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Lilbourne

Design Guidance and Codes

Final Report

04/02/2025



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Quality information

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Revision History

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Introduction

01

1. Introduction

The aim of the Neighbourhood Plan Design Guidance and Codes document is to empower the local community to influence the design and character of the local area and to deliver suitable, sustainable development that meets the needs of local people.

1.1 Background and purpose

Through the Ministry for Housing, Communities and Local Government (MHCLG) Neighbourhood Planning Programme led by Locality, AECOM has been appointed to provide design support to the Lilbourne Neighbourhood Plan Advisory Committee by preparing this Design Guidance and Codes.

The purpose of this document is to gather information on the opportunities and issues faced in the delivery of quality design in the context of the neighbourhood.

The aims of the document are to:

- Positively influence the character and design of new development within the Neighbourhood Area.
- Set out clear analysis of the local context, focusing on topics where improvement is most needed.
- Benchmark how these opportunities should be delivered, such that they are factored into considerations at site procurement, and the downstream design response.

The report cannot influence the quantum, location or type of development; other tools in the Neighbourhood Plan and Local Plan can cover these.

Consultants at AECOM prepared this report between September 2024 and February 2025, in conjunction with key members of the Neighbourhood Plan Advisory Committee.

1.2 Area of study

Lilbourne Neighbourhood Area (NA) was designated in March 2024 and is coterminous with the parish boundary. The area encompasses the village of Lilbourne, surrounding countryside, isolated farmsteads and employment areas.

The northern border of the NA is defined by the River Avon. The southern part of the NA includes part of the Daventry International Rail Freight Terminal (DIRFT). This has been granted planning permission for extension with the Lilbourne Meadows site planned as a buffer between the DIRFT site and Lilbourne village.

The parish is within the unitary authority of West Northamptonshire, in the district of Daventry. The nearest town to Lilbourne is Rugby, approximately 9km away. This is also the location of the nearest railway station with the Avanti West Coast trainline providing direct services from Rugby to Birmingham and London Euston.

The wider road network is comprehensive, with many motorways and major A roads around Lilbourne, including the M1 which runs through the NA and the A5 which forms the western boundary of the NA. The M6 also runs just north of the NA, connecting west to Coventry and further west Birmingham. The M45 runs south of the NA running north-west into the A45 which connects to Birmingham.



Figure 01: The River Avon which defines the northern boundary of the NA.



Figure 02: Entrance into the village from the north on Lilbourne Lane/ Station Road.

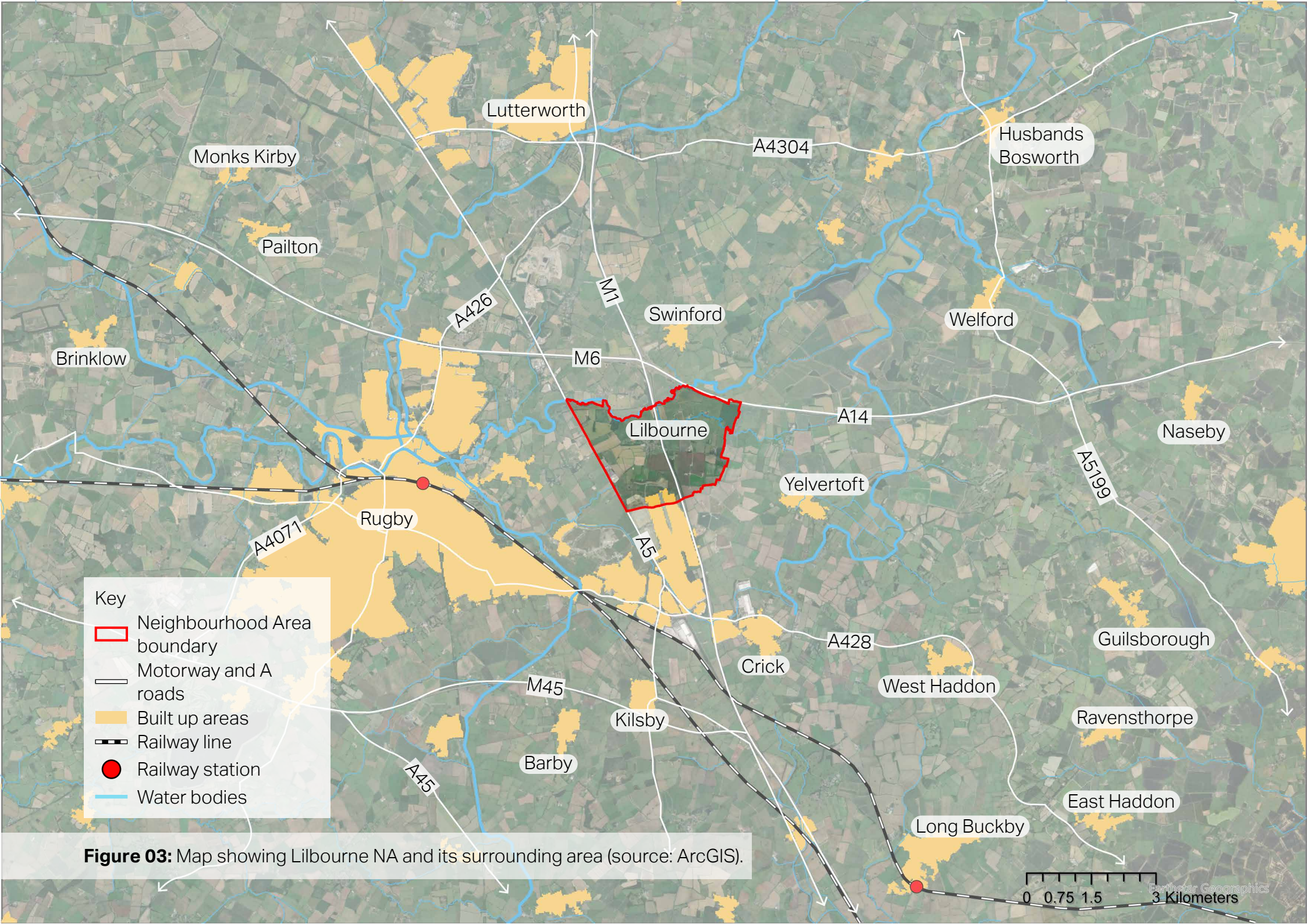


Figure 03: Map showing Lilbourne NA and its surrounding area (source: ArcGIS).

1.3 Neighbourhood Plan vision and relationship to design quality

The overarching aim of this document is to protect and enhance the character of Lilbourne in line with the Neighbourhood Plan vision which is summarised below:

Lilbourne Vision:

"Lilbourne is a small village, nestled between other rural communities, enveloped by green space and agricultural land.

Our vision is to enhance our unique environment, preserving its rich history while allowing access to its countryside and facilities. Our mixed and balanced population will be sustained by ensuring that further accessible residential development attracts a multi-generational community, whilst respecting the character of the village. Lilbourne will be cushioned from industrial encroachments while artisan employment opportunities are encouraged.

New development, with its appropriate infrastructure, should be relative in scale to the size of our community. It should enhance the local environment, while retaining the rural nature, open spaces and character of Lilbourne".

In particular the design guidance will focus on the last part of the vision, relating to new development which is sensitive and in keeping to the existing rural character of the village.

The National Planning Policy Framework (December 2024) states... "design policies should be developed with local communities, so they reflect local aspirations, and are grounded in an understanding and evaluation of each area's defining characteristics".

The focus of the guidance and coding prepared in this document is based on the elements of design quality and characteristics which has been identified based on the diagnostics, the site visit, discussions with the Neighbourhood Plan Advisory Committee and feedback from the Advisory Committee engagement event and questionnaire with local residents.

1.4 How to use this document

This document will be used differently by different people in the planning and development process, as summarised in the adjacent table.

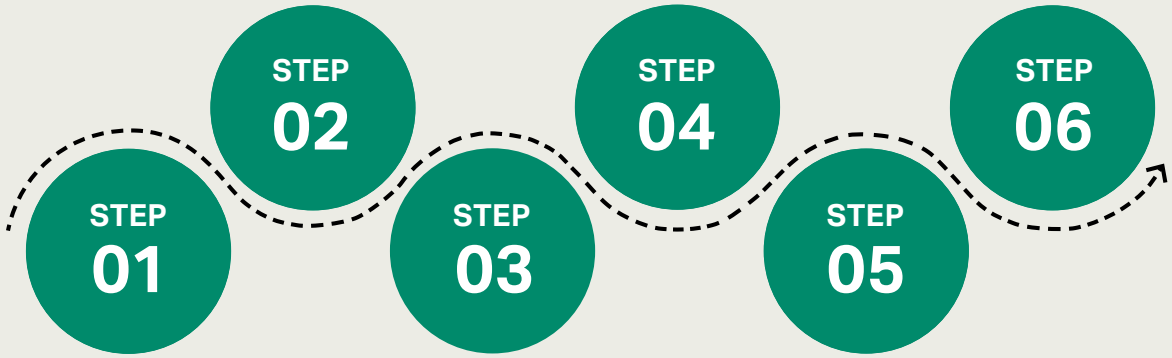
A valuable way codes and guidance can be used is as part of a process of co-design and involvement that seeks to understand and takes account of local preferences for design quality. As such the codes and guidance can help to facilitate conversations to help align expectations, aid understanding, and identify key local issues. The resulting design codes and guidance can then set out how to adequately respond to these issues in future development.

Design codes and guidance alone will not automatically secure quality design outcomes, but they will help to prevent poor outcomes by creating a rigorous process that establishes expectations for design quality.

Potential users	How they will use the design guidance and codes
Applicants, developers, & landowners	As a guide to the community's and the Local Planning Authority's expectations on design, allowing a degree of certainty – they will be expected to follow the Guidelines as planning consent is sought.
Local Planning Authority	As a reference point, embedded in policy, against which to assess planning applications. The guidance and codes should be discussed with applicants during any pre application discussions.
Parish Council or Neighbourhood Plan Advisory Committee	As a guide when commenting on planning applications, ensuring that the guidance and codes are complied with.
Community groups & Local Residents	As a tool to promote community-backed development and to inform comments on planning applications.
Statutory Consultees	As a reference point when commenting on planning applications.

1.5 Process and engagement

This document has resulted from a collaborative effort between the Lilbourne Neighbourhood Plan Advisory Committee and AECOM, incorporating the initial views of residents. The design coding process follows the steps set out on this page.



01

Inception meeting between AECOM and Neighbourhood Plan Advisory Committee members.

02

Site visit - meeting with Advisory Committee, walking tour of built-form and photographic study.

03

Urban design and local character analysis based on site visit, photographic analysis and feedback from engagement event and questionnaire.

04

Preparation of draft design guidelines and codes in consultation with Advisory Committee members.

05

Draft design guidelines and codes reviewed by the Neighbourhood Advisory Committee and Locality.

06

Final design guidelines and codes form part of the evidence base for the emerging Neighbourhood Plan.

Figure 04: A brief chronological breakdown of the key elements and milestones used throughout the duration of the production of this document.

1.6 Summary of findings and common themes

Lilbourne Parish Council Neighbourhood Plan Advisory Committee held a drop-in event on Neighbourhood Planning for local residents on Saturday 5th October 2024. The Advisory Committee also circulated a questionnaire to local residents.

From both the drop-in event and questionnaire there were a number of common themes in relation to housing and design, including:

- The need for more affordable housing for young people
- The need for housing that is accessible and adaptable for an ageing population
- Design which is sympathetic to existing houses adjacent
- Desire for contemporary designs which are unique
- Development must incorporate sufficient parking
- Development must consider biodiversity and be environmentally sound. This includes addressing drainage, light pollution, air quality, low energy use and high insulation. Biodiversity measures to include swift bricks, bat bricks, bee hives and nesting.
- Green space for wildlife, trees and hedgerows is important with emphasis on planting of native, pollinator-friendly species and consideration of the characteristics of all planting - e.g. root spread of trees, water uptake etc.
- Respect for the listed buildings

These common themes feed into and influence the design guidance in this document. The following desktop analysis of the Neighbourhood Area further provides context and justification for the design guidance set out in Section 3.

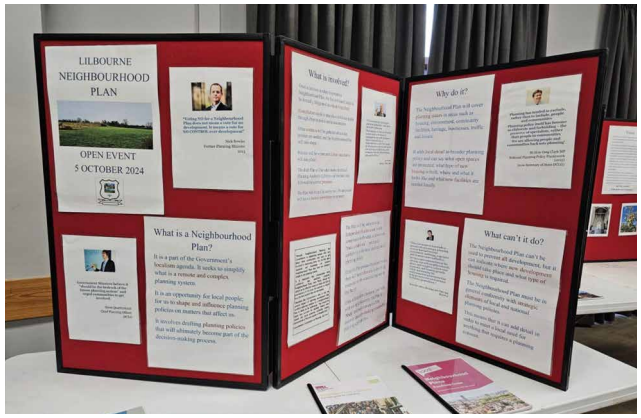


Figure 05: Engagement boards from the drop-in event showing information about the Lilbourne Neighbourhood Plan.

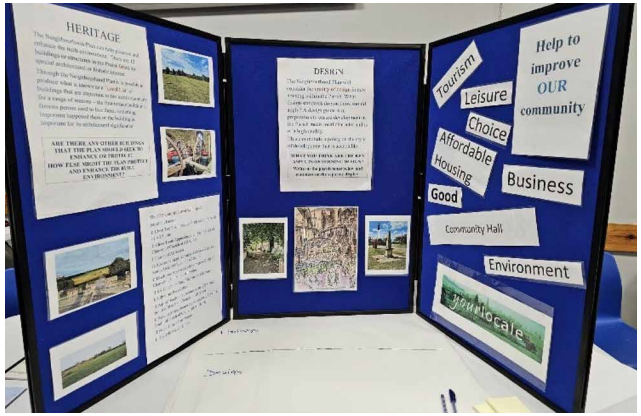


Figure 06: Engagement boards from the drop-in event showing information on design issues.



Neighbourhood Area context analysis

02

2. Neighbourhood Area context analysis

This section outlines the broad physical, historic and contextual characteristics of the Neighbourhood Area.

2.1 Access and movement

2.1.1 Road network

The M1 motorway passes through the centre of the NA, east of the village. There is no access onto the motorway from within the NA boundary; the nearest access is at junction 18 to the south. There is another major route, the A5, which runs along the western boundary of the NA between Lilbourne and Rugby. The main thoroughfare through the village is Yelvertoft/ Rugby Road, which connects to the A5 to the west and to neighbouring village Yelvertoft to the east.

2.1.2 Public transport

Public transport in Lilbourne is very limited. The minibus owned and run by the parish council offers twice-weekly trips to and from Rugby. It also transports children from the village to the nearest primary school, in Yelvertoft. Otherwise residents predominantly rely on use of their cars for transport.

2.1.3 Pedestrian and cycling

There is a good network of public rights of way in the NA with both footpaths and bridleways connecting from the village into the surrounding countryside. Walking routes into the countryside are highly valued by residents. The National Cycle Network Route 50 runs just east of the NA and is linked to from bridleways within the NA.



Figure 07: Route through the Green, which is the main thoroughfare, overlooked by residential properties arranged around the central green space and road network.



Figure 08: Footpath leading from a residential close in Lilbourne.

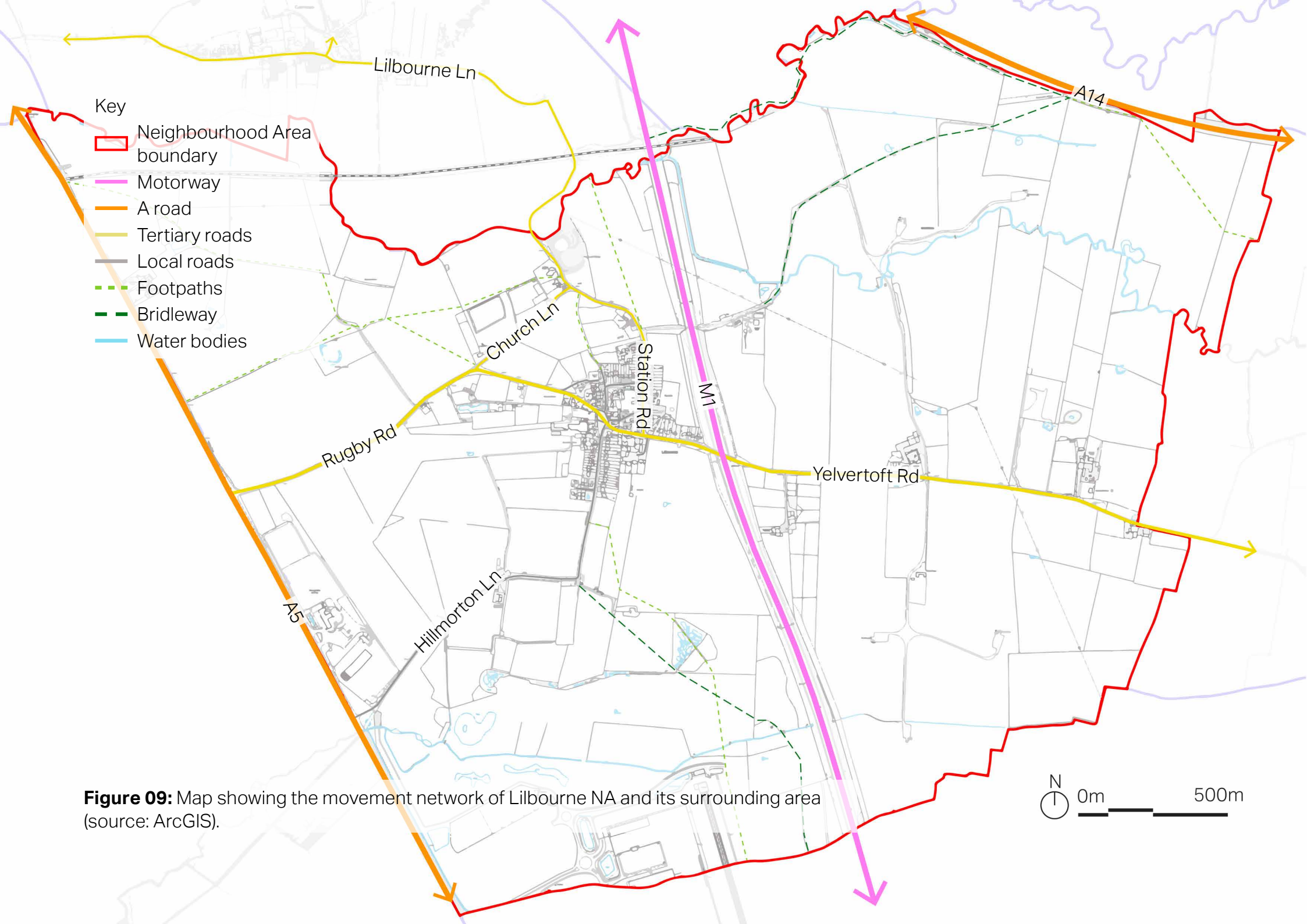


Figure 09: Map showing the movement network of Lilbourne NA and its surrounding area (source: ArcGIS).

2.2 Landscape and heritage

2.2.1 Landscape features

Lilbourne Meadows

Lilbourne Meadows is a new nature reserve managed by Wildlife Trust BCN and Prologis. It was designed as an ecological mitigation zone as a green buffer between Lilbourne village and the Daventry International Rail Freight Terminal (DIRFT) expansion. The Meadows has been designed to enhance biodiversity and bring benefits to the local community.

2.2.2 History and heritage assets

Lilbourne dates to the Saxon period and was first recorded in the Domesday Book as 'Lineburne' – 'Lin' meaning water or a pool and 'Burn' derived from Avon, meaning river or stream. At the end of the dark ages the village had become an important trading centre and the Normans built a motte and bailey fort in the late 1100s, today surviving as mounds and ditches, designated as scheduled monuments. There are two scheduled monuments in the NA:

- Lilbourne motte and bailey castle and fishpond (LEN: 1012333)
- Motte and bailey castle south of Lilbourne Gorse (LEN: 1013349)

In addition there are 12 listed buildings in the NA. This includes one Grade I listed building, the Church of All Saints' (LEN: 1287539). The oldest church in the district, parts of the building date to the 11th century. The architecture of the church today comprises a blend of styles from the 11th, 12th and 13th centuries as well as later 18th century features.

The church and motte and bailey mounds opposite mark the original location of the village. The village today sits just south, with only the church and two former rectories remaining at the original settlement, likely a result of major flooding in the 14th century which resulted in the 'inundation' of the low-lying houses and relocation to the higher ground.

There are 5 Grade II listed buildings and structures within the main village area. The historic buildings within the village typically date to the 17th, 18th and 19th centuries.

2.2.3 Flood risk

The residential area of the village, though subject to springs and poor drainage, does not flood significantly. The River Avon floods frequently, sometimes making the lane impassable where it crosses over the river.

2.2.4 Important environmental areas

There are many valued environmental areas within the village including the allotments, the play area and green space at the village hall, the cemetery, Jubilee Meadow picnic area and pond and further south of the village between the settlement.

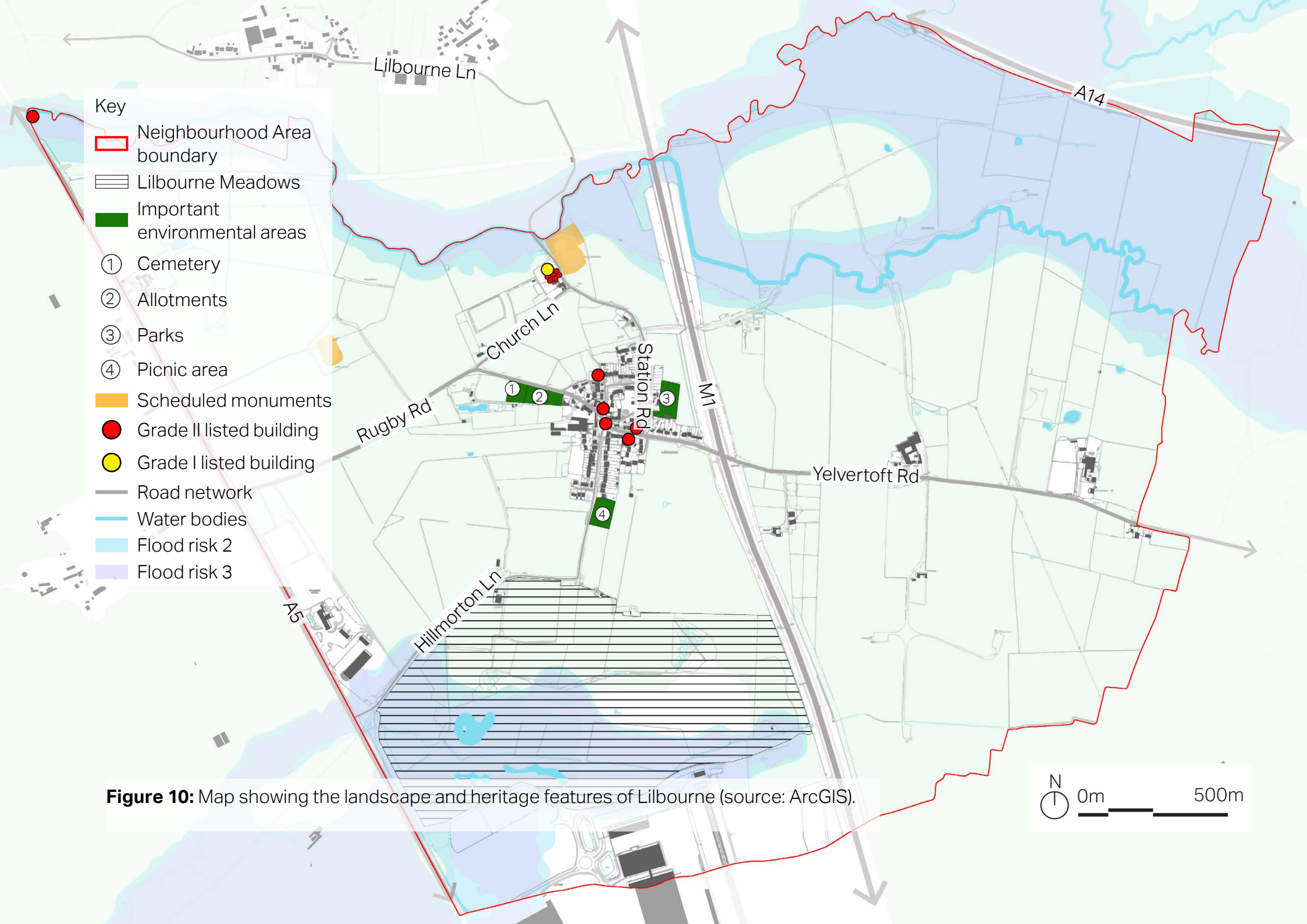


Figure 10: Map showing the landscape and heritage features of Lilbourne (source: ArcGIS).



Figure 11: Children's play area next to Lilbourne Village hall.



Figure 13: Motte and bailey mound scheduled monument.



Figure 15: The cemetery, a green open space with some trees.



Figure 12: Allotments off Rugby Road.



Figure 14: Picnic area with large open green space, benches, planting and gravelled path.



Figure 16: Grade II 17th century stone farmhouse.



Design Guidance and Codes

03

3. Design Guidance and Codes

This chapter presents a series of area-wide design guidance, applicable to future development within the Lilbourne Neighbourhood Area. Where possible, local images are used to exemplify the design guidelines and codes. Where these images are not available, best practice examples from elsewhere are used.

3.1 Introduction

This section supports developers and other applicants when producing or reviewing planning applications within the Lilbourne Neighbourhood Area. The featured guidelines apply to the whole NA, including any future allocated sites, infill development, and windfall development.

The guidelines focus on residential developments. New housing development and modifications should not be viewed in isolation; rather, considerations of design and layout must be informed by the wider context. The local pattern of roads and spaces, building traditions, materials and the natural environment should all help to determine the character and identity of a development. It is important with any proposal that full account is taken of the local context and that the new design embodies the 'sense of place'.

Reference to context means using what is around, shown in Chapter 2, as inspiration and influence. Sensibility to the context should by no means restrict architectural innovation; in fact, the solution could be a contemporary design that is in harmony with the surroundings. Proposals should also take account the individual characteristics of the immediate local context and seek to enhance and reflect any existing distinctive features.

The design guidelines and codes are grouped into three overarching themes which have been generated based on a the feedback from the engagement carried out by the Neighbourhood Plan Advisory Committee, the site visit, discussions with members of the NPSG and the Neighbourhood Area context analysis in Chapter 2 of this report, as well as good design practice. The themes are as follows:

- Response to rural context
- Scale and massing
- Materials and design

Please note:

Both design codes and guidelines are contained within this document.

Design codes: Design codes are mandatory requirements for design issues and are expressed with the word MUST.

Guidelines: Guidelines set out aspirations for design that is expected to be delivered and are expressed with one of two words:

SHOULD reflects design principles that are strongly encouraged.

COULD reflects design principles that are suggestions.

3.2 Response to rural context

Lilbourne's rural context is a key aspect of its character. The Neighbourhood Plan vision includes that any new development should "enhance the local environment, while retaining the rural nature" and the importance of green spaces, wildlife and biodiversity was a common theme from the local resident engagement event and questionnaire.

Additionally it is now widely acknowledged that access to nature and green space has an extremely therapeutic effect on the mind. The National Model Design Code recognises this in paragraph 57:

"Nature is good for health and wellbeing, for biodiversity, shading and cooling, noise mitigation, air quality and mitigating flood risk as well as contributing to tackling the climate emergency."

In the context of Lilbourne there are a few current design issues that the village faces with regard to new development and the rural context, addressed through the following design guidance.

3.2.1 Trees and green spaces

- New development must incorporate trees and green spaces into their design to integrate with the rural context of Lilbourne. Where there is sufficient space this could be through use of green verges and street trees, which is characteristic of the village as shown in the photograph of Hillmorton Lane in **Figure 17**.
- For smaller developments and tighter spaces where street trees and verges are not viable, greenery must instead be incorporated into front gardens and boundary treatments.
- Native tree species must be used to maintain the local character and ensure climate resilience.
- Green spaces must be well landscaped to ensure that they aesthetically enhance the space and support the local biodiversity with use of a range of vegetation and preference for pollinator-friendly plant species.



Figure 17: Street trees and grass verges along Hillmorton Lane.



Figure 18: Green verges along Yelvertoft Road in front of an overlooking property.

3.2.2 Garden space and boundary treatment

- New development should be set back from the road and incorporate front gardens. These should reflect the sizes in the existing local context.
- Boundary treatments should be used to define the public and private space. Natural boundary treatments such as hedges, vegetation and trees should be the dominant form. These can be combined with hard boundary treatments such as low brick walls or open-spaced wooden fences.
- Any walls and fences on front boundaries must be of low height. Fences must have gaps to preserve any wildlife corridors and should be used sparingly across a development to ensure that they do not dominate over green boundaries.



Figure 19: Good example of front garden provision for new development on Old Inn Court. Use of a natural boundary treatment would help to better define the front garden space, for example as in **Figure 21**.



Figure 21: Use of neat and well kept hedgerows as boundary treatment for Grade II listed Stone House Farmhouse on Yelvertoft Road.

Precedent examples from elsewhere demonstrating good use of boundary treatment



Figure 20: Good example of low-level planting as boundary treatment to define the front garden. The appearance of the front of the property on the street also benefits.



Figure 22: Use of low-height brick wall in combination with hedgerows which soften the appearance and give a more rural character.

3.2.3 Parking

"Well-designed parking is attractive, well-landscaped and sensitively integrated into the built form so that it does not dominate the development or the street scene. It incorporates green infrastructure, including trees, to soften the visual impact of cars" - Paragraph 85 of the National Design Guide (2019).

Due to Lilbourne's rural location, car usage is high in the village and therefore it is important for any new development to supply sufficient car parking to ensure there is no spill-out parking on existing roads. For the context of small scale infill development, on-plot parking is the most appropriate.

- Parking provided on driveways directly in front of dwellings should use vegetations and hedgerow to screen vehicles and front gardens should be a minimum depth of 6m to allow movement around parked vehicles.
- Parking being provided on a driveway to the side of a dwelling should be of sufficient length (5m minimum) so that a car can park behind the frontage line of the dwelling. This will reduce the visual impact that cars will have on the street scene.
- For on-plot side parking the set back distance between the driveway and the pavement combined with the width of the pavement should be kept to dimensions small enough to ensure cars cannot be parked in this space and a maximum of 0.5m set-back with a pavement of 2m is recommended. An alternative solution which can also be applied is to have larger set-backs with marked parking restrictions on the road.
- Driveways must be constructed from porous materials to minimise surface water run-off and help mitigate potential flooding.
- Electric vehicle charging points must be incorporated into all on-plot parking in new homes to promote more sustainable modes of transport.



Figure 23: Good example of use of permeable materials for the driveway, elsewhere in the UK.



Figure 24: Example of electric vehicle charging point for on-plot parking space, elsewhere in the UK.

3.2.4 Biodiversity

Under the wider backdrop of climate change and global warming, protection of biodiversity is becoming an important priority and should start at the local level. Biodiversity has multiple benefits as it can protect the natural environment, educate and increase scientific knowledge, increase community involvement, and boost local economy.

- Interconnectivity should be sought between developments, green infrastructure networks, and open space, as shown in **Figure 25**.
- New development should incorporate bolt-on features to assist biodiversity including bat bricks, bird boxes and hedgehog gravel boards.
- New development should propose street trees, green verges, front and rear gardens, open spaces and habitat sites, where possible, to enhance the green network within the built environment, boost biodiversity and strengthen the connections with the surrounding countryside and water elements.

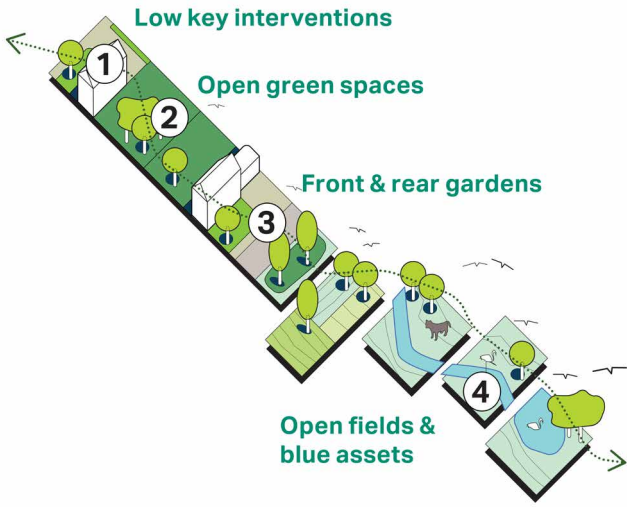


Figure 25: Diagram to illustrate the green assets that can play an important role as wildlife corridors..

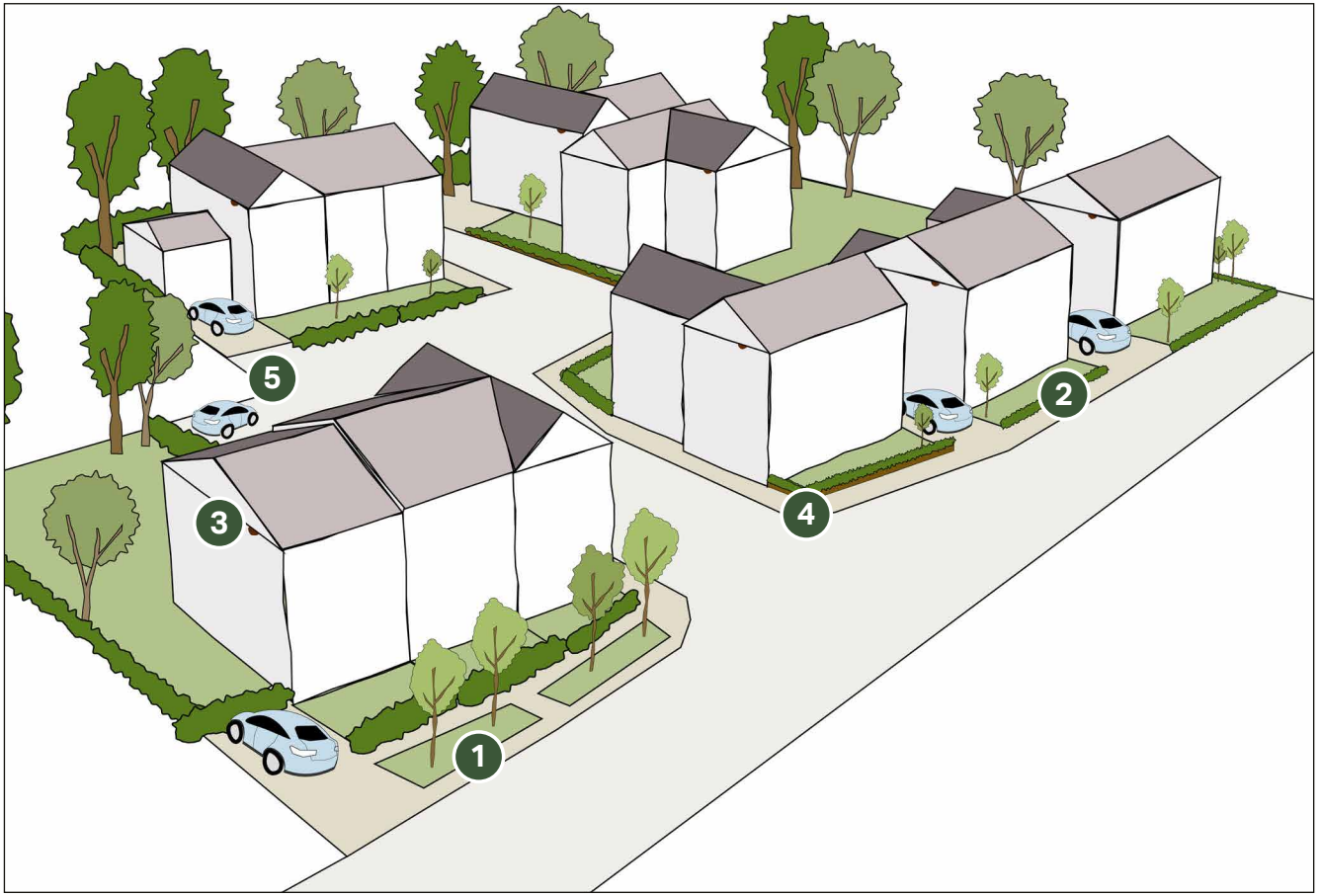


Figure 26: Example of a swift brick under an eave.



Figure 27: Example of a bat box placed in the front or rear garden of a property.

RESPONSE TO RURAL CONTEXT



1. Street trees and green verges where there is sufficient space to accommodate them.

2. Provision of front gardens with green boundaries.

3. Use of biodiversity features such as swift bricks, as well as front and back gardens to enable wildlife corridors.

4. Predominantly green boundaries used, combined with occasional low brick walls.

5. On-plot parking supplemented by small parking courts for terraced housing. Hedgerows and vegetation visually screen the cars to maintain an attractive street scene.

Figure 28: 3D diagram based on good, local, modern development example: Old Inn Court with some changes to show how the design guidance can be implemented.

3.3 Scale and massing

Lilbourne is classified as 'other village' in the Daventry Local Plan settlement hierarchy. According to Policy RA3 - Other Villages Development must:

- *Be small scale.*
- *Not result in the loss of existing services and facilities important to the sustainability of the settlement.*
- *Protect the form, character and setting of the village and areas of historic or environmental importance including those identified in conservation area appraisals and village design statements.*

Therefore any new development must be of small scale. Design guidance will focus on guiding small scale infill development, which is the most common form of recent development in the village.

3.3.1 Heights and roofscape

- Buildings in Lilbourne are usually one- or two- storeys in height. New buildings and modifications in the Neighbourhood Area should therefore be sympathetic in massing, height and scale to the existing context. Heights must be restrained to two storeys.
- Roof ridges should follow existing low ridge heights to ensure any new development complements the existing and does not overwhelm neighbouring properties.
- Subtle variation in massing and height is encouraged to add visual interest and respect the Neighbourhood Area's architectural diversity. The bulk and pitch of roofs must remain sympathetic to the tree canopy, local vernacular and topography.



Figure 29: Subtle variations in roof ridge height on The Green in Lilbourne, whilst keeping to two storey height. .



Figure 30: Use of gabled roof and dormer windows helps to add interest to the roofscape and break up the massing of a building.

3.3.2 Layout

- More successful recent developments in the Neighbourhood Area have a discrete impact on the existing street scene, through use of a layout which setbacks houses from the roads, with a couple of houses facing the street. This could be replicated for new developments where appropriate
- The repetition of an identical plan form along a street frontage must be avoided to discourage monotonous design. Instead building frontages should vary in width and plan forms.
- The massing of buildings must ensure a sufficient level of privacy and access to natural light for their occupants and avoid overshadowing existing buildings. This is particularly important near buildings of historic character.
- The layout of developments should seek to maximise energy efficiency by reducing energy consumption and optimising passive solar gains.
- Depending on the number of buildings within a development, a range of sizes should be used. This must be in line with Local Plan policy on Housing Mix (Policy H1 - Housing density and mix and type of dwelling) or policy on housing mix in the Lilbourne NP if it deviates from this Local Plan policy.



Figure 31: Local example, Green Farm Close, of six dwellings which fits well within the existing properties along Hillmorton Lane with four semi-detached houses setback from the road and two, relatively small detached houses facing onto the street.



Figure 32: Aerial view of local example, Green Farm Close, showing the frontages on the infiil development within the existing street scene.

SCALE AND MASSING



1. Heights of 2 storeys.

2. Subtle variations in roof ridge heights and use of cross-gabled roofs add interest to the roofline.

3. Development is set-back off the road and is small-scale with a mixture of housing types including some smaller, terraced properties.

Figure 33: 3D diagram based on good, local, modern development example: Old Inn Court with some changes to show how the design guidance can be implemented.

3.4 Materials and design

3.4.1 Variety in materials and design

Lilbourne displays a variety of materials and design. This diversity, rather than a particular material, comprises the built form character of the village. The material palette (as illustrated opposite) includes brick, stone, render and coloured render for the walls; plain and pan clay tiles and slate tiles for the roof; and a range of architectural details like window headers, bay windows, brick dental course and dormer windows.

- In new developments and renovations, locally sourced bricks or bricks that match the buildings in the surrounding should be used where possible. Particular attention should be given to the bonding pattern, size, colour and texture of the bricks.
- Detailing can be used in new development to add interest to the streetscene. Development involving multiple houses should ensure a variety of detailing is used across the development to provide visual interest and avoid monotonous design.

Wall materials



Figure 34: Red brick wall.



Figure 35: Stone wall.



Figure 36: Off-white render wall.



Figure 37: White render with dark timber framing wall.

Roof materials



Figure 38: Clay tile roof with detailing.



Figure 39: Clay-tiled roof on a bungalow.



Figure 40: Clay tile roof.



Figure 41: Grey slate roof.

Architectural details



Figure 42: Window headers on sash windows.



Figure 43: Bay window of a brick house.



Figure 44: Brick dental course on the roof eaves.

MATERIALS AND DESIGN

- New development must carefully consider the colour palette to ensure good visual integration with the local built form, as well as avoiding monotonous/ visually poor designs. In general a earthy palette of browns, reds and muted colours could be used to reflect the rural character. Harsh colour contrast, with the exception of white and black, should generally be avoided.
- Although across developments of multiple buildings variety in design is encouraged, use of multiple materials in one building must be well considered to achieve a coherent and cohesive visual.
- Use of materials not part of the local material and colour palette must be carefully considered and would only be appropriate where these materials are of high quality and contribute to the character. Use of pvc panelling for walls is not acceptable.
- Development should demonstrate variety in design and materials, to ensure that the development adds character and interest. There should be some consistency in the form and massing to provide visual harmony. However design details should vary to provide interest.

Good local examples of use of materials and detailing



Figure 45: Good local example of a variety of materials and colours within the local material and colour palette.



Figure 46: Local example of use of bay window design.

Precedent examples from elsewhere demonstrating good use of materials and detailing



Figure 47: Good example of modern development where adjacent materials vary in materials, whilst still complementing each other.



Figure 48: Example of contemporary house which utilises materials not typical of the area, but could be appropriate if the building is of high quality design and superior environmental performance.

3.4.2 Eco-friendly design

Energy efficient technologies must be incorporated into buildings and from the design stage for any new developments within the Neighbourhood Area.

Energy efficient or eco design combines all around energy efficient appliances and lighting with commercially available renewable energy systems, such as solar electricity and/or solar/water heating.

Starting from the design stage there are strategies that can be incorporated to include technologies such as passive solar heating, cooling and energy efficient landscaping which are determined by local climate and solar conditions.

Historic buildings can also be retrofitted in a way that respects both the environment and their historic features. It is important that any eco-design features are incorporated without visually damaging the environment [1].

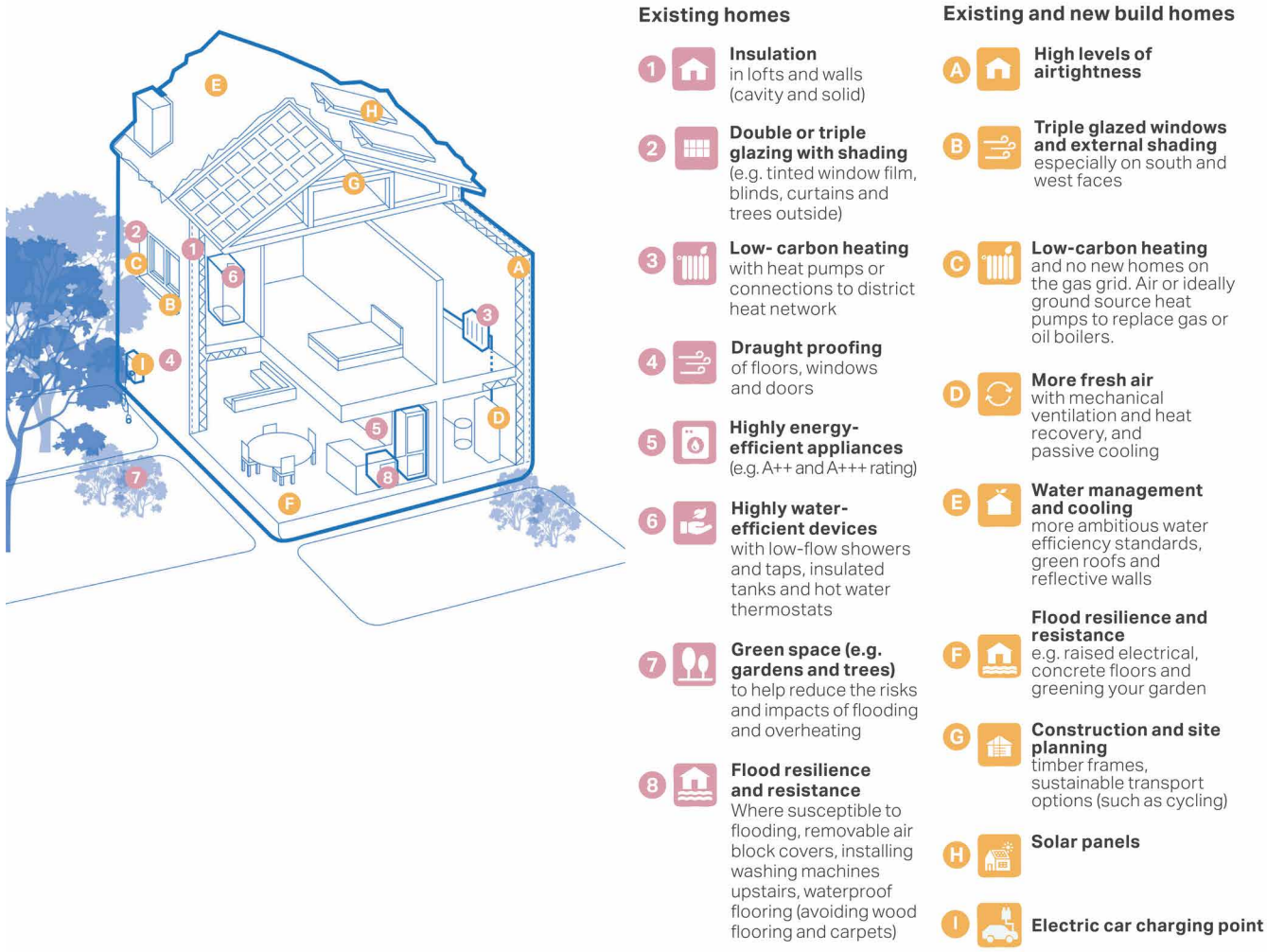


Figure 49: Diagram showing low-carbon homes in both existing and new build conditions.

1 Further guidance on eco-design adaptations of historic buildings can be found in Historic England draft guidance: 'Climate Change and Historic Building Adaptations' (November 2023).

Solar panels

Solar panels over a rooftop can have a positive environmental impact, but their siting, design and installation should be handled sensitively, particularly on heritage assets. Preserving the character of the host building and wider setting/village should be a priority. It is also important to note that solar panels on listed buildings require consent.

On new builds

They should be designed in from the start, forming part of the design concept. Some attractive options are solar shingles and photovoltaic slates or tiles. In this way, the solar panels can be used as a roofing material in their own right.

On retrofits

Analyse the proportions of the building and roof surface in order to identify the best location and sizing of panels:

Colour & contrast

The colour and finish of solar panels and how they reflect light should be chosen to fit in with the building or surroundings. The majority of crystalline and thin film panels are dark blue or black; within these shades are a variety of finishes and tones to help make the panels unobtrusive.

Frames

Panels without frames, or black-framed panels, should be used where framed panels would detract from the building. Untreated or natural finished metal panel frames can look out of place and draw unnecessary attention to the panels. Many manufacturers sell panels with frames that are painted or anodised to blend in better with the building.

Size and style

Consider the style of the building and, if possible, position the solar PV panels so they are in proportion to the building and its features. For example, they can resemble roofing elements such as roof lights or windows.

The way in which panels are laid out in relation to one another can make a huge difference to the appearance of the system – symmetrical installations tend to work much better.

Consider how the installation relates to the shape of the roof or building. If possible, covering the whole roof or one of its gables is often advisable.

Surroundings

Choose plant and tree types and locations so that plants will not grow to shade areas on the property or on neighboring properties where solar energy systems are installed.

Design and locate structures so they will not shade areas on the property or on neighbouring properties where solar energy systems are installed.

Solar PV on adjacent houses of the same type may look out of place if the approaches are very different. If neighbours use different sizes and colours of panels or position them differently in relation to the roofs, it can have a significant impact. Consider using similar components to fit with the prevalent panel style in the area.



Figure 50: Use of shingle-like solar panels on a slate roof, with the design and colour of the solar panels matching those of the adjacent slate tiles.



Figure 51: Positive example of implementing solar panels since the design stage.

Ground source and air source heat pumps

Ground source and air source heat pumps absorb heat from the environment to use for both heating and hot water within the house. For most residential properties in Lilbourne air source heat pumps are the more appropriate choice, given ground source heat pumps require large amounts of outdoor space to accommodate underground loops.

Air source heat pumps still require some outdoor space for the pump unit, though considerably less, and many back gardens in Lilbourne would be large enough to accommodate one. Therefore, some design considerations for air source heat pumps are:

- Bespoke covers and landscaping can visually screen the heat pump; for example wooden enclosures can be used and stained to match the colour of the building wall. However it is important to ensure that any covers are durable and weather-resistant and that neither the cover nor any planting obstructs ventilation.
- Placement of heat pumps should not visually damage the street scene and the main, front elevation of a building and therefore should ideally be placed to the rear of the dwelling.
- Heat pumps should be placed so that they are protected from heavy snowfall or flooding. They can be mounted on the wall with anti-vibration dampers, to mitigate noise impact to the interior of the property, or on anti-vibration mounts on the ground.



Figure 52: Heat pump screening at the front of a dwelling.

Thermal mass

Thermal mass describes the ability of a material to absorb, store and release heat energy. Thermal mass can be used to even out variations in internal and external conditions, absorbing heat as temperatures rise and releasing it as they fall. Thermal mass can be used to store high thermal loads by absorbing heat introduced by external conditions, such as solar radiation, or by internal sources such as appliances and lighting, to be released when conditions are cooler. This can be beneficial both during the summer and the winter.

Thermal storage in construction elements can be provided, such as a trombe wall placed in front of a south facing window or concrete floor slabs that will absorb solar radiation and then slowly re-release it into the enclosed space. Mass can be combined with suitable ventilation strategies.

Insulation

Thermal insulation can be provided for any wall or roof on the exterior of a building to prevent heat loss. Particular attention should be paid to heat bridges around corners and openings at the design stage.

Provide acoustic insulation to prevent the transmission of sound between active (i.e. living room) and passive spaces (i.e. bedroom). Provide insulation and electrical insulation to prevent the passage of fire between spaces or components and to contain and separate electrical conductors.

Airtightness

Airtight constructions help reduce heat loss, improving comfort and protecting the building fabric. Airtightness is achieved by sealing a building to reduce infiltration- which is sometimes called uncontrolled ventilation. Simplicity is key for airtight design. The fewer junctions the simpler and more efficient the airtightness design will be.

An airtight layer should be formed in the floor, walls and roof. Doors, windows and roof lights to the adjacent walls or roof should be sealed. Interfaces between walls and floor and between walls and roof, including around the perimeter of any intermediate floor should be linked.

Water pipes and soil pipes, ventilation ducts, incoming water, gas, oil, electricity, data and district heating, chimneys and flues, including air supplies to wood burning stoves, connections to external services, such as entry phones, outside lights, external taps and sockets, security cameras and satellite dishes should be considered.

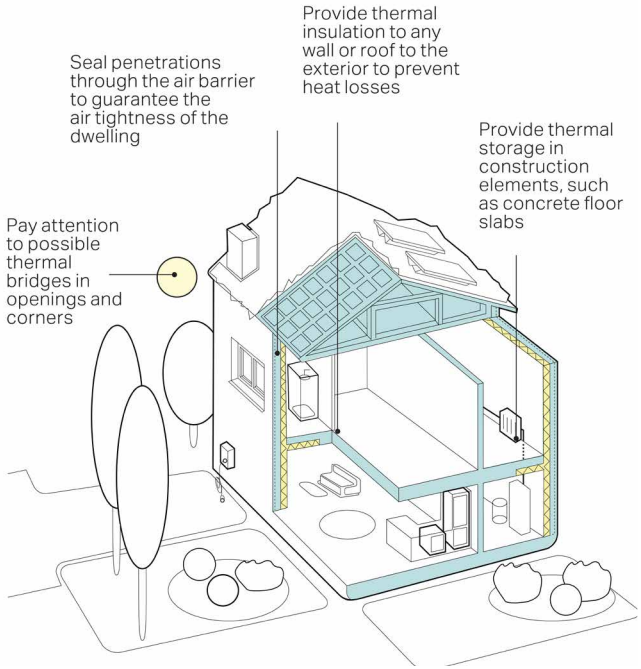


Figure 53: Diagram showing areas of concern regarding building solutions for thermal mass, insulation and air tightness.

MATERIALS AND DESIGN

Lifetime homes

The fastest route to building a functional, supportive, neighbourly community is to build homes that people can and want to live in for most of their lives instead of having to move every time domestic circumstances change.

'Lifetime' homes means designing in the flexibility and adaptability needed to allow for easy incorporation of wheelchair accessibility, addition/removal of internal walls, and ease of extension - both vertically and horizontally. This is particularly important for the aged, infirm or expanding/ contracting families who may be dependent on nearby friends and family for emotional and physical support.

The HAPPI (Housing our Ageing Population Panel for Innovation) principles, based on 10 key design criteria, should be taken into consideration in any new development. Those criteria reflect space and flexibility, daylight in the house and shared spaces, balconies and outdoor space, adaptability, natural environment, energy efficiency etc.

Low light design

Careful consideration and thoughtful design of lighting schemes within properties, whether in front or back gardens, are essential in any new development. This is crucial to maintain the rural character of Lilbourne and minimise light pollution.

Design guidelines

- Ensure that lighting schemes will not cause unacceptable levels of light pollution particularly in intrinsically dark areas.
- Consider lighting schemes that could be turned off when not needed ('part-night lighting') to reduce any potential adverse effects.
- Choice of lighting should be energy-efficient and sustainable. The installation of carefully directed motion sensors should be encouraged.
- Lighting schemes should be directed downward to avoid reducing dark skies or disturb neighbours or passers by; and
- Foot/cycle path light should be in harmony with surrounding rural landscape. Lighting such as solar cat's-eye lighting, reflective paint and ground-based lighting could be introduced.



Figure 54: Example of path lighting using low fixtures which direct illumination downward and outward to illuminate the pathway.



Figure 55: Example of down lighting which uses bullet type fixtures placed well above eye level on an object or tree which are angled downwards to illuminate the pathway.

Design to mitigate flooding

Design must respond to the significant flooding issues within the NA, associated with the River Avon and also natural springs around the village.

Sustainable Drainage Systems (SuDS) cover a range of approaches to manage surface water in a sustainable way to reduce flood risk and improve water quality and the overall urban environment.

SuDS work by reducing the amount and rate at which surface water reaches a waterway or combined sewer system. A number of overarching principles can be applied:

- Manage surface water as close to where it originates as possible.
- Reduce runoff rates by facilitating infiltration into the ground or by providing attenuation that stores water to help slow its flow so that it does not overwhelm water courses or the sewer network.
- Improve water quality by filtering pollutants to help avoid environmental contamination.
- Form a 'SuDS train' of two or three different surface water management approaches.
- Integrate into development and improve amenity through early consideration in the development process and good design practices.
- SuDS are often as important in areas that are not directly in an area of flood risk themselves, as they can help reduce downstream flood risk by storing water upstream.
- Some of the most effective SuDS are vegetated, using natural processes to slow and clean the water whilst increasing the biodiversity value of the area.
- Best practice SuDS schemes link the water cycle to make the most efficient use of water resources by reusing surface water.
- SuDS must be designed sensitively to augment the landscape and provide biodiversity and amenity benefits.

Typically, the most sustainable option is the collection of surface water to reuse, for example, in a water butt or rainwater harvesting system, as these have the added benefit of reducing pressure on important water sources. Where reuse is not possible, two alternative approaches using SuDS include:

- Infiltration - allows water to percolate into the ground and eventually help restore groundwater.
- Attenuation and controlled release - holds back the water and slowly releases it into the sewer network.



Figure 56: Example of swales check dam integrated with a crossing point, somewhere else in the UK.



Figure 57: Example of retrofitted SuDS along a residential street.

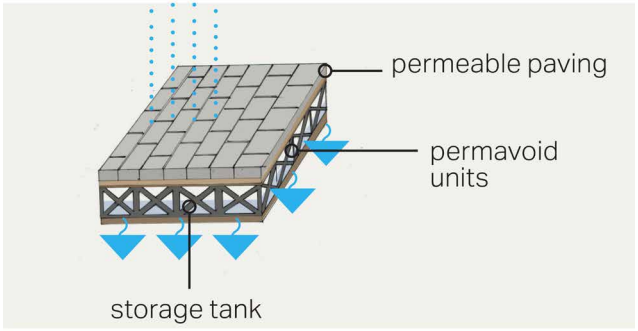


Figure 58: Diagram illustrating the functioning of a soak away with permavoid units.

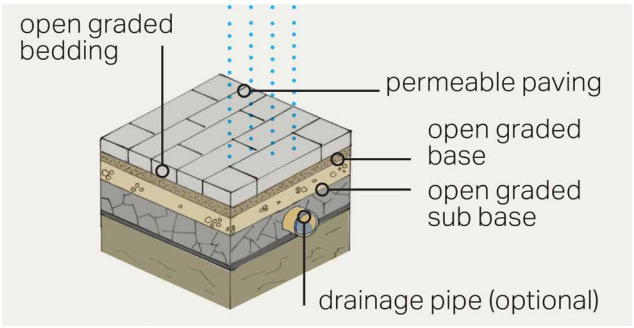


Figure 59: Diagram illustrating the construction of a permeable paving area.

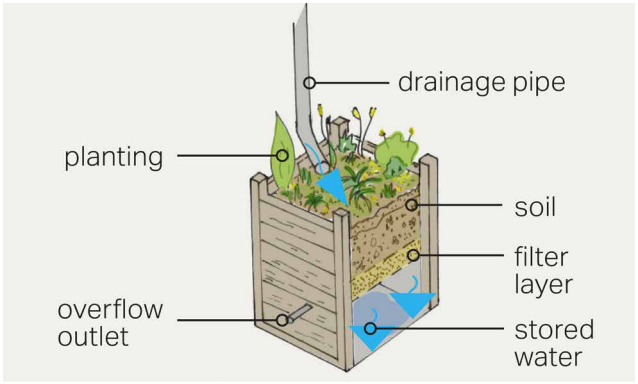


Figure 60: Diagram illustrating the function of a stormwater planter.

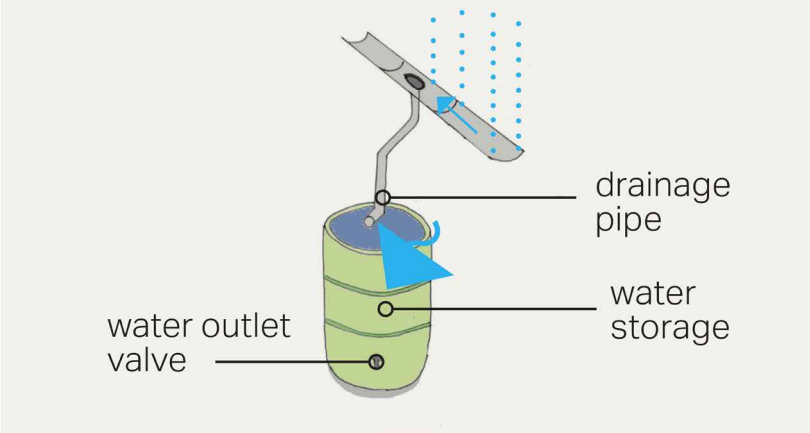


Figure 61: Diagram illustrating the functioning of a water butt.

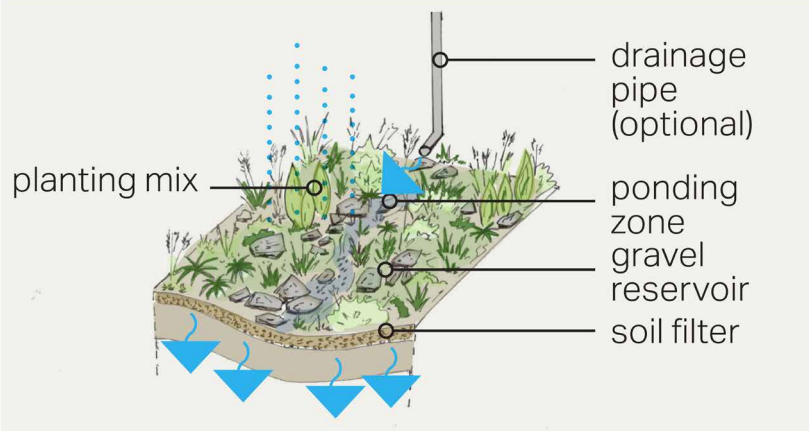


Figure 62: Diagram illustrating the functioning of a rain garden.

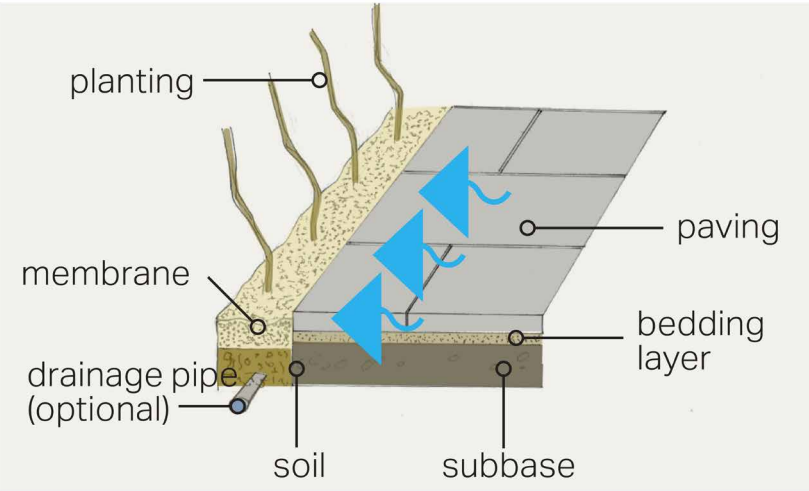


Figure 63: Diagram illustrating the construction of a soak away garden.



Appendix

04

4. Appendix

4.1 Appendix A: Checklist

This chapter sets out a general list of design considerations by topic. Developers should aim to meet the design intent of each item to ensure suitable proposals are submitted and the Parish Council and other Statutory Consultees should use the checklist to assess the appropriateness of individual applications.

1

General design guidelines for new development:

- Integrate with existing paths, streets, circulation networks and patterns of activity;
- Reinforce or enhance the established settlement character of streets, greens, and other spaces;
- Harmonise and enhance existing settlement in terms of physical form, architecture, and land use;
- Relate well to local topography and landscape features, including prominent ridge lines and long-distance views;
- Reflect, respect, and reinforce local architecture and historic distinctiveness;
- Retain and incorporate important existing features into the development;
- Respect surrounding buildings in terms of scale, height, form, and massing;
- Adopt contextually appropriate materials and details;
- Provide adequate open space for the development in terms of both quantity and quality;
- Incorporate necessary services and drainage infrastructure without causing unacceptable harm to retained features;
- Ensure all components e.g. buildings, landscapes, access routes, parking, and open space are well related to each other;
- Positively integrate energy-efficient technologies;
- Make sufficient provision for sustainable waste management (including facilities for kerbside collection, waste separation, and minimisation where appropriate) without adverse impact on the street scene, the local landscape, or the amenities of neighbours;
- Ensure that places are designed with management, maintenance, and the upkeep of utilities in mind; and
- Seek to implement passive environmental design principles by considering firstly how the site layout can optimise beneficial solar gain and reduce energy demands (e.g. insulation), before specification of energy-efficient building services and finally incorporate renewable energy sources

2

Street grid and layout:

- Does it favour accessibility and connectivity? If not, why?
- Do the new points of access and street layout have regard for all users of the development; in particular pedestrians, cyclists, and those with disabilities?
- What are the essential characteristics of the existing street pattern; are these reflected in the proposal?
- How will the new design or extension integrate with the existing street arrangement?
- Are the new points of access appropriate in terms of patterns of movement?
- Do the points of access conform to the statutory technical requirements?

3

Important environmental areas, views and character:

- What are the particular characteristics of this area which have been taken into account in the design; i.e. what are the landscape qualities of the area?
- Does the proposal maintain or enhance any identified views or views in general?
- How does the proposal affect the trees on or adjacent to the site?
- Can trees be used to provide natural shading from unwanted solar gain? i.e. deciduous trees can limit solar gains in summer, while maximising them in winter.
- Has the proposal been considered within its wider physical context?
- Has the impact on the landscape quality of the area been taken into account?
- In rural locations, has the impact of the development on the tranquillity of the area been fully considered?
- How does the proposal impact on existing views which are important to the area and how are these views incorporated in the design?
- Can any new views be created?
- Is there adequate amenity space for the development?
- Does the new development respect and enhance existing amenity space?

3 (continued)

Important environmental areas, views and character:

- Have opportunities for enhancing existing amenity spaces been explored?
- Will any communal amenity space be created? If so, how will this be used by the new owners and how will it be managed?
- Is there opportunity to increase the local area biodiversity?
- Can green space be used for natural flood prevention e.g. permeable landscaping, swales etc.?
- Can water bodies be used to provide evaporative cooling?
- Is there space to consider a ground source heat pump array, either horizontal ground loop or borehole (if excavation is required)?

4

Gateway and access features:

- What is the arrival point, how is it designed?
- Does the proposal maintain or enhance the existing gaps between settlements?
- Does the proposal affect or change the setting of a listed building or listed landscape?
- Is the landscaping to be hard or soft?

5

Building layout and grouping:

- What are the typical groupings of buildings?
- How have the existing groupings been reflected in the proposal?
- Are proposed groups of buildings offering variety and texture to the townscape?
- What effect would the proposal have on the streetscape?
- Does the proposal maintain the character of dwelling clusters stemming from the main road?
- Does the proposal overlook any adjacent properties or gardens? How is this mitigated?

5 (continued)

Building layout and grouping:

- Subject to topography and the clustering of existing buildings, are new buildings oriented to incorporate passive solar design principles, with, for example, one of the main glazed elevations within 30° due south, whilst also minimising overheating risk?
- Can buildings with complementary energy profiles be clustered together such that a communal low carbon energy source could be used to supply multiple buildings that might require energy at different times of day or night? This is to reduce peak loads. And/or can waste heat from one building be extracted to provide cooling to that building as well as heat to another building?

6

Building line and boundary treatment:

- What are the characteristics of the building line?
- How has the building line been respected in the proposals?
- Has the appropriateness of the boundary treatments been considered in the context of the site?

7

Building heights and roofline:

- What are the characteristics of the roofline?
- Have the proposals paid careful attention to height, form, massing and scale?
- If a higher-than-average building(s) is proposed, what would be the reason for making the development higher?
- Will the roof structure be capable of supporting a photovoltaic or solar thermal array either now, or in the future?
- Will the inclusion of roof mounted renewable technologies be an issue from a visual or planning perspective? If so, can they be screened from view, being careful not to cause over shading?

8

Household extensions:

- Does the proposed design respect the character of the area and the immediate neighbourhood, and does it have an adverse impact on neighbouring properties in relation to privacy, overbearing or overshadowing impact?
- Is the roof form of the extension appropriate to the original dwelling (considering angle of pitch)?
- Do the proposed materials match those of the existing dwelling?
- In case of side extensions, does it retain important gaps within the street scene and avoid a 'terracing effect'?
- Are there any proposed dormer roof extensions set within the roof slope?
- Does the proposed extension respond to the existing pattern of window and door openings?
- Is the side extension set back from the front of the house?
- Does the extension offer the opportunity to retrofit energy efficiency measures to the existing building?
- Can any materials be re-used in situ to reduce waste and embodied carbon?

9

Building materials and surface treatment:

- What is the distinctive material in the area?
- Does the proposed material harmonise with the local materials?
- Does the proposal use high-quality materials?
- Have the details of the windows, doors, eaves and roof details been addressed in the context of the overall design?
- Does the new proposed materials respect or enhance the existing area or adversely change its character?
- Are recycled materials, or those with high recycled content proposed?

9 (continued)

Building materials and surface treatment:

- Has the embodied carbon of the materials been considered and are there options which can reduce the embodied carbon of the design? For example, wood structures and concrete alternatives.
- Can the proposed materials be locally and/or responsibly sourced? E.g. FSC timber, or certified under BES 6001, ISO 14001 Environmental Management Systems?

10

Car parking:

- What parking solutions have been considered?
- Are the car spaces located and arranged in a way that is not dominant or detrimental to the sense of place?
- Has planting been considered to soften the presence of cars?
- Does the proposed car parking compromise the amenity of adjoining properties?
- Have the needs of wheelchair users been considered?
- Can electric vehicle charging points be provided?
- Can secure cycle storage be provided at an individual building level or through a central/ communal facility where appropriate?
- If covered car ports or cycle storage is included, can it incorporate roof mounted photovoltaic panels or a biodiverse roof in its design?

4.2 Appendix B: Policy context

This section sets out a general list of design considerations by topic for use as a quick reference guide in design workshops and discussions.

4.2.1 Planning policy and guidance

This section summarises the relevant design policy and guidance produced at national and local levels which have informed this design guidance and codes document. It specifies how the relevant policies and guidelines have been incorporated in the production of the design guidance included in this document. Any new development application should be familiar with those documents.

National Planning Policy and guidance

The following section summarises key relevant policy and guidance documents at the national level.

2024 - National Planning Policy Framework MHCLG

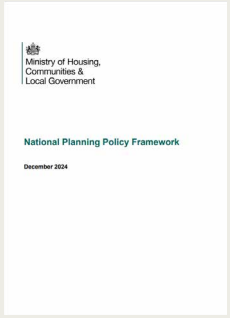
Development needs to consider national level planning policy guidance as set out in the National Planning Policy Framework (NPPF) and the National Planning Policy Guidance (NPPG). In particular, NPPF Chapter 12: Achieving well-designed places stresses the creation of high-quality buildings and places as being fundamental to what the planning and development process should achieve. It sets out a number of principles that planning policies and decisions should consider ensuring that new developments are well-designed and focus on quality.

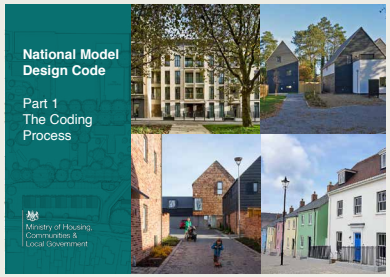
2021 National Model Design Code
MHCLG

This report provides detailed guidance on the production of design codes, guides and policies to promote successful design. It expands on 10 characteristics of good design set out in the National Design Guide. This guide should be used as reference for new development.

2020 - Building for a Healthy Life
Homes England

Building for a Healthy Life (BHL) is the new (2020) name for Building for Life, the government-endorsed industry standard for well-designed homes and



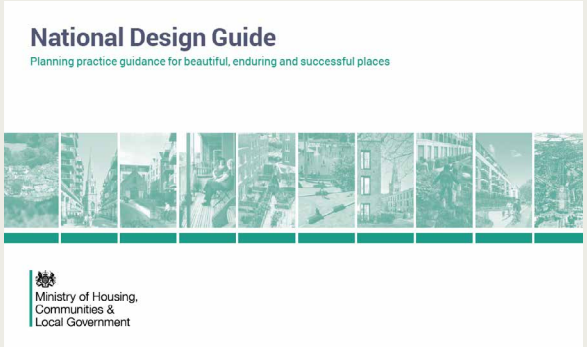




neighbourhoods. The new name reflects the crucial role that the built environment has in promoting wellbeing. The BHL toolkit sets out principles to help guide discussions on planning applications and to help local planning authorities to assess the quality of proposed (and completed) developments, but can also provide useful prompts and questions for planning applicants to consider during the different stages of the design process.

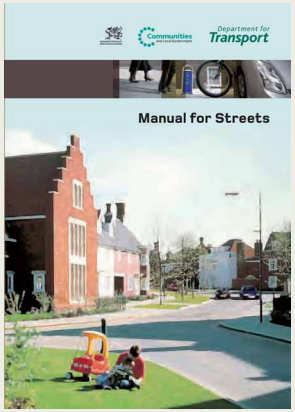
2019 - National Design Guide MHCLG

The National Design Guide (Department for Levelling Up, Housing and Communities, 2019) illustrates how well-designed places that are beautiful, enduring, and successful can be achieved in practice.



2007 - Manual for Streets Department for Transport

Development is expected to respond positively to the Manual for Streets, the Government's guidance on how to design, construct, adopt and maintain new and existing residential streets. It promotes streets and wider development that avoid car dominated layouts but that do place the needs of pedestrians and cyclists first.



Local planning policy context

The following section lists the key relevant policy and guidance documents at the local level:

- West Northamptonshire Joint Core Strategy Local Plan (Part 1) (adopted 2014) - West Northamptonshire Joint Planning Unit
- Settlements and Countryside Local Plan (Part 2) for Daventry District 2011-2029 (adopted 2020) - Daventry District Council
- Biodiversity Supplementary Planning Document for Daventry District (adopted 2017) - Daventry District Council
- Housing Supplementary Planning Document (adopted 2017) - Daventry District Council
- Energy and Development Supplementary Planning Document (adopted 2007) - Daventry District Council

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