM Scheduled Ancient Monument
SPA Special Protection Area
SRS Sub Regional Strategy
SSSI Site of Special Scientific Interest
WCML West Coast Main Line
WN JPU West Northamptonshire Joint Planning Unit
WTR Wildlife Trust Reserve

Biodiversity Character Type/ Area Defined by a suite of common characteristics, such as the range of habitat types, geology, soils, topography and hydrology, which together typify a particular ecological landscape in Northamptonshire. Each Biodiversity Character Type is subdivided into Biodiversity Character Areas. These are geographically discrete areas that contain the suite of common characteristic ecological features that characterise a particular Biodiversity character type. Biodiversity Character Area boundaries are defined by changes in underlying geology, the extent of particular soil types, particular contours or landscape features such as rivers or the edges of plateau landscapes.

Biodiversity Network A means of connecting fragmented habitats in order to assist species persistence and habitat function.

Countryside Connectors Part of the Sustainable Movement Network, they link towns, villages and hamlets and to assets in the wider countryside. They are composed of the Public Rights of Way network and cycle routes.

Green Infrastructure: A planned network of multifunctional Green Spaces and interconnecting links.

Habitat corridor Where existing **habitat reservoirs** of the same or similar Biodiversity Action Plan habitats form a distinct network through the landscape.

Habitat network Linked habitat sites, including **habitat corridors** and **habitat reservoirs**.

Habitat reservoir An existing site, which provides a habitat for species to live, e.g. a woodland; an area of grassland.

Hinterland The land surrounding a settlement, which is connected to it visually or in terms of its function.

Historic Landscape Character Types/ Areas Distinct types of landscapes that are relatively homogenous in historic character. They are generic in nature in that they may occur in different parts of the County...but wherever they occur they share broadly similar combinations of historical land use and settlement pattern. Historic Landscape Character Areas are unique in that they are geographically discrete, sharing characteristics of the broader Historic Landscape Types to which they belong.

Inter-Urban Neighbourhood Connectors This local level of the **Sustainable**

Movement Network link different areas of Northampton.

Ironstone A type of limestone with a golden-brown colour, which is distinctive to Northamptonshire.

Landscape character area The unique individual geographical areas in which **landscape types** occur. They share generic characteristics with other areas of the same type but also have their own particular identity.

Landscape character type Generic types of landscape, which possess broadly similar patterns of geology, landform, soils, vegetation, land use, settlement and field pattern in every area where they occur.

Landscape Sensitivity (to a specific type of change) The extent to which a landscape can accept change of a particular type and scale without unacceptable adverse effects on its character.

Outcrop An area of rock on the surface of the Earth. An outcrop is usually material that can be seen, but the name may also be used where the rock is covered.

Primary Network Strategic routes within the **Sustainable Movement Network**. They are composed of strategic links between major settlements, using the Public Rights of Way network and cycle routes. Green Ways are through open countryside while Blue Ways follow water courses including rivers, navigations and canals.
Ridge and Furrow

Setting The area of landscape around a settlement which forms the approach to the settlement, and/or the backdrop to views from within it.

Strategic Gap The gap between two settlements, which enables them to remain discrete from each other.

Strategic Infrastructure Framework An interconnected network of Sub Regional and local Green Infrastructure corridors.

Sustainable Movement Network Principal networks and opportunities for sustainable people movement from centres of settlement to the countryside.

Sustrans UK-based charity dedicated to sustainable transport. Co-ordinates the National Cycle Network.

Townscape character type Generic types of townscape, which contain similar street patterns and age/ style of buildings in each area where they occur.

Visual influence Extent of potential visibility to or from a specific area or feature.

West Northamptonshire Development Corporation Established by the Government in 2004, the WNDC mission is to promote and deliver sustainable housing growth and regeneration in Northampton, Daventry and Towcester.

West Northamptonshire Joint Planning Unit Daventry District, Northampton Borough, South Northamptonshire Council and Northamptonshire County Councils have established the West Northamptonshire Joint Planning Unit (JPU) to prepare the Joint Development Plan Documents, including the Joint Core Strategy and the Joint Supplementary Planning Documents. Each Borough and District Council continues to be responsible for preparing its own Local Development Documents addressing local matters, although co-ordination of the overall programme by the JPU will be necessary.

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