Barrowby

Design Codes and Guidance

March 2024

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Quality information

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Revision History

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Introduction

01

1. Introduction

This document empowers 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

Through the Department of Leveling Up, Housing and Communities (DLUHC) Neighbourhood Planning Programme led by Locality, AECOM has been appointed to provide design support to the Barrowby Neighbourhood Group (BNG) by preparing this Design Code document.

The BNG seek to establish a design guide including design codes to influence the character and design of new development across the entire Neighbourhood Area (NA), the extent of which is illustrated in Figure 01.

The purpose of this document is to support and preserve the character of the village and its surroundings, particularly the Conservation Area. To do this, the codes contained within this report will cover design issues such as heritage, density, the appearance of new and alterations to existing buildings, materials to be used, and connectivity among others.

This will help to ensure that as any new development comes forward, it responds to its context and supports and enhances the quality of the existing local character.

1.2 Document purpose

The BNG are seeking to retain the character of Barrowby village, recognising that it is becoming increasingly at risk of being subsumed as part of the wider Grantham urban area.

In the Local Plan site allocations there are some land parcels that have been committed. Therefore, this document considers both the design of committed development and how this relates to the existing built character, prior to developing appropriate and integral design guidance to influence development in a highly diverse and changing built environment.

The design guidance and codes will also influence the character and design of homes on NP site allocations and any additional speculative development throughout the plan period.

It is envisaged that the design guidance and codes would help unlock the development potential of the area by providing important design guidance and clarity for development in the NA.

To complement the codes, there is a suite of design principles set out in Section 02 - a generalised list of design principles to set out to community aspirations that provide guidance to decision makers on design quality for all development across the entire neighbourhood area.

The area-wide codes in Section 03 are applicable to all development scale and types within the development boundary. All proponents must adhere to everything in this section.

Supporting these are Character Area codes at the end of each CA analysis, these are specific to the area and not covered in area-wide codes. These are set out in Section 04. These recommendations may reflect the design principles but are more bespoke to the selected area. Proponents must be cognisant of the recommendations relevant to their character area and must adhere to all area-wide codes.

1.3 Methodology

The following steps have underpinned the understanding of place and engagement with the BNG:

- Step 1: On the 8th June 2023, an inception call was held between AECOM representatives and the BNG to understand the aims of the group and confirm the brief.
- Step 2: An initial questionnaire was distributed to the BNG to establish the characteristics of Barrowby that are relevant to local people.
- Step 3: On the 26th July 2023, AECOM representatives met with the BNG to conduct a site visit in order to assess the local character and photograph the area.
- Step 4: Following the initial engagement, AECOM progressed with a comprehensive planning policy review and a desktop study issued on 22nd August 2023, which was signed off by the BNG.
- Step 5: On 18th September 2023, AECOM shared a draft Design Code document with the BNG for review.
- Step 6: After capturing the feedback from the BNG, AECOM issued the final Design Code document in December, 2023.

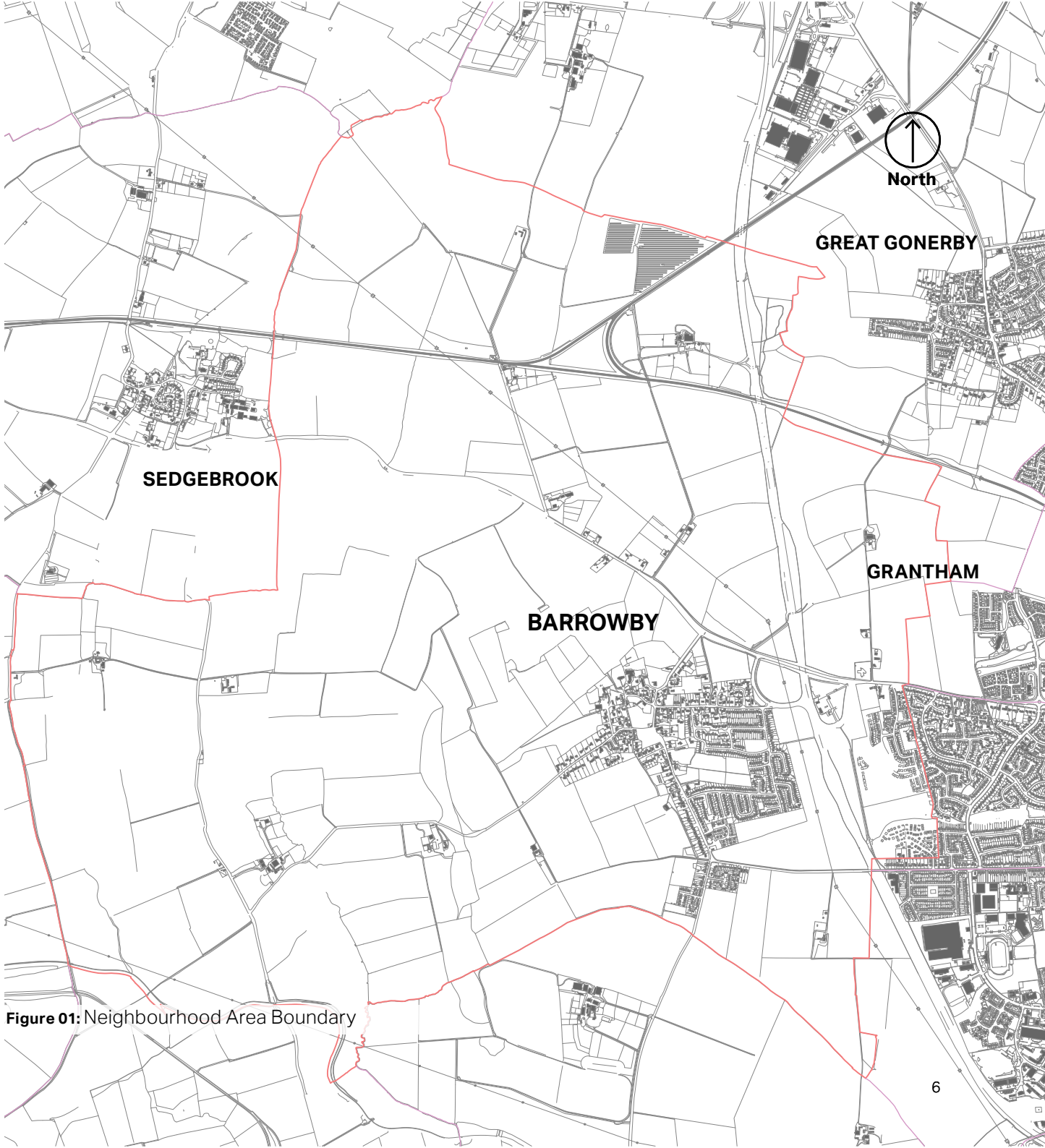


Figure 01: Neighbourhood Area Boundary

1.4 Who will use the guide and codes?

This document should be a valuable tool in securing context driven, high-quality development in Barrowby. It will be used in different ways by different people in the planning and development process, as summarised in Table 01.

A valuable way it can be used is as part of a process of co-design and involvement that further understands and takes account of local preferences and expectations of design quality.

In this way, this document can help to facilitate conversations on the various topics that should help to align expectations and help understand the balancing of key issues. This document alone will not automatically secure optimum design outcomes but should help to prevent poor quality development.

Potential users	How they will use the design guidelines
Applicants, developers, and landowners	As a guide to assist applicants, developers and landowners when developing planning proposals in Barrowby, ensuring engagement with the community and the Local Planning Authority and ensuring new development is contextually responsive.
Local Planning Authority	As a reference point, embedded in policy, against which to assess planning applications. This document should be discussed with applicants during any pre-application discussions.
Parish Council or Neighbourhood Plan steering group	As a guide when commenting on planning applications, ensuring that the design codes are complied with.
Community groups and 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.

Table 01: Potential users.

1.5 Study area

Barrowby is a village in the district of South Kesteven, Lincolnshire. The village is approximately 2 miles west of the larger urban area of Grantham, on the A52 road to Nottingham, and on the west side of the A1.

The village is an irregular nucleated settlement with the traditional buildings laid out around the central village green and along the key routes into the village. It has a semi-rural character which has been partially eroded by significant post war expansion, particularly on its eastern side, due to its close proximity to Grantham.

The village has an attractive conservation area at its core, and 33 Listed buildings within the Neighbourhood Area (NA). Barrowby has a primary school/preschool, café, post office with general store, butcher's shop, memorial hall and a public house. Sport is also popular in the village, with both junior and senior football clubs, plus a cricket team.

1.5.1 Social characteristics

According to the 2021 census, the Parish of Barrowby has a population of 2,000 usual residents. Of these, 99% lived in households.

In total there were 890 household spaces (Census, 2021). Of these, 890 (28.5%) had at least one resident, 40.8% had 2 residents, 12.8% had 3 residents and 17.9% had 4 or more.

The average (mean) age of residents was 46.3 years.

1.5.2 Environmental conditions

The NA is predominantly rural in character. The Barrowby 'urban' area is enclosed by mature trees and hedgerow which mitigates the impact of the built form on the wider landscape setting.

The NA is a total of 1,435.88 hectares in size. This results in a population density of 1.4 number of persons per hectare.

There are no major watercourses within the main residential area of Barrowby however, there are several land drains to north and west of the village.

The southern NA boundary is defined by the Grantham Canal which travels in an east/west direction.

1.5.3 Economic dynamics

There are limited large scale employment opportunities within the NA. The majority of Barrowby's workforce therefore, commute to the larger settlement of Grantham which lies adjacent to the NA boundary (approx. 2.6 miles to the east).

There are however, many examples of smaller commercial and homeworking enterprises within the village.

Typical distance travelled to work:

- Less than 10km: 27.9%
- 10km-30km: 11.2%
- +30km: 10.7%
- Work from home: 37.3%
- Other: 13%

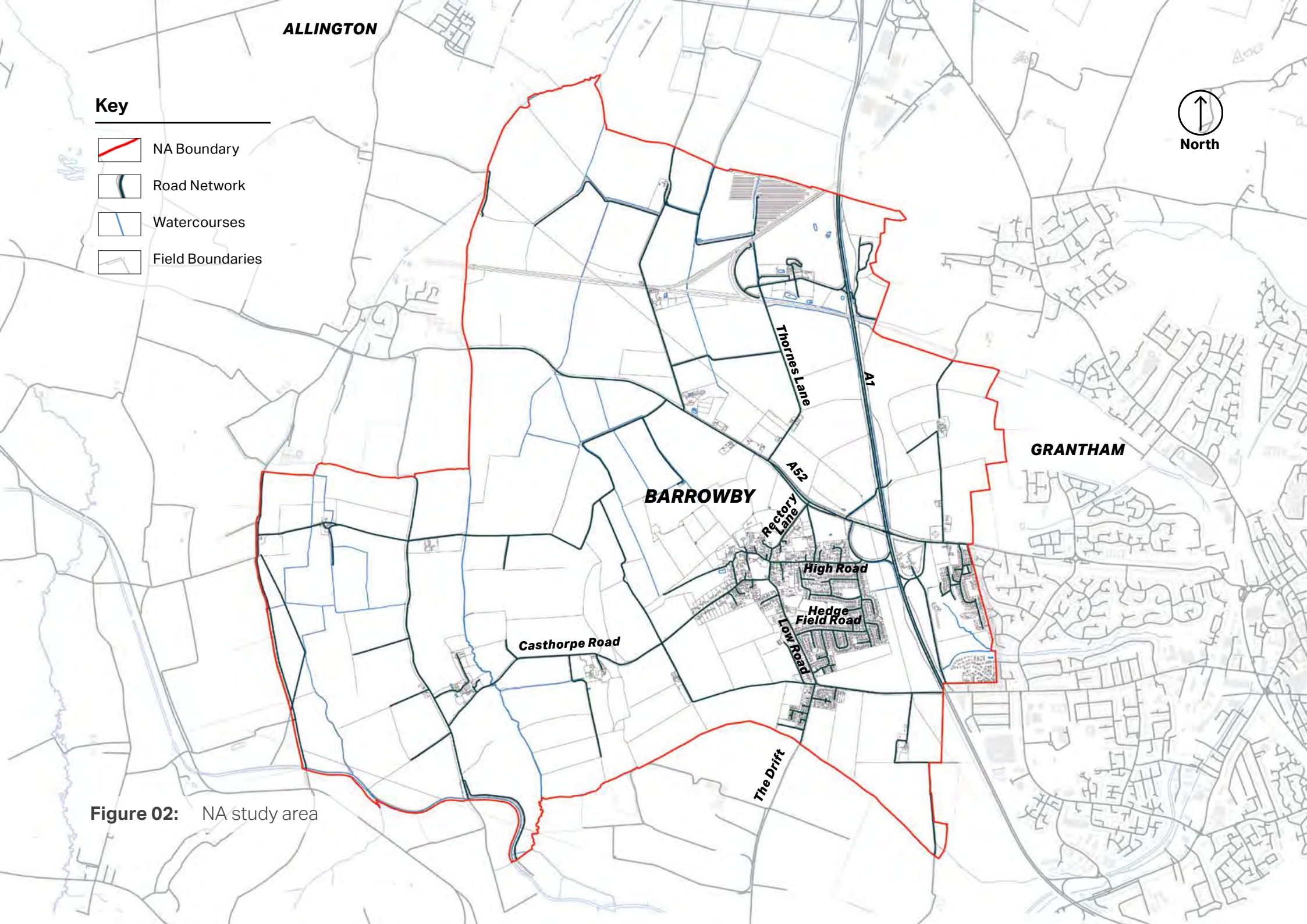


Figure 02: NA study area

1.6 Policy Context

National and local policy documents can provide valuable guidance on bringing about good design and the benefits accompanying it. Some are there to ensure adequate planning regulations are in place to ensure development is both fit for purpose and able to build sustainable, thriving communities. Supplementary guidance documents complement national and local policy and provide technical design information.

NATIONAL LEVEL

National Planning Policy Framework - (2023)

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.

Building for a Healthy Life Homes England (2020)

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.

Manual for Streets (2007)

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 and promote active travel.

National Design Guide (2019)

The National Design Guide (Department for Levelling Up, Housing and Communities, 2021) illustrates how well-designed places that are beautiful, enduring and successful can be achieved in practice.

National Model Design Code (2021)

The National Model Design Code (NMDC) sets a baseline standard of quality and practice.

The NMDC 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 NDG.

South Kesteven District Council Local Plan (2011 - 2036)

The Local Plan was formerly adopted in 2020 and comprises the Development Plan for South Kesteven.

The document sets out the vision and overall development strategy for the district for the period from 2011-2036.

Design Guidelines for Rutland and South Kesteven (2021)

The Design Guidelines for Rutland and South Kesteven aim to help improve the design quality of new build development. They supplement the policies within the Local Plan (2020).

Local Planning Policy & Guidance	Relevant Policies and Guidance Notes
South Kesteven Local Plan (2011 - 2036)	Policy EN1 - Landscape Character Policy EN2 - Protecting Biodiversity and Geodiversity Policy EN3 - Green Infrastructure Policy DE1- Promoting Good Quality Design Policy OS1 - Open Space Policy LV–H3 - Barrowby Residential Allocation

Table 02: Relevant policies in the Local Plan

1.7 Policy designations

The following land use designations are significant when considering development constraints within the NA.

1.7.1 Heritage

Barrowby has a conservation area that lies at the heart of the village, and split across two parcels; the boundaries of which are illustrated (Figure 03). There are 33 Listed buildings within the NA and many other notable buildings that contribute to the historical fabric of the village, yet they are not formally designated.

Further information is provided on heritage in Section 3.2.

1.7.2 Housing Allocation

LV-H3 Low Road

LV-H3 has been allocated in the Local Plan to deliver up to 270 new dwellings at a maximum density of 35 dwellings per hectare (dph). The site is identified in red on Figure 04.

The following principles are attached to the allocation:

1. A masterplan is required for the entire site. All parties shall work together to bring forward a comprehensive plan, including phasing. The masterplan is to be agreed by the council following consultation with the local community. Detailed proposals will only be permitted when in accordance with the agreed masterplan.
2. Additional treatment capacity is required at wastewater treatment works and new discharge permits are required for water quality targets. This should be incorporated early on in the development of scheme specifics as part of a scheme wide delivery strategy which demonstrates that capacity is available or could be made available to serve the development subject to phasing.
3. The masterplan and development proposals will incorporate a substantial landscape and boundary treatment for the southern and eastern edges of the site allocation. No development will be permitted beyond the site allocation.
4. The phasing of the development shall occur in accordance with the Infrastructure Delivery Plan, with particular relevance to education and capacity at Barrowby Primary school.
5. The masterplan and development proposals will provide suitable and appropriate residential amenity buffers to the eastern edge in respect of the electricity pylons and the A1 and to the southern edge in respect of the high pressure gas line.
6. Potential landscape impacts should be mitigated through high quality design and landscaping.
7. The development should provide net gains in biodiversity on site and contributed to wider ecological networks where possible.

There is an existing masterplan document provided for LV-H3 (referred to as Barrowby South) produced by Persimmon Homes, Allison Homes & Platform Housing Group. The document provides a landscape led vision for the southerly extension to the village. Planning permission submitted on this site will be required to address the Design Codes set out within this document.

There are two additional allocated sites within the Barrowby NA; GR3-H3 and GR3-H2. As they fall within the Barrowby NA, future development on these sites should make reference to the area-wide design codes and overarching design principles set out in Section 02 and 03.

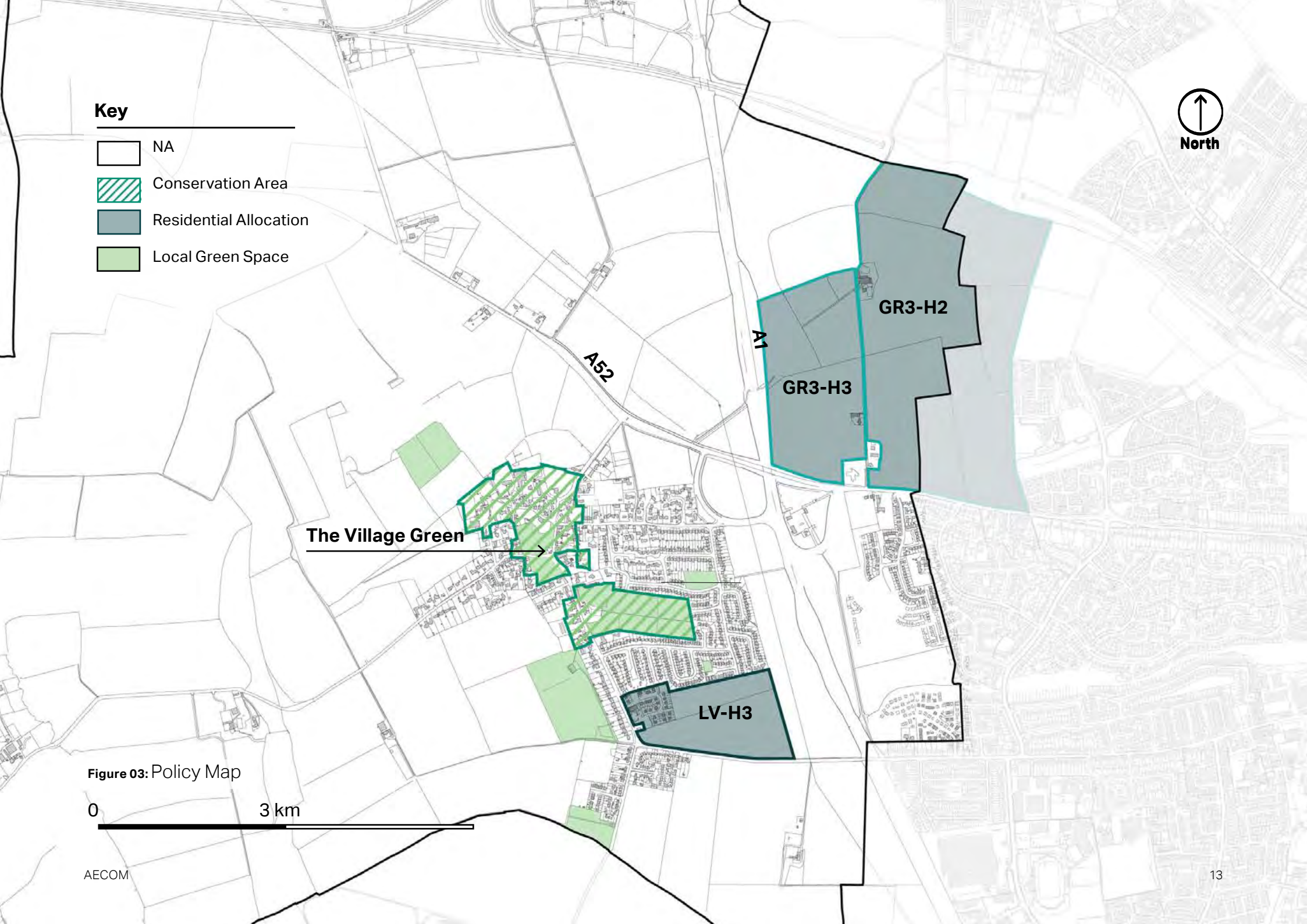


Figure 03: Policy Map

General Design Principles

02

2. General Design Principles

2.1 Introduction

Good design creates useable, user-friendly, enjoyable, and attractive places, which continue to provide value and benefits to people, the place and the natural environment over extended periods.

Good design brings benefits socially, environmentally, and economically, and builds on these benefits over time – continually adding value.

This Design Code has six high-level design principles to set out community aspirations. They represent the challenges identified in the desktop study, site visit observations, and urban analysis. They are a useful tool when decision makers are looking for best practice guidance on design quality. They are a generalised list of aspirational principles for all new development in Barrowby, applicable to development across the whole neighbourhood area. The area-wide codes provide greater detail to specific issues, which are also applicable across all scales and types of development.

Figure 04: (right) Photographs illustrating the varying characteristics (red brick, iron stone, red pantile and natural slate tiling), the surrounding rural context and the variety of formal and informal footpaths across Barrowby.

1. Bringing people together

Promoting alternative modes of travel, enabling vibrant and green streets, and encouraging permeable and accessible movement networks.

New development will:

- Priortise pedestrians and those of all abilities.
- Create well-connected, walkable neighbourhoods with access to shops, workplaces, open space, community facilities, and services.
- Promote active travel, modal choice (on foot, cycle and other self-propelled ways of getting around).
- Provide cycle routes to create equitable and accessible movement around and between places.

2. Prioritising the environment

Sustainability is no longer an optional extra but a fundamental aspect of whole-of-life design. Sustainable and high-performing built outcomes are better for health and wellbeing and contribute to social equity by reducing resource consumption and running costs, while enhancing comfort and usability.

New development will:

- Ensure biodiversity and nature are integral parts of a project's early stages.
- Create a cohesive network of green spaces and blue systems, including (where appropriate) parks and reserves, backyards and gardens, waterways and wetlands, drainage corridors, streets and transport corridors, pathways, and greenways, squares and plazas, and sports fields.
- Enable immediate access to greenery (plants, green roofs, green walls, green verges, green islands, waterways) and connect to countryside.
- Account for people's comfort and experience (e.g. providing shade and connections with nature) and a place's functional performance (e.g. mitigating flooding), including providing open space for recreation and respite.

3. Embedding energy, heat & power

Encouraging high levels of energy efficiency, choosing locally and environmentally appropriate materials, considering orientation, low carbon energy and water consumption, and targeting district and community-scale heating networks will maintain and enhance places.

Future development will:

- Minimise consumption of energy, water, and natural resources, and consider movement patterns.
- Embrace renewable energy or decentralised energy provision on site such as wind turbines and biomass facilities.
- Be sensitive to a place's working landscape, ensuring built form does not negatively impact context or identity.
- Promote local food production for healthier communities, reduced carbon footprint and waste as well as identify potential urban food systems, allotments, community gardens, unused /wasted space such as rooftops, street verges, median strips.

4. Integrating development

Contributing to flexible, cohesive and balanced places, developments will respond to the local structure, layout, form, and materials. Creating relationships between existing and new buildings, and between new buildings and the existing street will provide a sense of place, identity, civic pride, and belonging.

New development will:

- Work well for a wide range of purposes to maintain flexibility, accommodate multiple uses, and respond to daily activities. A range of experiences should be provided for within places.
- Enable the efficient use of land and multi-functionality of places and spaces. Development should not prohibit or close-down options but rather enable and promote adaptability.
- As conditions and areas change, there is a need to revitalise and find new uses for places undergoing social, environmental, or economic transition.
- Consider the potential for renewal, adaptive re-use or reconfigurations, subdivisions and aggregations, or regeneration strategies in response to underutilised assets to support sustainable development.
- Not be segregated or disconnected from other places. Integrating development will positively affect air quality, noise or traffic and provide long-term benefits to people's comfort and safety.

5. Encouraging activity and uses

Integrating a range of tenures and housing types and development models with amenities and community facilities within walking distance will support diverse places. Development will enable activity, mental well-being, and healthy lifestyles on an everyday basis.

New development will:

- Ensure places are safe, inclusive, welcoming and supportive of a range of social and economic activities.
- Foster active community participation to determine common interests, aspirations and identity will enliven outcomes and create shared ownership of ideas.
- Be planned to accommodate a diverse and integrated range of land uses in an intensive configuration.
- Mix activities in a variety of configurations will enable the development of high-quality places.
- Maximise comfort, amenity, safety, and opportunities for activity, inviting people to spend time and interact.

6. Embracing heritage and character

Respecting the existing attributes enables and guides changing environments to ensure they are sympathetic to a place's valued features including its landscape setting, building forms, roof lines, and materials.

New development will:

- Be human-scaled and celebrate and preserve the distinct features in the immediate context.
- Be sympathetic to the elements that give the place its vitality.
- Respond appropriately to the unique architecture, townscape, and landscape of a place, understanding its context and topography.
- Consider design quality regarding detailing, materials, and maintenance to increase quality, character, and place-distinctiveness.
- Respect heritage, site, location, and setting are integral to the planning of quality development.
- Consider any significant views/vistas and through sightlines to successfully respond to local circumstances.
- Appreciate the aesthetic impact beyond the site boundary and its long-lasting effect across neighbourhoods, towns, and villages.

Area-wide Design Codes

03

3. Area-wide Design Codes

This chapter presents a series of Area-wide design codes to be applied to all development across Barrowby. Area-wide codes respond to broader conditions and issues, whereas Character-based codes are specific to the local context in Section 04.

3.1 Introduction

This chapter provides analysis on a number of key themes including Context, Movement, Built Form, Landscape and Sustainability.

The analysis set out from our understanding of Barrowby upon undertaking a Desktop Study, a site visit and subsequent engagement and discussions with the BNG, will underpin a series of Area-wide Design Codes to be applied to all development across the NA. Design Codes specific to certain character areas will be provided in Section 04.

The area wide Design Codes will cover matters pertaining to:

Context (C) - heritage, the conservation area and key views.

Movement (M) - streets, car parking and bicycle and pedestrian connectivity.

Built form (B) - density, extension (and alterations) and conversions of agricultural buildings.

Landsape (L) - landscape character, tree planting, rural edge and biodiversity.

Sustainability (S) - Water sensitive urban design, EV charging and energy efficiency in development.

It is important for any planning proposal that full account is taken of the local context and that the proposed design embodies the 'sense of place', both in terms of local character and distinctive features such as Listed buildings and conservation areas.

The codes developed in this section will focus on residential environments however, new housing development should not be viewed in isolation and mixed uses are encouraged where appropriate, particularly the provision of social infrastructure.

First and foremost, the design and layout of new buildings and places must respond to the wider urban pattern and landscape context.

Future planning proposals must reference the design codes within this chapter including the policies and guidance set out in section 01 to unsure compliance with the Development Plan.

3.2 Context

The historic core has a low density of development and is characterised by a mix of large scale buildings set within extensive grounds and smaller detached traditional and modern buildings which occupy relatively small irregular plots.

The historic core has a circular plan form, with Church Street, Main Street, Casthorpe Road and the posts enclosing Barrowby House; a relatively high status late 18th century Grade II Listed building. The narrow lanes have a defined building line along the street as the buildings either front onto or stand gable end to the rear of the narrow footways or are set back and enclosed by boundary walls.

3.2.1 Heritage

There are 21 Listed buildings within the boundary of the conservation area together with 22 Listed headstones within the churchyard. In addition to Listed buildings, the conservation area contains a number of unlisted buildings and structures that make a positive contribution to the character or appearance of the conservation area.

HERITAGE ASSETS		
Seven Headstones 10 Metres South Of Chancel At Church Of All Saints	Six Headstones 15 Metres South Of Chancel At Church Of All Saints	Malting House
Ha Ha 70 Metres South Of Casthorpe Lodge	Casthorpe Lodge	Old Rectory
Table Tomb 2 Metres South Of Chancel At Church Of All Saints	Brydon House And Attached Boundary Walll	Holly House
Old Sadlers	Seven Headstones 20 Metres South East Of Chancel At Church Of All Saints	Lych Gate And Railings At Church Of All Saints
Wheelwrights House	White Swan Public House	Boundary Wall To South East Of Barrowby House
Grange Cottage	"Grange Cottages And Attached Boundary Wall Rose Cottage And Attached Boundary Wall"	Church Of All Saints
Pair Of Cottages 15 Metres West Of Malting House	The Cedars And Attached Boundary Wall And Pump	The Grange And Adjoining Boundary Wall And Stable
Caretakers Cottage And Adjoining Outbuilding	Hall Cottage And Adjoining Boundary Wall	Summerhouse 10 Metres North West Of Barrowby Old Hall
Stable And Mounting Block 10 Metres North Of The Cedars	Casthorpe Farmhouse And Adjoining Stable Range	Barrowby House
Summerhouse 20 Metres South Of Barrowby House	Barrowby Lodge And Adjoining Stable	Barrowby Old Hall
Boundary Wall To South And West Of Grounds Of Barrowby House	Boundary Wall To North West Of Barrowby House	

Table 03: Barrowby Listed assets (source: Historic England)

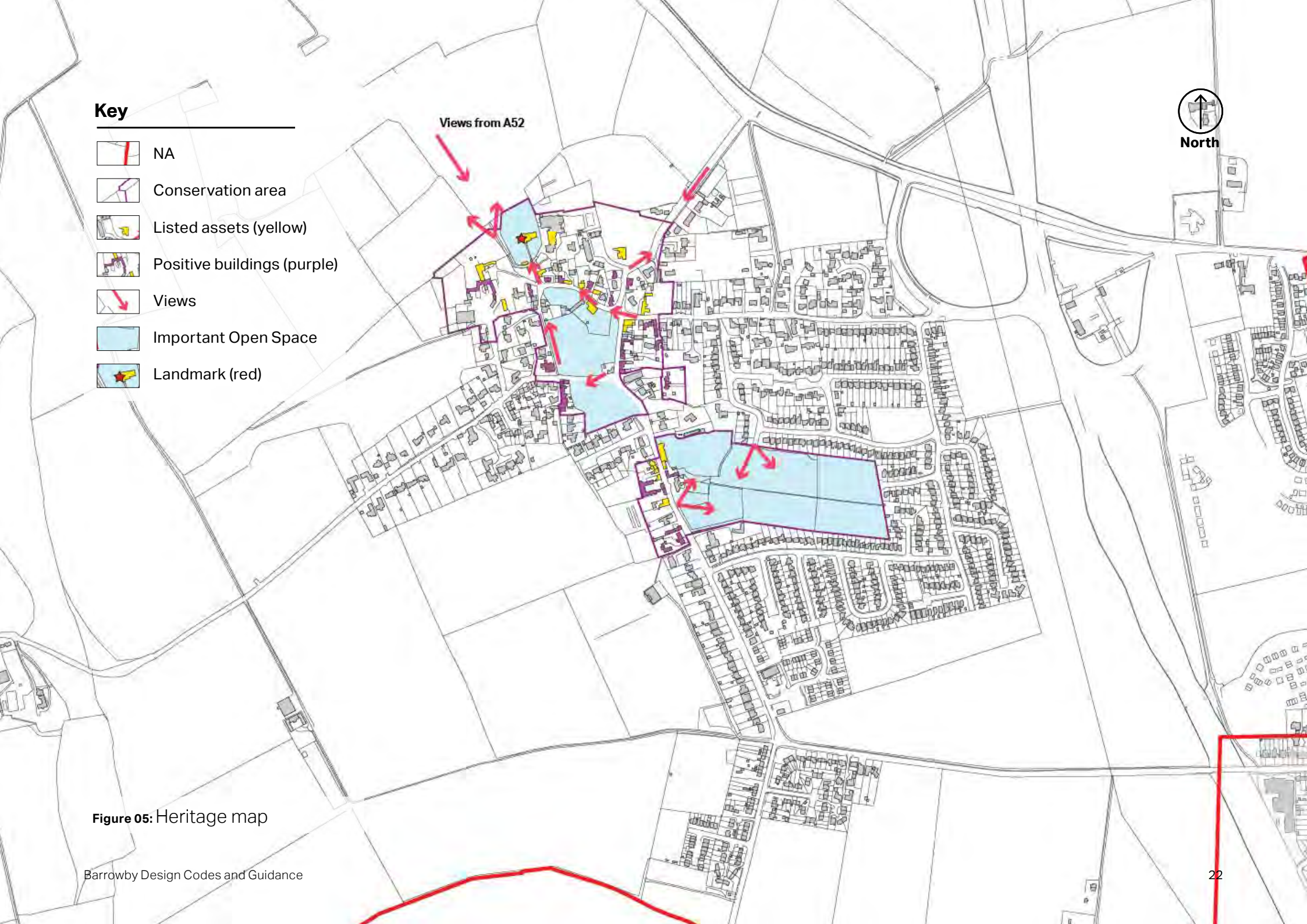
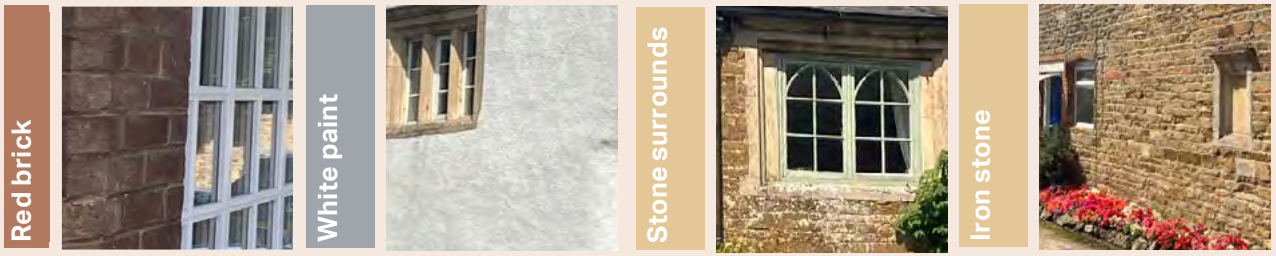


Figure 05: Heritage map

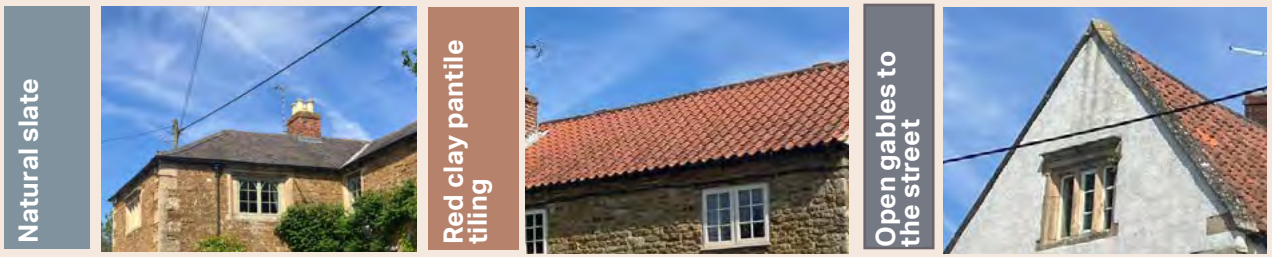
Colour palette

RED	BROWN	GREY / BLUE
PALE / WHITE	YELLOW	ORANGE / RED

Materials and details



Roofscape



Boundary treatments

Table 04: Colours, materials and detailing in the conservation area.

3.2.2 Design Code C1: Responding to heritage

Development proposals, both major and minor, within proximity to a Listed asset, or positive buildings (as identified on Figure 05) including alterations and extensions must:

a. Respond to the heritage features, such as characteristics, materiality and detailing set out in the character area codes set out in Design Codes CA1-CA6.

b. Respect the historic layout and pattern, responding to positive characteristics in terms of street pattern, density and layout, plot series and boundary treatments.

c. Respond appropriately by respecting scale, massing, and height, especially where visible from public routes and spaces (particularly the main routes through the village).

d. Retain and frame key views of Listed assets and notable buildings.

e. Be orientated and sited where it does not impact the setting of a Listed asset.

f. Avoid dormers that significantly alter the roofline.

g. Ensuring that windows and door design are proportioned and designed to reflect the style/age of the surrounding heritage buildings.

3.2.3 Design Code C2: Barrowby Conservation Area

New development within or directly adjacent to the conservation area boundary, or impact the setting of the conservation area must prioritise the:

1. A compliance with the characteristics, materiality and detailing set out in the character area codes set out in Design Codes CA1-CA6.
2. The retention and enhancement of historic buildings and their historic architectural features, including brick detailing, traditional timber windows/ doors, and those referenced in table 04 (left).
3. The retention of significant trees/ hedges and where necessary (due to damage or loss) their replacement with appropriate species.
4. The rationalisation of street furniture, including signage and crash barriers.

The reintroduction of appropriate historic or architectural features to the Conservation Area's historic buildings and public realm, such as those identified in Table 04.

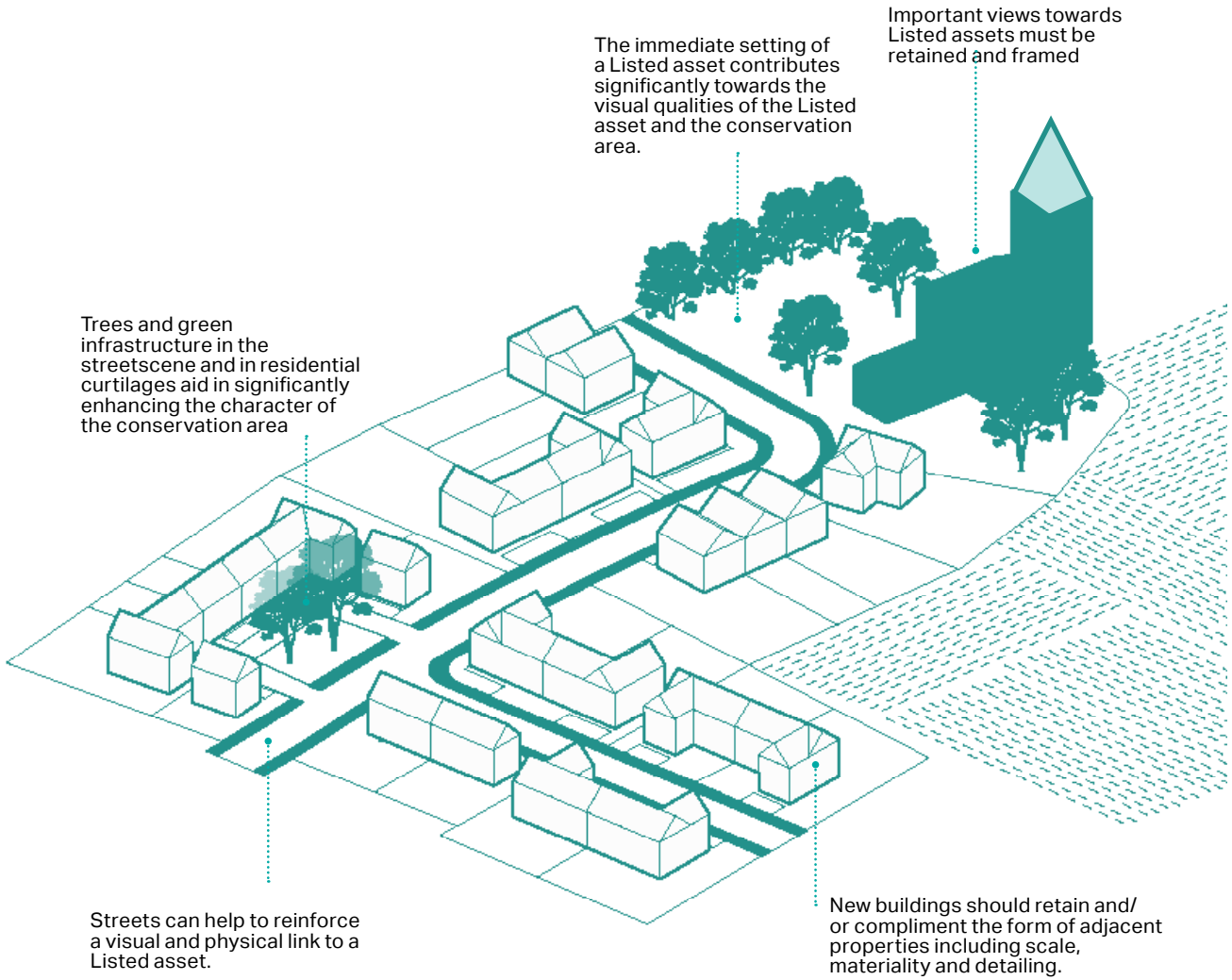


Figure 06: Views to local landmarks should be retained, acting as visual links to aid orientation and retain area characteristics

3.2.4 Key Views

The following notable views have been identified in the Barrowby Conservation Area Management Plan:

1. Across the area of open space locally named Lindley Wood
2. Across the area of play at the Village Green
3. Views in and out of the conservation area from the area of open space bounded by Church Street, Main Street and The Posts
4. Views along Rectory Lane
5. Views of the church from Old Hall Lane
6. Views out towards and from the open countryside to the north of the church

Other views were identified during the site visit, noted in the desktop study and subsequent engagement with the NG:

Gateway views

- Casthorpe Road,
- Low Road,
- Rectory Lane,
- The Drift

Other notable views

- Vista across the countryside from Casthorpe Road towards Harlaxton Manor,
- Views across green space at Reedings / Pastures Road,
- Westward views across Lindley Wood,
- Westward view towards wider countryside across Barrowby playing fields.

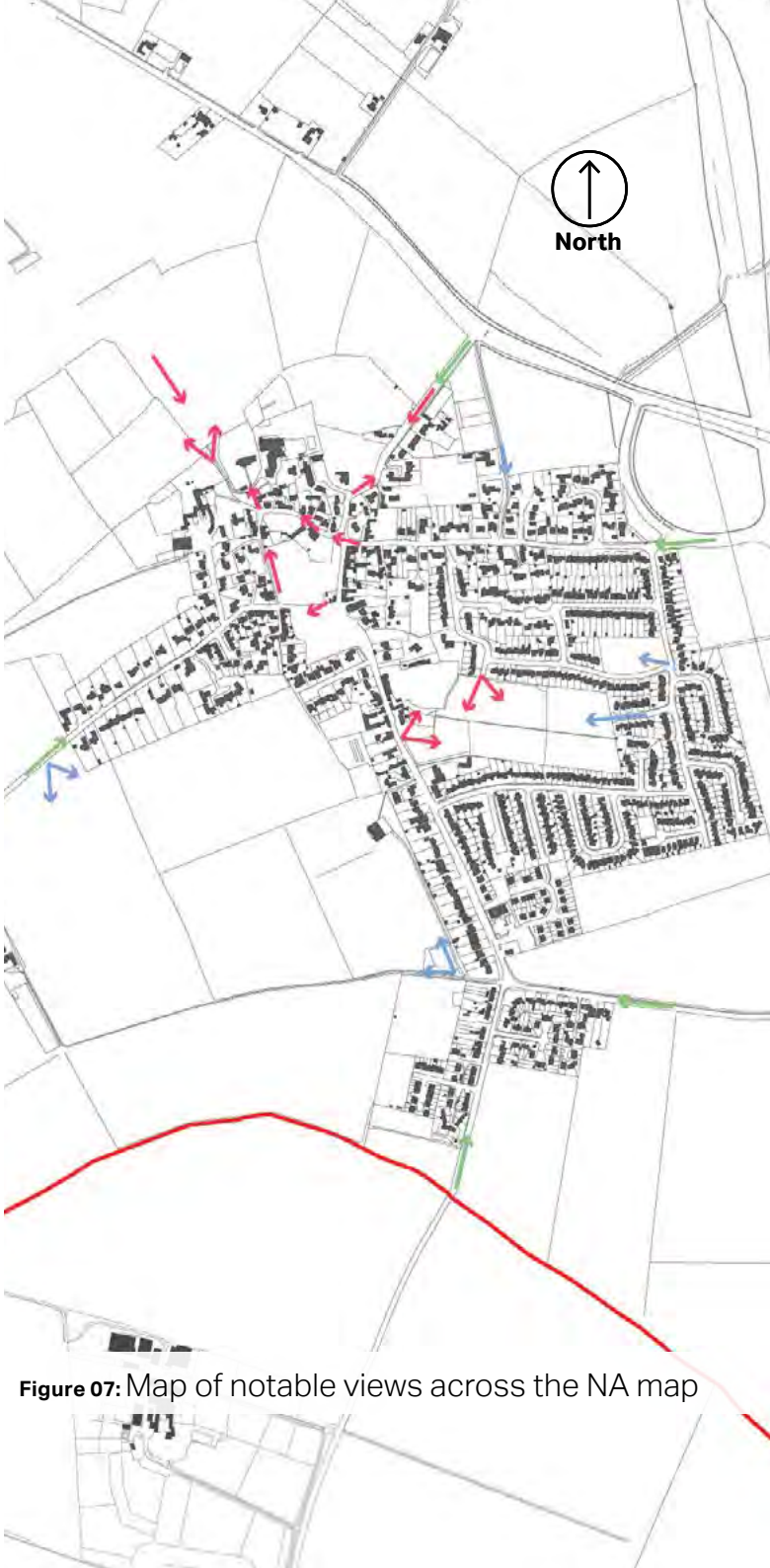


Figure 07: Map of notable views across the NA map

3.2.5 Design Code C3: Views and skyline

A. General - New development, or extensions and alterations to existing properties, must not obstruct or lead to a detrimental impact to the views identified in 2.2.4 and Figure 07.

New development should respect the existing shape and rhythm of skylines and roofscape and new buildings should not impact existing views to local landmarks (identified on Figure 05)

B. Edge of settlement - On site, or settlement edges, development must protect and reinforce views out towards the countryside. This includes consideration on scale, the narrowing of gaps between properties and strategic planting of trees and hedgerows.

Proposals must reference Design Code L3 in this report for further criteria.

C. Gateways- Development within the setting of Barrowby's gateways must contribute to the setting of the gateway through:

- Careful orientation of buildings, to front site edges and entranceways.
- Planting, to screen new development from roads and footpaths.
- Scale, to avoid overbearing.

New development should seek to enhance the 'sense of arrival' into the village.

Figure 10: Views across important green spaces should be framed by tree planting.

Figure 08: Views of notable townscape assets should be retained and enhanced.

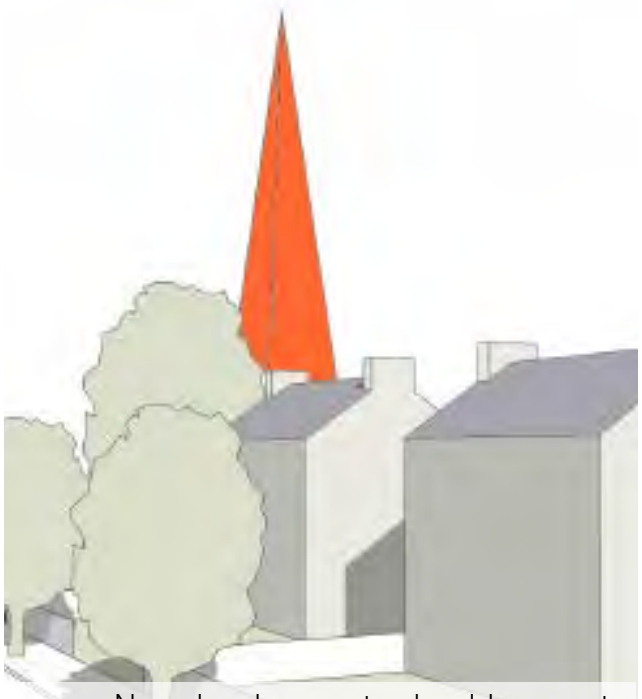


Figure 09: New developments should respect the existing shape and rhythm of skylines and designers should make sure that new buildings do not obstruct views to local landmarks such as Church Spires

Figure 11: Views out towards the countryside will reinforce the rural character of the village.

3.3 Movement

3.3.1 Streetscapes

Barrowby's road network comprises several key routes, these include:

- High Road - connecting the village centre to the A1 sliproad.
- Rectory Lane - northern route to the A52.
- Main Street, Church Street, and The Posts - forming the heart of Barrowby, encompassing a key greenspace.
- Casthorpe Road - key residential route (comprising ribbon development) exiting the NA westerly.
- Low Road and The Drift - a key route exiting Barrowby in a southern direction.

There is a very clear distinction between the streetscape in the historic core (north west Barrowby) in comparison to the 'planned' streets to the east and south of the settlement.

A.

A. The neighbourhoods within and adjacent to the conservation area (including Casthorpe Road and Old Hall Lane) are arranged across an organic street pattern.

This is reflected in the density of dwellings which is typically higher than the neigbourhoods in the outer areas of the settlement area. This is also reflected in the streetscape where streets are narrower with limited setback of properties from the road.

B.

B. The neighbourhoods to the east of Barrowby, including Hedge Field Road and Pastures Road, are arranged across a 'planned' street pattern comprising curvi-linear streets terminating in cul-de-sacs.

Density in these neighbourhoods is predominantly lower with more gaps between buildings and are typically setback from the road. Streets here are often wider with trees within residential curtilages providing visual relief along the streetscene.

Figure 12: Road hierarchy across the NA

1. Cul-de-sac with a strong enclosure ratio
2. Open boundary treatments
3. Street trees (young planting) and verges
4. Appropriate width allowing for a moderate level of vehicle movement

1. Through road (primary residential route)
2. Curvi-linear with some secondary routes terminating in cul-de-sacs
3. Relatively wide route with a strong sense of enclosure
4. Lack of street trees in the streetscene

1. Through route bounded by high density terraced properties
2. Narrow, historic roads with a strong sense of enclosure due to tall masonry walls and buildings. Not appropriate for high levels of traffic movement.
3. On-street parking further narrowing the road
4. Lack of street trees in the streetscene

1. Tertiary residential street
2. Good level of building frontage supported by tree and hedgerow planting
3. Change in surfacing materials to delineate change in vehicle use

1. Main connector road
2. Wide streetscape with a low enclosure ratio creating an open character
3. Significant setback of properties with tree and hedgerow planting within grass verges
4. Appropriate for high levels of traffic including bus movement

1. Tertiary / private driveways terminating in a cul-de-sac
2. Significant tree and hedgerow planting
3. Appropriate for low level of vehicle movement, likely serving a small number of properties

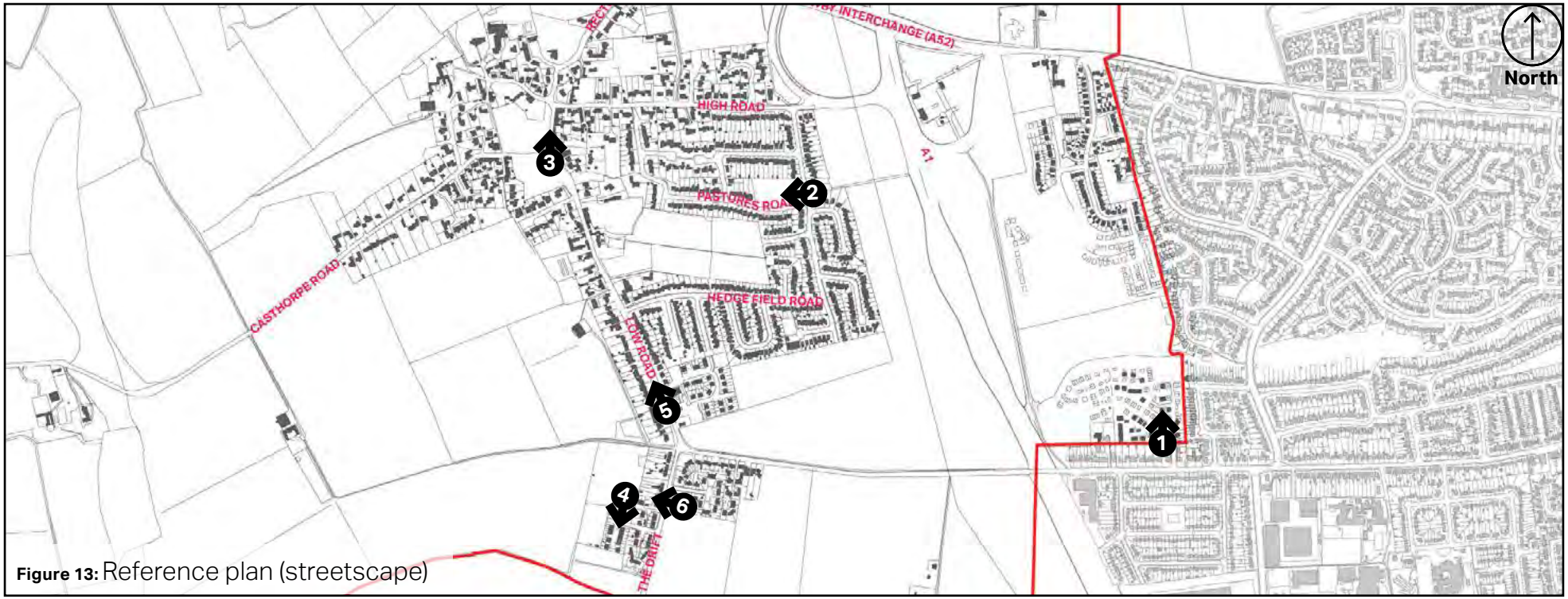


Figure 13: Reference plan (streetscape)

Road	Building line to building line*	Plot to plot width*	Carriageway width*	Enclosure ratio*
1. Winbrush Drive	16	9.3	5.7	1:2.5
2. Pastures Road	27	13	5.4	1:5
3.Main Street	8.7	8.7	6.1	1:1.6
4. Chilvers Close	15	6.2	4.3	1:5
5. Low Road	40	15	6	1:7
6. Walkers Way	16	5	4.5	1:4.5

Table 05: Street profiles and enclosure ratios. Table 05 demonstrates that enclosure ratios vary subject to development age and corresponds with the expected volume of traffic. *Typical / average- not uniform along the entire street.

3.3.2 Pedestrian Connectivity

Barrowby is well connected internally with a network of roads, lanes and footpaths which allow access through the historic core and the outer neighbourhoods.

There is a structured network of public rights of way that provides access from the settlement into the wider countryside.

This includes:

- Public footpaths: BARR/1/1, Barr/1/2, BARR/14, Barr/12/3, Barr/7/2, Barr/7/3, Barr/8/1, BARR/8, BARR/7
- Bridleways: BARR/10 (Sheep Wash Lane), BARR/9/1, BARR/5/2

There are several informal footpaths across the NA which connect adjacent neighbourhoods with one another and connect the village to the wider countryside.

These footpaths help create a permeable neighbourhood for pedestrians and are useful when walking across Barrowby. Development adjacent to these footpaths (or snickets) should create a degree of natural passive surveillance to ensure safety through orientation, proper enclosure and sensitive boundary treatments in line with its context. These are highlighted on the plan in Figure 27.

3.3.3 Cycle Connectivity

There are no defined cycleways in Barrowby, however the roads within Barrowby are suitable for cycle use. The lack of a defined and safe cycleway network may deter cycling as a mode of travel. Whilst some of the existing streets, both within the Barrowby urban area, and on connecting roads to the nearby larger urban area of Grantham, are suitable for retrospective implementation of cycleways. New streets should be designed to accommodate cycle infrastructure.

3.3.4 Design Code M1: Streets

Development proposals that propose new streets must:

- Follow a simple but well-defined street hierarchy and a strategy of how this will be interpreted 'on the ground'. Elements of the street hierarchy should be defined through a narrowing of street widths, use of different materials and planting strategies.
- Place street trees within adequate verges, alongside the carriageway, on plot or in open spaces and street lighting and other infrastructure must be designed in combination.
- Promote methods to encourage slow-vehicle speeds as well as improve legibility and permeability through a change in materiality, raised tables and alternative widths in line with the street hierarchy.
- Propose shorter streets of less than 70m (from Manual for Streets) to help to keep speeds down. Also horizontal speed calming measures, including visual narrowing of carriageway, on street parking bays, and landscaping may also be appropriate.

3.3.5 Design Code M2: Connectivity

Development proposals must provide:

- Cycling routes should generally be provided on off-carriageway routes within the green infrastructure network where possible and connect to key destinations/ onward routes.
- Footways should generally be on both sides of the carriageway but can be single-sided if development is also one-sided.
- Interesting street scenes and building arrangements from a pedestrian perspective, including key views to the surrounding landscape.
- Connections or integrate with the Public Right of Way network when schemes are located within proximity to a footpath.
- Streets, routes and spaces to ensure permeability for pedestrians and cyclists – with focus on access to services and facilities, public transport, and existing routes.

Please refer to Design Guidelines for Rutland and South Kesteven part 2 (5H and 5I) for further guidance on this topic.

Figure 15: Snickets are an effective way to connect adjacent neighbourhoods.

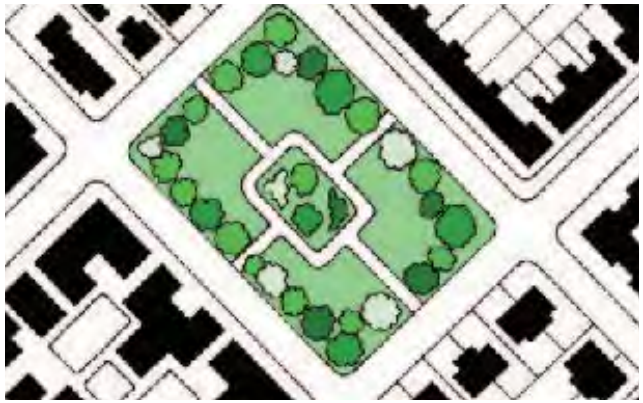


Figure 14: Density and enclosure on streets and spaces will promote a degree of natural surveillance and safety. Buildings should be orientated to provide frontage along the streetscene.

3.3.6 Car Parking

Parking provision varies significantly across the NA. Within the more historic areas of Barrowby, parking is typically provided on-street, reducing the width of the roads and is a detrimental impact on the character of the historical streets.

On-street car parking is also an issue in the neighbourhoods surrounding the playing fields. This is particularly prevalent on a Saturday with many visitors using adjacent streets for car parking. This reduces vehicle flow and constrains traffic movement along primary routes such as Low Road.

The majority of Barrowby's housetypes however, provide on-plot parking, predominantly to the side of the property, or within garages. There are several cases of front of property parking. This can lead to a negative impact on the streetscene when used in a run of 5 or more properties.

Figure 18: Front of plot parking is suitable in some circumstances. Excessive runs of front of property parking (more than 5) will lead to a negative impact on the streetscene.

Figure 16: Side of property parking is the preferred parking solution.

Figure 17: Parking within garages is a suitable solution

Figure 19: Off-plot parking is not acceptable as it negatively impacts the streetscene and narrows road widths, exacerbating congestion and reducing traffic flow.

3.3.7 Design Code M3: Parking

New development that proposes, or impacts the existing provision of, car parking must apply the following design considerations:

- Most homes should have on-plot parking wherever possible and cars should be located at the front or the side of the property.
- Car parking should be designed to avoid being visually intrusive, such as by screening these areas with planting and high quality landscaping. Boundary treatment is key to ensuring this and can be achieved by using elements such as hedges, trees, flower beds, low walls and high quality paving materials.
- Driveways must be constructed from porous materials to minimise surface water run-off. These materials such as cobbles or flagstones are also much more attractive than the use of tarmac.
- Garages should be designed either as a free standing structure or an additive form to the main building. In both cases, garages should reflect the architectural style of the building and look an integral part of it rather than a mismatched unit. Garages should be behind or in line with the building, never positioned ahead of the building line.
- New developments should incorporate cycle parking, which occupies minimal space and can be incorporated into the domestic curtilage, either with a secure cycle store at the front, or space for bicycles behind a secure side gate to a back garden.

Please refer to Design Guidelines for Rutland and South Kesteven part 2 (5Q and 5P) for further guidance on this topic.

Figure 20: Diagram showing on-plot parking

Figure 21: On-plot parking with garage

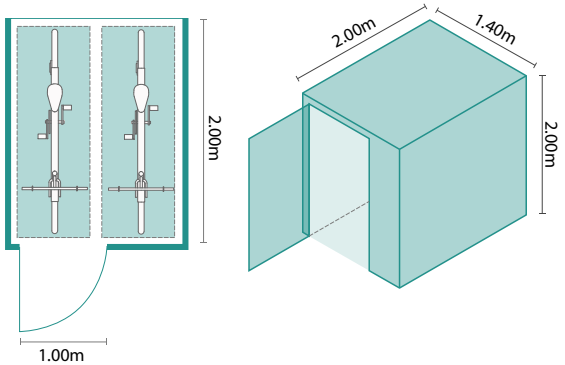


Figure 22: Secure cycle storage for two bicycles

3.4 Built Form

3.4.1 Typologies

Data from the Census indicates that Barrowby has 890 households across the NA. House types comprise the following:

- Detached: 645 (74%).
- Semi-detached: 160 (16%).
- Terraced: 54 (7%).
- Flats: 26 (3%).

Detached properties are the overarching house types. These are typically within plots that are generally commensurate with adjacent plots, extending to between 11 and 30m from the rear elevation.

House types are a defining characteristic when determining the character of a place. Due to their dominance, the detached house type will not be a deciding factor as they will comprise the majority of house types across all character areas. Character areas will therefore be determined using a variety of other factors including materiality, detailing, form, density and open spaces, among others.

3.4.2 Material Palette

The material palette across Barrowby varies significantly. They comprise the following:

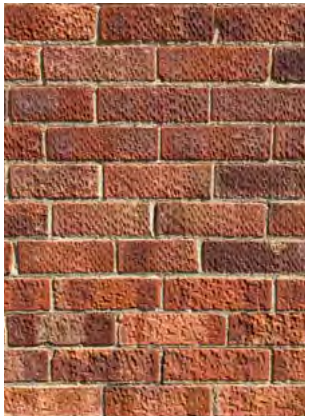
- Red brick.
- Ironstone.
- White paint.
- Limestone.

3.4.3 Extensions

Extensions and alterations to existing properties are commonplace across the NA. The majority of which are side extensions, a few of which are subservient to the original building, however, there are cases where the extension goes beyond the existing building line, detracting from the uniformity of built form on the streetscene. Extensions typically reflect the materiality, colour and form of the original building, resulting in a sympathetic addition to the streetscene.

3.4.4 Conversions

There are several cases of farm buildings, including ancillary agricultural buildings, being converted to residential use. They predominantly retain the form and scale of the original structure and often reflect, reuse and enhance the character and materiality of the rural nature of the building.



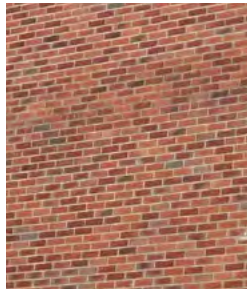



Key characteristics

Colours and materiality

Façade

Red brick



Iron stone

Roofing

Red pantile

Grey slate

Boundary treatments

Detailing

Windows

3.4.5 Design Code B1: Extensions and alterations

- Extensions to existing properties must be subservient or of an appropriate scale in relation to the original building.
- Extension to the front of the property should be avoided as this may compromise visual cohesion with the street frontage.
- Extensions to historic buildings, or within the setting of Listed assets, should be sympathetic and respond sensitively to the original character of the building or nearby Listed assets.
- Material palettes and style of the extension should be carefully chosen to blend cohesively with the original form and features.
- Extensions must not exceed a 45 degree splay from the centre of the window of the nearest habitable window of an adjacent window to avoid a reduction in daylight.

Please refer to Design Guidelines for Rutland and South Kesteven part 2 (6G) for further guidance on this topic.

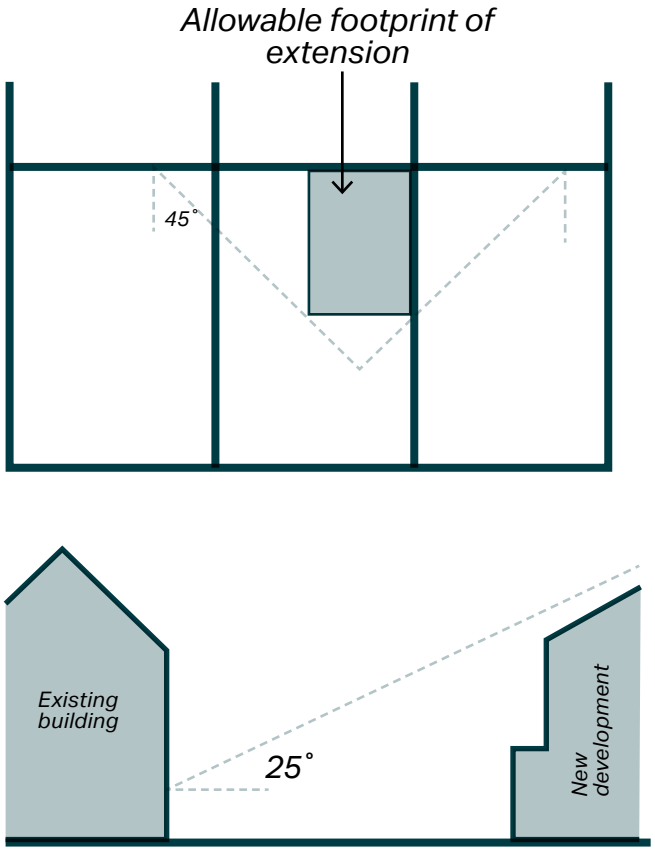


Figure 23: 25˚ / 45˚ rule

3.4.6 Design Code B2: Conversion of agricultural buildings

Conversion of existing agricultural buildings must:

- Preserve the agricultural character of the building.
- Have a minimal visual impact on the landscape in which it relates.
- Be fit for purpose but also designed to be sensitive to their surroundings, integrating into the wider landscape setting.
- Ensure that new openings for windows and doors complement originals in size, form and location.
- Retain, reuse and repair wherever possible traditional outbuildings and existing boundaries.
- Ensure that new boundaries follow existing boundary lines and incorporate existing natural features such as hedgerows, walls or footpaths.

Figure 24: (middle images) Examples of sustainable and contemporary development that reference vernacular architecture in the open countryside.

Figure 25: Example of dwellings and outbuildings that are partially screened by trees and planting.

3.4.7 Density

The plan (right) illustrates the average dwelling per hectare across some sample points in Barrowby's built-up area.

Low

1. 7 dph
2. 12 dph

Low / Medium

3. 22 dph
4. 23 dph
5. 27 dph
6. 27 dph
7. 28 dph

Medium / High

8. 33 dph
9. 34 dph
10. 43 dph

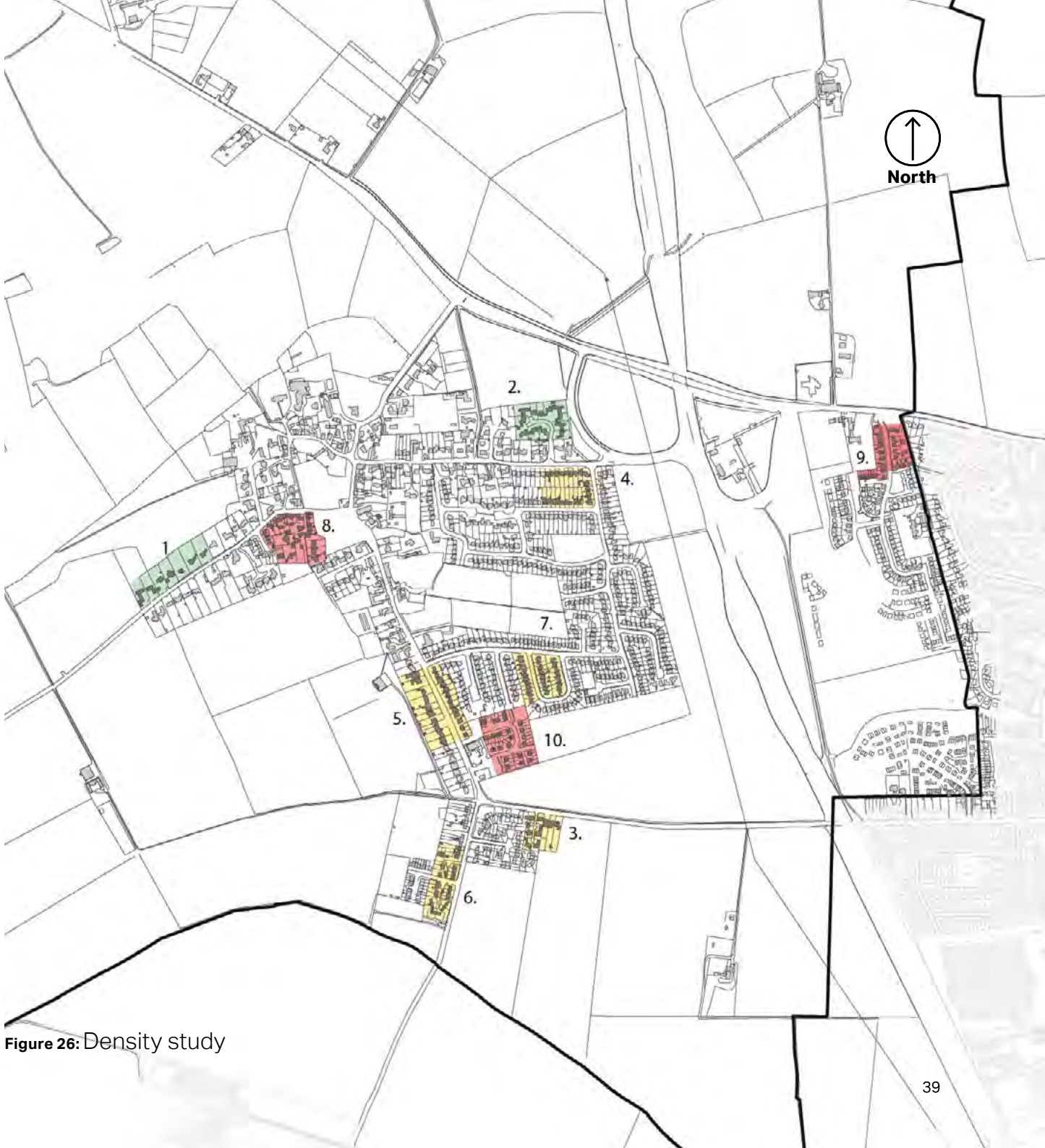


Figure 26: Density study

Character area	Average Net Dwellings per Hectare (DpH)
Barrowby Conservation Area	10-15
Casthorpe Road / High Road	15-20
Hedge Field Road / Pastures Road	15-20
Low Road / Charnwood Close	20-25
Morris Road	35-40
The Drift	25-30
The Colleys	30-35

Table 06: Dwellings per hectare (DpH) of each character area (as set out in section 04)

3.4.8 Design Code B3: Density

Table 06 (left) lists the dwellings per hectare (dph) average of each character area. The calculations highlights variations between the different areas of the town.

Guidelines for density are as follows:

- New development should respond to the specific dph of whichever character area it falls within.
- Gentle density may be contextually appropriate for Barrowby provided this does not adversely affect the village's character.
- Terraced or townhouse housing typologies reflect the highest density housing typologies that should be used.
- Higher density housing typologies (i.e. terraces; townhouses) are more appropriate within the inner neighbourhoods or village centre sites.
- Similarly, lower density housing typologies should be used in the outer neighbourhoods (edge of village).
- The proposed DpH of any development site should reflect local housing needs.
- The density of new development on phases 2 and 3 (Barrowby South) should reflect the existing development at Low Road, not phase 1 as it is not in-keeping.

3.5 Landscape

3.5.1 Landscape

Barrowby is predominantly a rural parish. The settlement area comprises approximately 10% of the total neighbourhood area. The remaining area is comprised of agricultural fields, bounded by mature hedgerow and trees, copses of trees, small ponds and land drains.

Within the settlement, there are a significant number of mature trees, particularly in the conservation area. Outside the conservation area, there is a significant number of trees and hedgerow within residential curtilages, providing visual relief along the streetscene.

3.5.2 Topography

Barrowby is located at the top of the Belvoir Ridge. The majority of the NA is spread east across the vale slope that falls into the valley setting of Grantham and the River Witham.

To the north-west of the village, the landform falls to the ridge towards Sedgebrook below 50m AOD. To the north-east the ridgeline continues towards Great Gonnerby.

To the south and south-east the landform falls westwards Grantham at approximately 60m AOD. To the south and south-west the Grantham Canal cuts through the localised valley setting passing Denton Reservoir at approximately 70m AOD.

3.5.3 Landscape Character

The NA falls within National Landscape Character Area 48 Trent and Belvoir Vales.

The NA also forms a part of the Harlaxton Denton Bowl Landscape Character Area as identified in the South Kesteven Landscape Character Area Assessment (2007). It is defined as having a varied topography, small to medium scale landscapes and a patchwork of land use including woodlands, arable and pasture.

The features and characteristics of both of the above will inform the Design Codes in this section.

National Landscape Character Area 48: Trent and Belvoir Vales

Key characteristics:

- A gently undulating and low-lying landform in the main.
- The bedrock geology of Triassic and Jurassic mudstones has given rise to fertile clayey soils across much of the area.
- Agriculture is the dominant land use.
- A regular pattern of medium to large fields enclosed by hawthorn hedgerows, and ditches in low-lying areas, dominates the landscape.
- Extensive use of red bricks and pantiles in the 19th century has contributed to the consistent character of traditional architecture across the area.
- Stone hewn from harder courses within the mudstones, along with stone from neighbouring areas, also feature as building materials, especially in the churches.

Figure 27: Parks and footpaths

3.5.4 Green spaces

There is a good provision of public and open spaces across Barrowby. Many of which contribute positively to the setting of the village, and most notably, the conservation area.

Recreational and open spaces comprise the following (also illustrated on Figure 27):

- Lowfields recreational and leisure space (open space).
- Adamstiles play area.
- Play space at the Casthorpe / Low Road junction.
- Allotments to the west of The Drift.
- Village Green comprising an area of open space and a children's play area.
- Open space to the north of Pastures Road at the junction with Reedings Road.
- A series of open fields and paddocks to the north of Hedge Field Road and south of Pastures Road there are a series of open fields and paddocks lined by mature broadleaved trees.
- School playing fields.
- Play space and open space delivered as part of the recent development to the east of Low Road.

3.5.5 Design Code L1: Green spaces and tree planting

- On the edges of new or existing public spaces, a strong building line and building heights that reinforces a sense of enclosure is encouraged.
- Plant more trees characteristic of the area to help reduce visual impact on the more sensitive views.
- Development must avoid the loss of trees. If the loss is unavoidable, 3 new trees shall be planted for every 1 tree lost.
- Green spaces shall be overlooked by buildings of an appropriate scale and density that reflects the local character (as set out in section 04) to provide a sense of enclosure and a degree of overlooking to enhance natural surveillance.
- Green spaces and the area surrounding them shall contain trees and planting (of native species) that interconnects with the wider Green Infrastructure network.

Please refer to Design Guidelines for Rutland and South Kesteven part 2 (5E and 5F) for further guidance on this topic.

Figure 28: Green Infrastructure assets (trees, hedgerow, parks, fields, verges, etc) across the NA are important for sustainability and integrating the urban area with the wider countryside.

3.5.6 Design Code L2: Biodiversity

Planning applications in Barrowby must be supported by proposals for the incorporation of features for biodiversity enhancement, in addition to what may be required to address any adverse impacts resulting from the development. Appropriate features include:

- Features for nesting birds associated with the built environment such as swifts and house sparrows.
- Features for roosting bats.
- Green walls and green/brown roofs.
- Mixed native species hedgerows.
- Creation of new wildlife ponds.
- Native scrub and tree planting.
- Orchard/fruit trees.
- Creation of species rich grassland.
- Creation of rough grassland suitable for foraging barn owls and provision of barn owl nest boxes.
- Log piles and compost heaps.
- Provision of gaps in boundary fences to allow access by hedgehogs and provision of hedgehog domes. Hedgehog Highways should be marked out on site to ensure they are not blocked up by future landowners.

The loss of trees, hedgerows and native planting should be avoided and instead these features should be incorporated into the design of proposed development. All major development should be accompanied by a landscape layout which prioritises the use or and incorporation of native species and promotes overall biodiversity net gain.

Aim to develop a multifunctional green infrastructure network made up of a variety of elements: including hedgerow, private gardens, tree planting, grass verges, SuDs, amenity green space, watercourses, cemetery, allotments, orchards, meadows, and playing fields.

Figure 30: New street tree planting at Morris Road.

Figure 29: Promoting a multifunctional green infrastructure network including verges, hedgerow, gardens, trees and planting

3.5.7 Design Code L3: Landscape setting and rural identity

Development proposals for residential development located on settlement edges must:

- Ensure dwelling frontages are orientated outwards and avoid rear boundaries facing the landscape - unless suitably screened by planting.
- Retain the visual quality of the landscape by reducing the scale of development; Dwellings should not exceed 2 storeys in these locations.
- Soften the boundary between built form and the wider landscape by encouraging soft landscape planting such as hedgerow, wildflower, and tree planting.
- Provide links for both pedestrians and cyclists to the wider countryside, and where possible, connect to the Public Right of Way network.
- Avoid designing a street hierarchy that arranges primary roads and over-engineered turning heads to abut the wider landscape.
- Be of a low density with buildings interspersed with tree planting to visually soften the impact on the surrounding countryside.

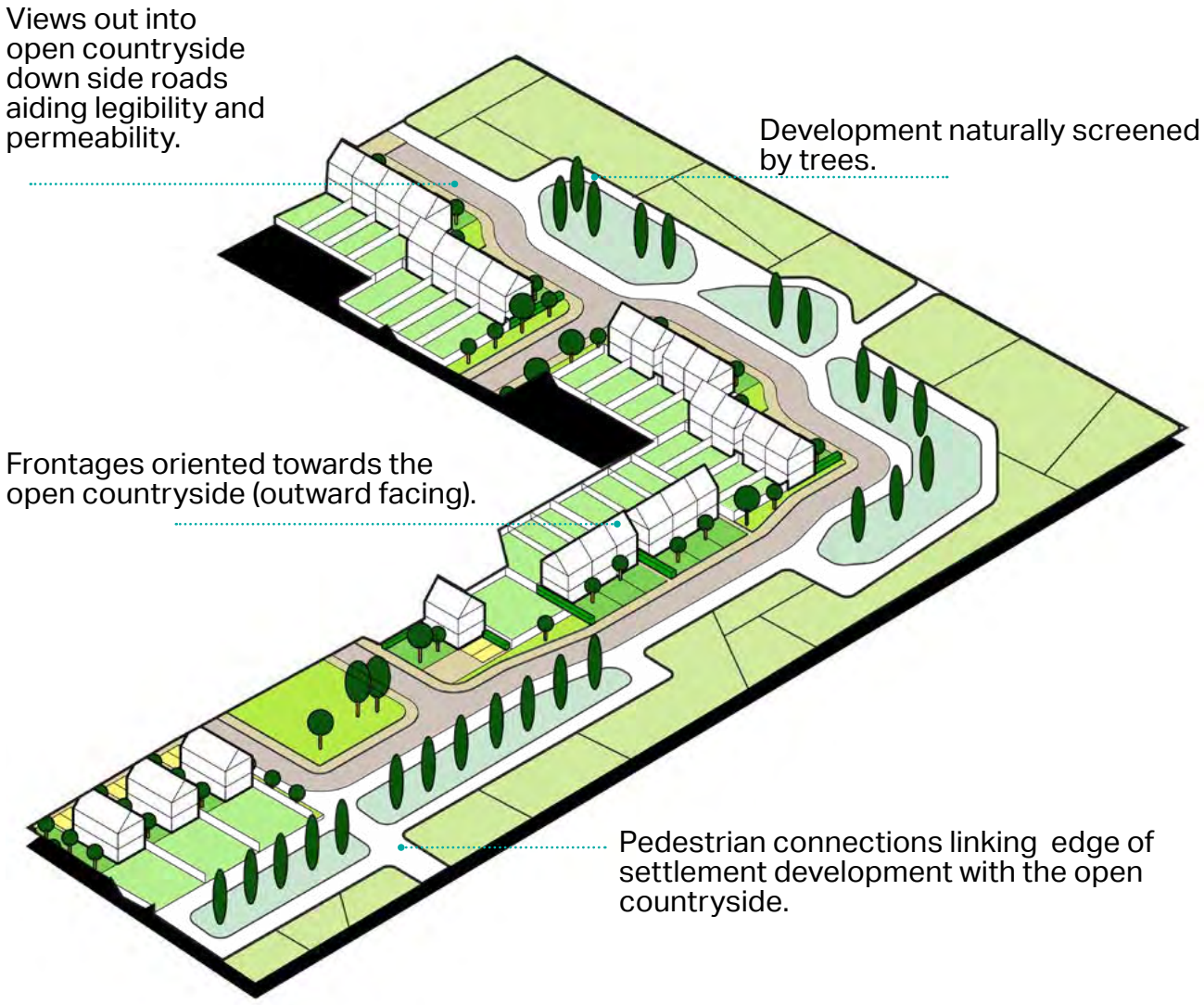


Figure 31: Landscape sensitive edge of settlement development diagram.

3.6 Sustainability and energy

3.6.1 Flooding

Flooding from rivers and waterways across the NA is minimal. However, as illustrated on the adjacent plan (fig 32), there are many areas of the NA that are at risk from surface water flooding.

This collects on areas of hardstanding such as road surfaces and parking areas in dips or flows along escape routes after periods of heavy rainfall. This type of flood risk is distributed in pockets throughout the settlement.

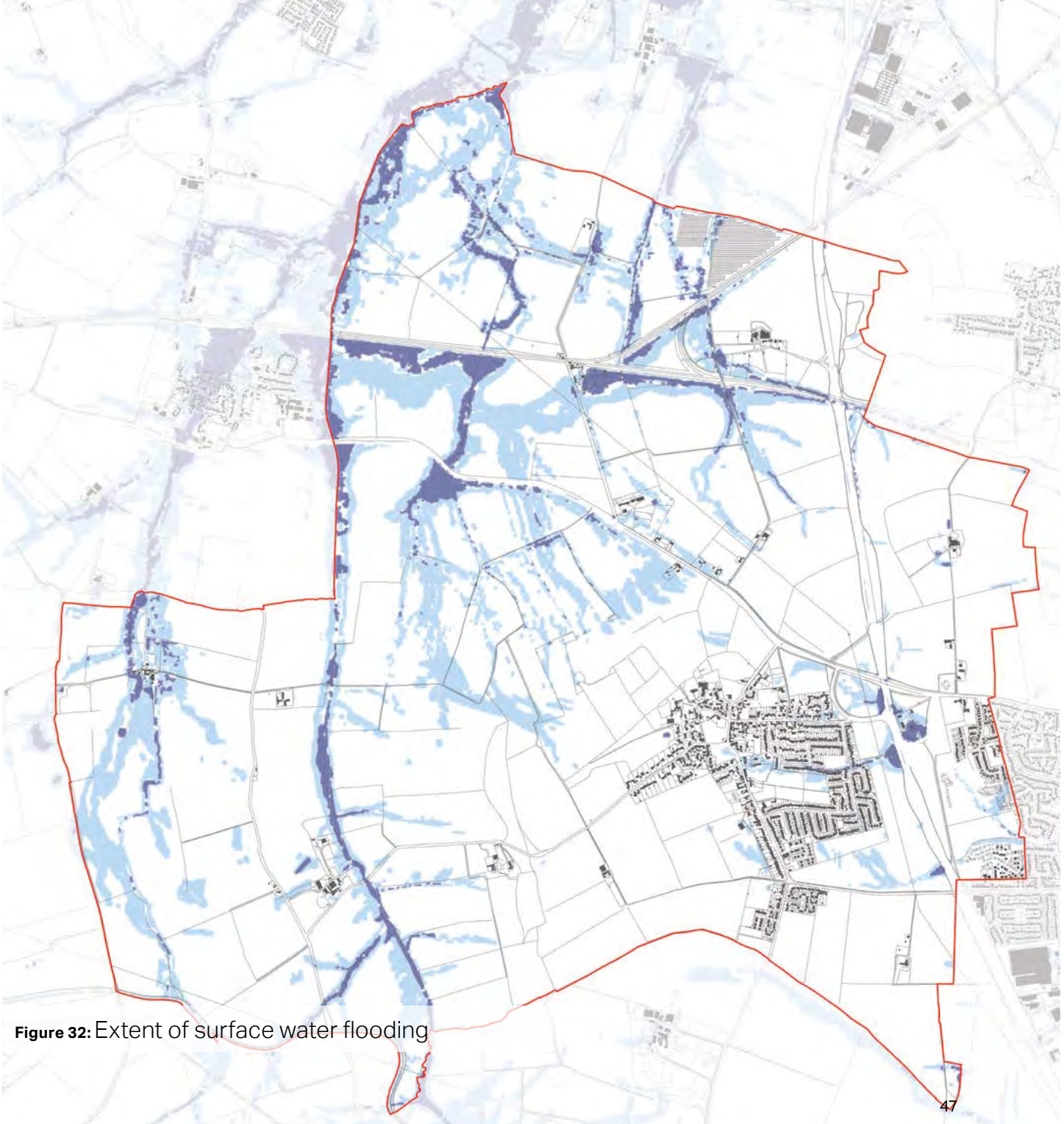


Figure 32: Extent of surface water flooding

3.6.2 Design Code S1: Water Sensitive Urban Design

As a standard, proposals must promote methods to mitigate increased risk of storms/flooding with sustainable drainage systems. Development proposals should seek to:

1. Integrate sustainable drainage systems to assist with flood alleviation from rivers and drains and surface water runoff and incorporate surface features such as planted raingardens to express this function.
2. On minor development sites, proposals must integrate bio-swales and/or rain gardens and/or permeable surfacing in their design to assist with surface water drainage.
3. On schemes that propose 10 or more dwellings, proposals must integrate bio-swales and/or attenuation basins in their design. These must be planted with wildflower planting to assist achieving a biodiversity net gain.
4. Natural barriers (e.g. planting) and appropriate side slopes should be introduced to help manage perceived safety risks.
5. On schemes that propose 10 or more dwellings, circa 40% of the site should be retained as green infrastructure, 10% of which may be required for SuDS detention or attenuation features dependent on drainage character.
6. Proposals must adopt the use of permeable paving in hard landscaped areas.

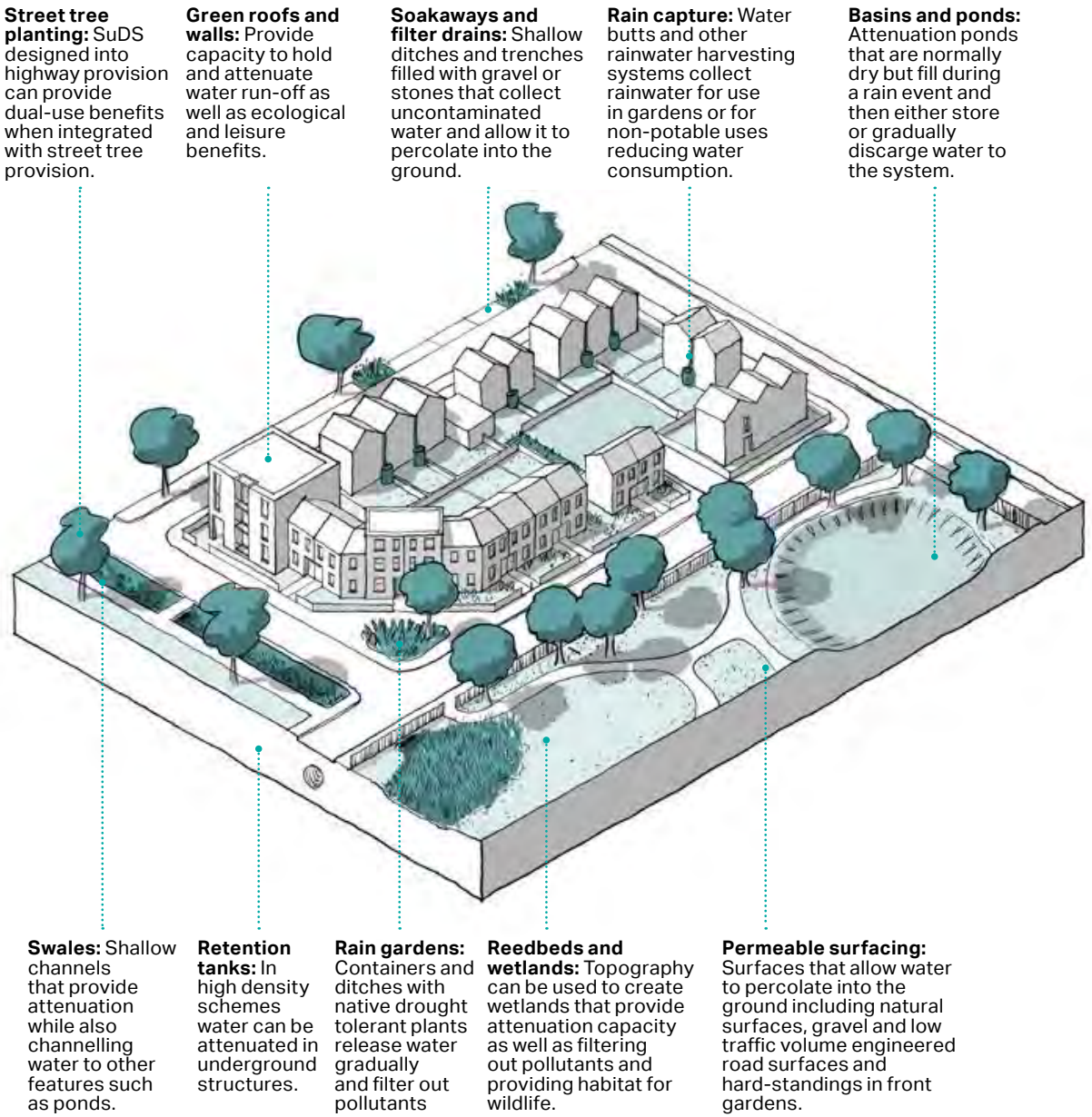


Figure 33: Sustainable drainage systems as set out in the National Model Design Code.

3.6.3 Design Code S2: Assessing Renewable Energy Sources

Key considerations in the assessment of renewable energy sources for development to be net zero for power generation may include (but are not limited to):

- Optimising solar orientation of streets and buildings. Aim to increase the number of buildings on site that are oriented within 30° of south (both main fenestration and roof plane) for solar gain, solar energy (solar panels) and natural daylighting.
- A heat network for any new development.
- Ground conditions to accommodate loops for ground source heat and space for air source heat pump units.
- Links to local estates for sustainable coppicing, harvesting or recycling of biomass fules.
- Local wind speed and direction for micro-generation wind turbines.
- Collaborating with utilities, highway authorities, telecoms companies and other stakeholders when designing and delivering projects to minimise energy usage and disruption during the construction stage and reinforcement of the electricity grid for additional electric vehicles and renewables.

Figure 34: Integrated solar panels on slate roof.

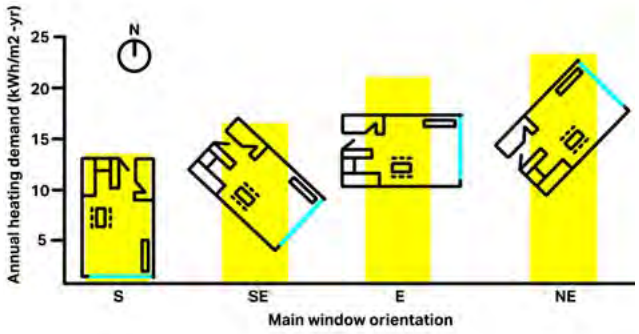


Figure 35: Building orientation influences the annual heating demand.

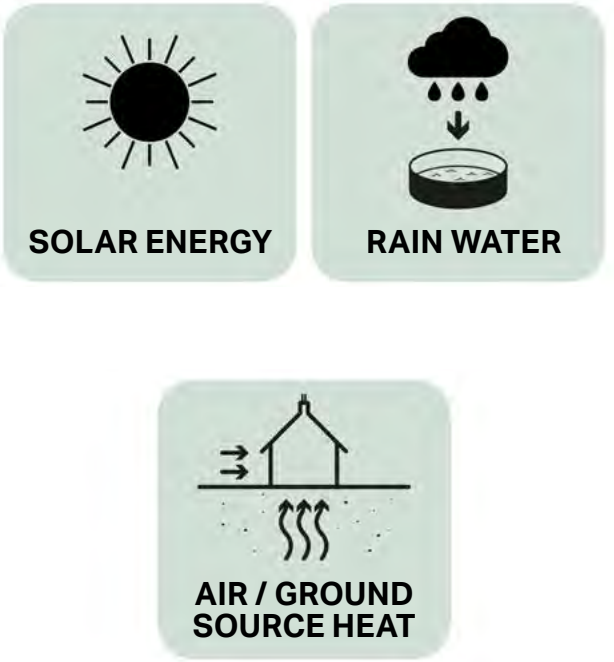


Figure 36: Key alternative natural energy sources.

3.6.4 Design Code S3: Electric Vehicle Charging and Cycle Storage

Current transition to electric vehicle technology and ownership comes with related issues that must be addressed by new development. Two key areas are explored below - public parking areas and private parking for homes.

Design issues to address for public parking:

- Provision of adequate new charging points and spaces, and retrofitting existing parking areas.
- Serving remote or isolated car parks (e.g. in woodland areas).
- Retrofitting existing public parking and upkeeping design quality of streets and spaces (attractiveness and ease of servicing and maintenance).
- Integrating charging infrastructure sensitively within streets and spaces, for example, by aligning with green infrastructure and street furniture.
- Sensitive integration of charging infrastructure within the Conservation Area.

Design issues to address for parking and cycle storage at the home

- Convenient on-plot parking, charging points and cycle storage close to homes.
- Potential to incorporate charging points under cover within car ports and garages.
- Integrate car parking sensitively within the streetscene. For example, parking set behind the building line or front of plot spaces lined with native hedgerow planting.
- Consider visitor parking and charging needs.
- Existing unallocated and on-street parking areas and feasibility to provide electric charging infrastructure not linked to the home.
- Potential for providing secure, serviced communal parking areas and cycle storage for higher density homes.

Figure 37: Public electric vehicle charging point.

Figure 38: Home electric vehicle charging point.

3.6.5 Design Code S4: Energy Efficiency Measures to Net Zero Carbon

New development must be net zero in use. For all building stock to be carbon neutral by 2050, all new buildings need to be carbon neutral from now on so that they do not need costly retrofitting. It is paramount that new development adopts a fabric first approach in line with the Government's emerging Future Homes Standard and Part L of the UK Building Regulations in order to attain higher standards of insulation and energy conservation.

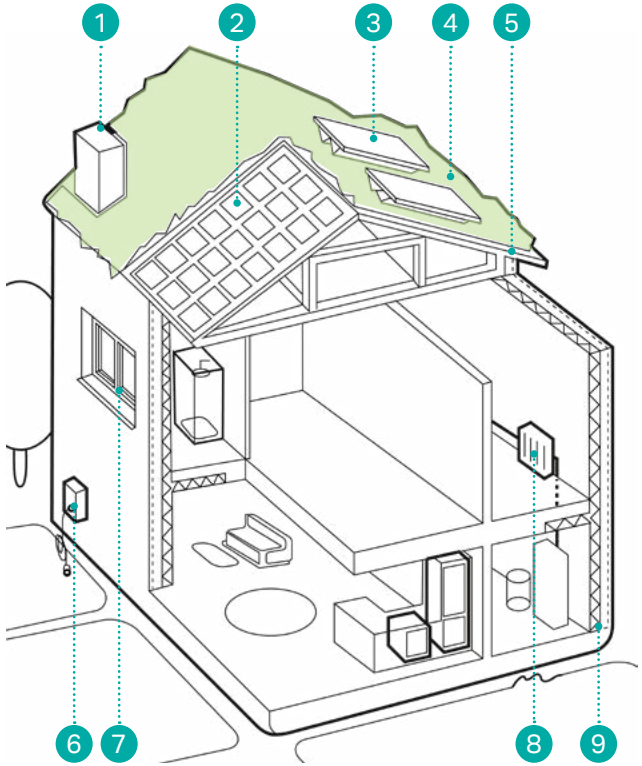
- All new residential buildings must be sustainably constructed to achieve zero operational emissions by reducing heat and power demand and supplying all energy demand through on-site renewables. This includes limits on space heating and total energy use, taking an energy-based approach to energy usage applying to both regulated and non-regulated energy use.
- Reducing energy demand further by employing passive design principles for homes is desirable and can make development more acceptable to the community (window orientation, solar gain, solar shading, increased insulation, ventilation with heat-recovery).
- Maximise on-site renewable energy generation (solar, ground source, air source and wind driven).
- Incorporate domestic batteries (to store excess electricity) or other energy storage (i.e. large hot water tanks) to enable intermittent renewable electricity supply (e.g. from solar panels) to be stored to match demand and maximise renewable energy potential. Grid balancing and managing periods when it is cold, not sunny and not windy is going to be a big challenge of the 2030s and something new homes should be adapted for.
- Consider building form and thermal efficiency: point-block / terraced / semi-detached / detached all have different energy efficiency profiles. Local design preference and character considerations could ease acceptance for development.
- Ensure that there is sufficient and appropriate outside space for a washing line to enable energy efficient clothes drying.
- All new development must be well designed to be resilient to heat stress and overheating using the Good Homes Alliance toolkit.
- All new residential developments need dual aspect and adequate windows and openings to allow for cross ventilation, light colour or green surroundings, high thermal mass and useful external shading.
- Tree planting / landscaping to manage heat stress should include small deciduous species around new and existing residential areas to provide shade in the summer but not block daylight in the winter. This will also help manage flood risk and provide habitat. Green roofs and walls provide similar benefits.
- All development should incorporate sustainable drainage systems (SuDS) to manage flooding, to provide habitats for wildlife and to deliver cooling effects.
- All homes should be designed with the flexibility to be used for homeworking.

3.6.6 Design Code S5: Sustainable Building Materials and Construction

Sustainable design and construction in development is needed:

- Reduce the embodied carbon of the design by minimising the use of energy and carbon intensive materials (e.g. use wood structures and concrete alternatives instead of steel and concrete).
- Reuse materials.
- Use recycled materials.
- Use local, sustainable materials and/or responsibly sourced (e.g. FSC timber, or certified under BES 6001, ISO 14001 Environmental Management Systems)
- Prevent loss or damage to topsoil.

Figure 39: Carbon negative affordable homes in Derbyshire.



1. Mechanical ventilation system.
2. Integral solar tiles.
3. Solar panels.
4. Green roof.
5. Roof insulation.
6. Electric vehicle charging point.
7. Insulated windows and doors.
8. Efficient utilities and appliances.
9. Wall insulation.

Figure 40: Cut-through diagram of an energy efficient home and its features.

Character-based Codes

04

4. Character-based Codes

Through observations on site, desktop studies, and baseline analysis, character-based codes are presented in this section. They are relevant to specific parts of the NA.

4.1 Character Study

The following pages present analysis on the identified character areas across Barrowby. These character areas have been informed via a detailed analysis on several themes including urban grain, housetypes, character, density among others including engagement with the BNG. The character areas include:

- Area 1: Barrowby Conservation Area
- Area 2: Casthorpe Road / High Road
- Area 3: Hedge Field Road / Pastures Road
- Area 4: Low Road / Charnwood Close
- Area 5: Morris Road
- Area 6: The Drift
- Area 7: The Colleys

A series of design guidance and codes specific to each character area conclude this section. Proposals within the character areas will be required to address the design codes relevant to the character area in which it resides, as well as the overarching codes that follow.

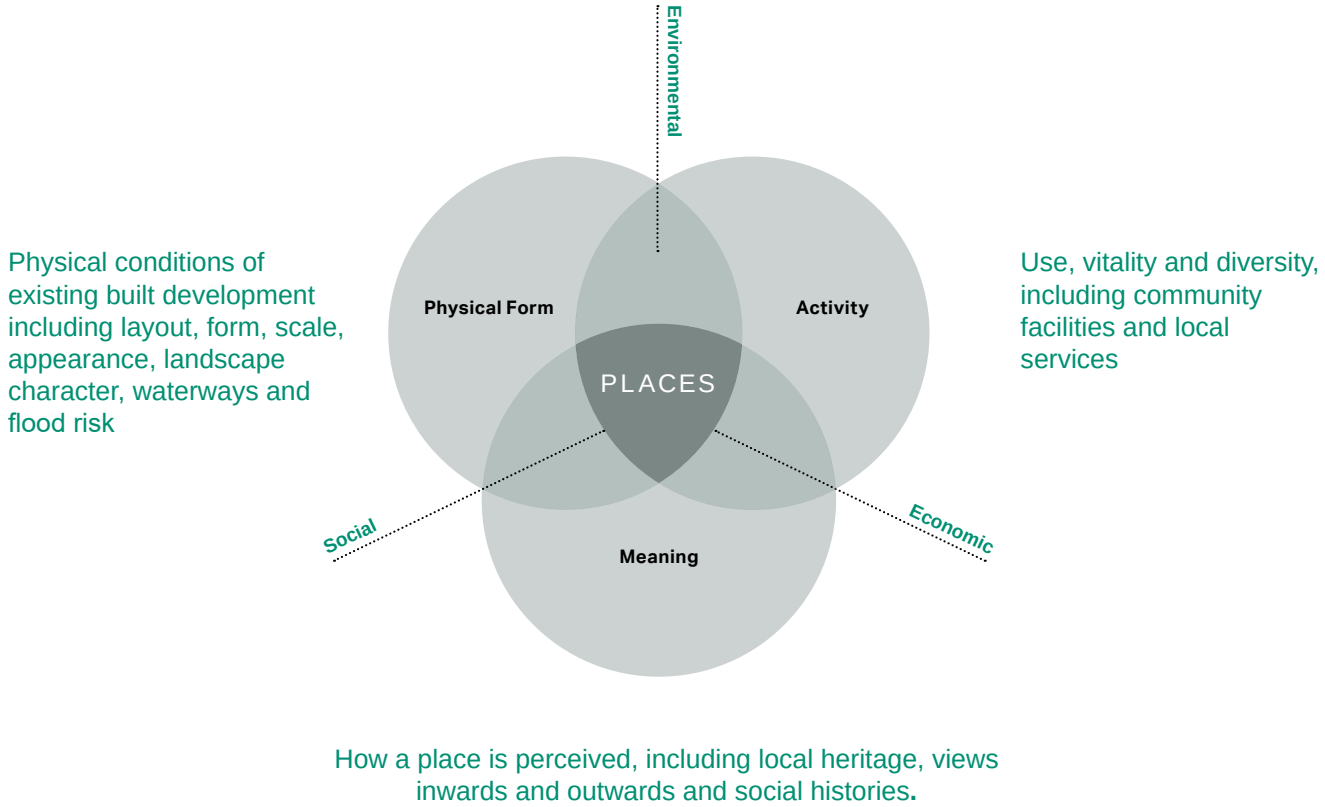
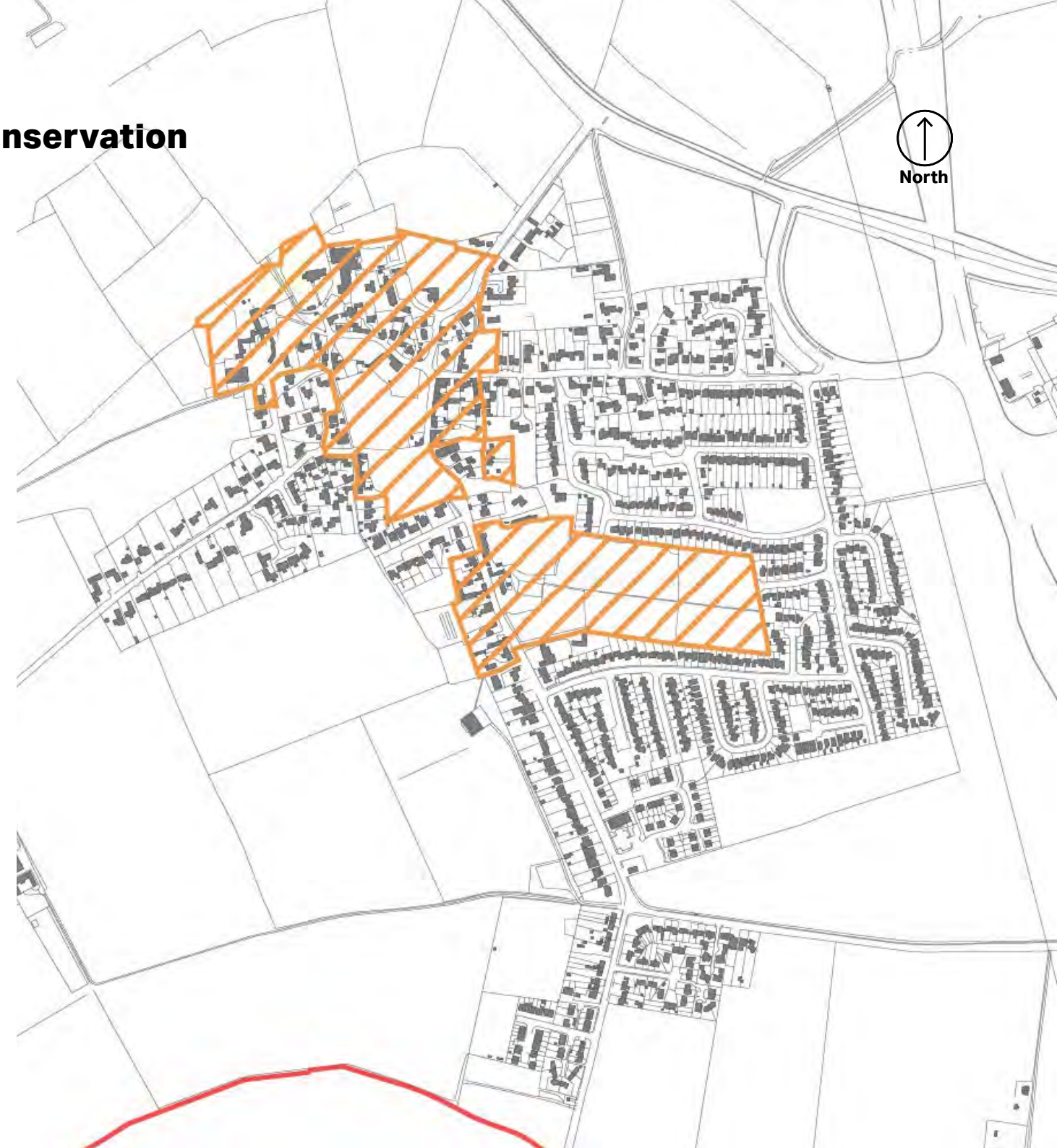


Figure 41: Map showing character areas. Note there are two developments to the east of the A1. The Colleys to the north (bounded by the A1 and the A53 and The Windrush development to the south bounded by the A1 and Dysart Road.

1 Character Area 1: Conservation Area

4.2 CA1: Conservation Area

- Irregular nucleated settlement with the traditional buildings laid out around the central village green and along the key routes into the village.
- Tight street network with on-street parking.
- Relatively low density of development within the village core.
- Characterised by a mix of large scale buildings set within extensive grounds and smaller detached traditional and modern buildings which occupy relatively small irregular plots.
- Open views out towards the Trent and Belvoir Vale.
- All Saints Church is a notable landmark.
- Traditional building materials and architectural features.
- Visual harmony resulting from the use of a limited palette of natural building materials.
- Visual continuity created by boundary walls delineating boundaries and linking buildings



Key characteristics

Colours and materiality

Façade

Iron stone

Red brick

Roofing

Dark pantile

Red pantile

Boundary treatments

Detailing

Openings

4.2.1 Design Code CA1: Conservation Area

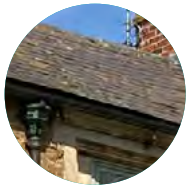
In conjunction with the Area-wide codes set out in section 03, all development in the conservation area character area must:

1. Be of a density that reflects the wider character.
2. Adopt materials and architectural features as set out in the adjacent imagery. Materials should be limited to ironstone, limestone and red brick.
3. Provide a minimal setback from the road. Where a front boundary is proposed, low masonry walls complimented by hedgerow planting or estate fencing will be appropriate.
4. Be no more than 2 storeys in scale. Focal points and articulated corners can exceed to 3 storeys to provide variance on the roofscape.
5. Address the Design Codes C1, C2, and C3 set out in the Context section of this report.

Character area	Average Net Dwellings per Hectare (DpH)
Barrowby Conservation Area	10-15

Materials and detailing

Iron stone

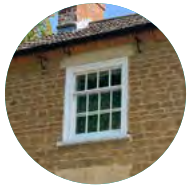


Natural slate

Limestone

Red clay pantile

Red brick



Stone sills and lintels

Colour








Figure 42: Materials, detailing and boundaries across CA1. Predominant use of iron stone with brick detailing. Natural slate roof tiling with sporadic use of red clay pantiling for the roofscape. Streets are typically narrower with a strong sense of enclosure relating to a medium/high building density and minimal gaps between properties.

2 Character Area 2: Casthorpe Road / High Road

4.3 CA2: Casthorpe Road / High Road

- Predominantly two storey dwellings with steep roof pitches; some larger houses at two and a half storey, and occasionally three.
- Stone mullioned windows; simple plan.
- Mostly informal, irregular plots historically laid out around a large greenspace and along key routes into the village
- A mix of coursed rubblestone and brick houses. Stone is often used for boundary walls and outbuildings.
- Roofs are mostly clay tile or pantile with some use of natural slate.
- Predominantly residential in use with the church dominating the skyline
- Some mature trees within open greenspaces and private gardens.
- Well-defined traditional boundary treatments (mostly stone) throughout.
- Good network of public footpaths to the open countryside.

Key characteristics

Colours and materiality

Façade

Red brick

Iron stone

Buff brcik

Boundary treatments

Detailing

Roofing

Grey pantile

Brown pantile

Openings

4.3.2 Design Code CA2: Casthorpe Road / High Road

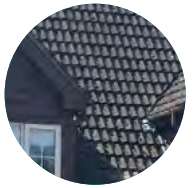
In conjunction with the Area-wide codes set out in Section 03, all development in the Casthorpe Road / High Road character area must:

1. Be of a density that reflects the wider character, between 15 - 20 dph, as set out in Section 3.4.7 of this report.
2. Adopt materials and architectural features as set out in the adjacent imagery. Materials should be limited to rubble stone and red brick.
3. Front boundaries must be low masonry walls complimented by hedgerow planting.
4. Be no more than 2 storeys in scale. Focal points and articulated corners can exceed to 3 storeys to provide variance on the roofscape.
5. Adopt red clay tiles or pantiles as the roof treatment.
6. Arrange properties on an irregular and informal block and plot layout.

Character area	Average Net Dwellings per Hectare (DpH)
Casthorpe Road / High Road	15-20

Materials and detailing

Rubble stone



Natural slate

Red brick

Red clay pantile

Colour

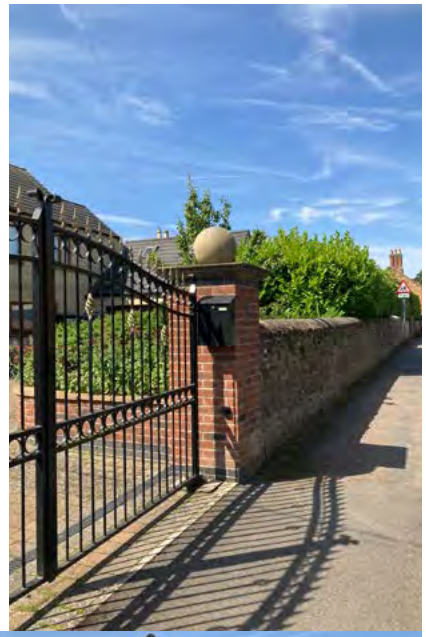





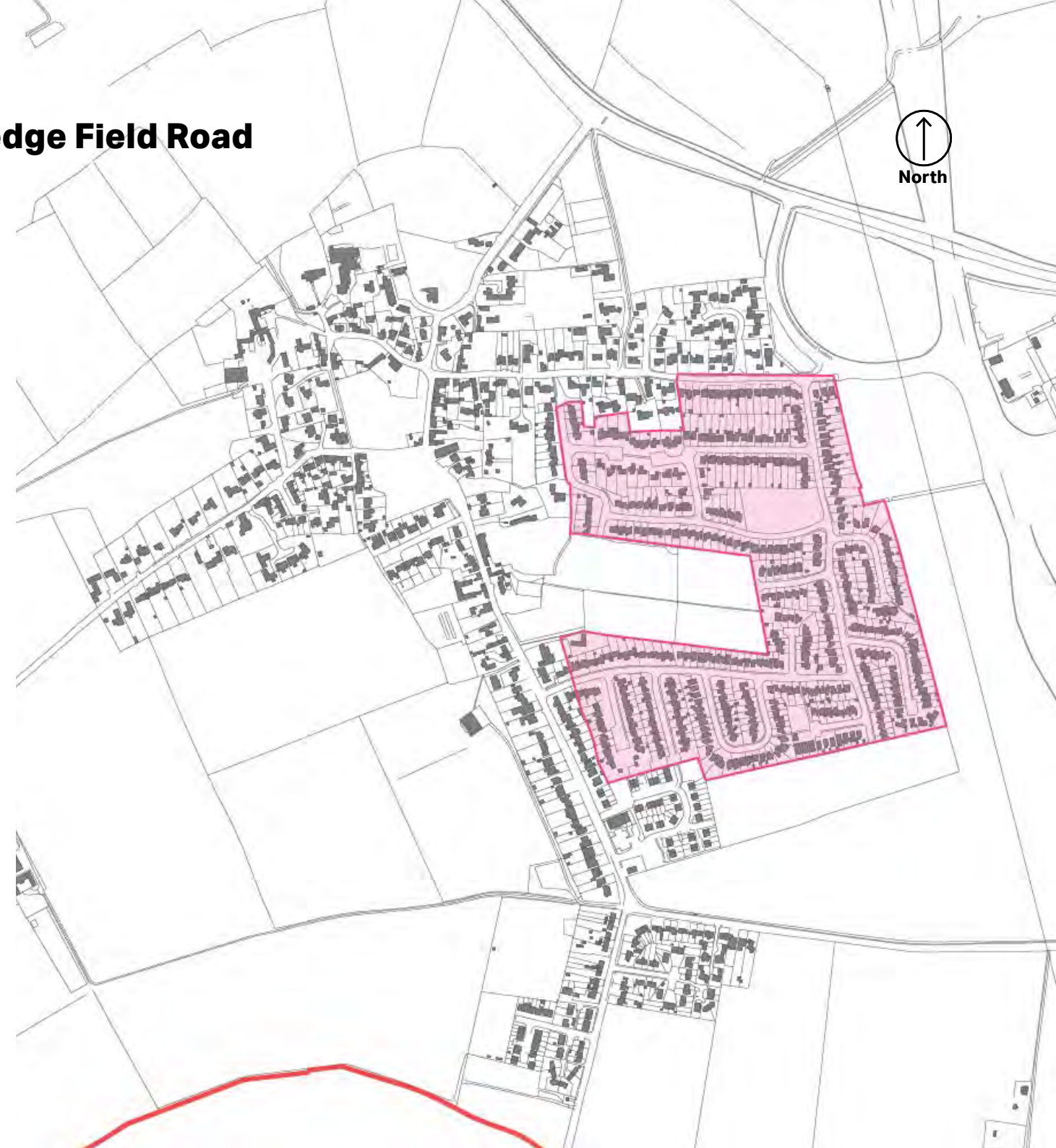


Figure 43: Materials, detailing and boundaries across CA2. Use of iron stone and red brick as elevational treatments. The roofscape varies with traditional pitches and link gables however the overarching material is natural slate. Streets are typically wider than those in the conservation area with strong boundary features such as masonry walls or hedgerow.

3 Character Area 3: Hedge Field Road / Pastures Road

4.4 CA3: Hedge Field Road / Pastures Road

- A mix of red, buff and multi-stock bricks, some decorative tile hanging to upper storeys and some use of reconstitute stone for detailing. Concrete interlocking tile roofs
- Mix of boundary treatments but often left open to the front
- Mix of single and two storey dwellings, mostly with low pitched roofs
- Low roof pitches with concrete interlocking tiles; and
- Plain and decorative tiling to upper storeys in panels
- Regular plots laid out to an informal grid of estate roads, principal routes and cul-de-sacs connected by snickets. Permeable for pedestrians but not for cars.
- Development set to consistent building lines following the road contour, with houses set back in often spacious gardens
- Good quality streetscape with uniform setback of properties, grass verges, street trees and side of property car parking .

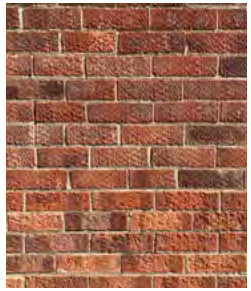


Key characteristics

Colours and materiality

Façade

Red brick



Yellow brick

Roofing

Brown pantile

Grey pantile

Boundary treatments

Detailing

Openings

4.4.2 Design Code CA3: Hedge Field Road / Pastures Road

In conjunction with the Area-wide codes set out in Section 03, all development in the Hedge Field Road / Pastures Road character area must:

1. Be of a density that reflects the wider character, between 15 - 20 dph, as set out in Section 3.4.7 of this report.
2. Adopt materials and architectural features as set out in the adjacent imagery. Materials should be limited to red or buff brick.
3. Be of a consistent building line, set back from the road with generous front gardens.
4. Be no more than 2 storeys in scale.
5. Adopt red clay tiles or pantiles as the roof treatment.
6. Arrange properties on an informal block layout.

Character area	Average Net Dwellings per Hectare (DpH)
Hedge Field Road / Pastures Road	15-20

Figure 44: Looping street pattern interconnected by footpaths and snickets creating a highly permeable street and footpaths network.

Materials and detailing

Red brick

Brown pantile

Buff brick

Red clay pantile

White render

Colour

Figure 45: Materials, detailing and boundaries across CA3. The images reveal a variety of house types, a mix of materials (including red brick and white painted panelling). Streets are wider to accommodate higher volumes of residential traffic. Boundaries are often open or behind low masonry walls, hedgerow or metal fencing. Formal and informal footpaths connect adjacent streets, spaces and neighbourhoods.

4 Character Area 4: Low Road / Charnwood Close

4.5 CA4: Low Road / Charnwood Close

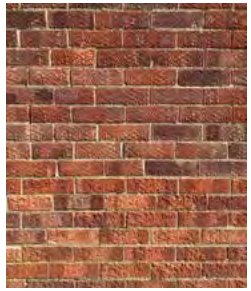
- Bricks are a mix of red and buff brick with brown and red roof tiles.
- Modern detached dwellings
- Mix of two storey and one and a half storey dwellings.
- Consistent set back building lines, with front gardens
- Wide carriageway with pavement on eastern side and tree lined grass verge on the western side.
- Frontage parking and garages are common place.
- Boundary treatments comprise predominantly of hedgerows with many dwellings having an open frontage.
- There is the occasional low boundary wall with the majority of dwellings having open frontages.

Key characteristics

Colours and materiality

Façade

Red brick



Buff brick

Roofing

Natural slate

Grey pantile

Boundary treatments

Detailing

Openings

4.5.2 Design Code CA4: Low Road / Charnwood Close

In conjunction with the Area-wide codes set out in Section 03, all development in the Casthorpe Road / High Road character area must:

1. Be of a density that reflects the wider character, between 20-25 dph, as set out in Section 3.4.7 of this report.
2. Adopt materials and architectural features as set out in the adjacent imagery. Materials should be limited to red or buff brick.
3. Provide a consistent buildings line (consistent with adjacent properties) and have front boundaries that are bounded by hedgerow or low masonry walls.
4. Be of a scale no less than 1.5 and no more than 2 storeys.
5. Adopt brown roof tiles as the roof treatment.
6. Arrange properties on a irregular and informal plot layout.
7. Predominantly detached property types.

Character area	Average Net Dwellings per Hectare (DpH)
Low Road / Charnwood Close	20-25

Figure 46: Ribbon type development arranged along Low Road. Strong frontage and overlooking provided to this primary road.

Materials and detailing

Red brick

Brown pantile

Buff brick

White render

Stone sills and lintels

Colour








Figure 47: Materials, detailing and boundaries across CA4 . The images reveal a variety of house types, a mix of materials (including red brick and white painted panelling). Streets are wider to accommodate higher volumes of residential traffic. Boundaries are often open or behind low masonry walls, hedgerow or metal fencing. Formal and informal footpaths connect adjacent streets, spaces and neighbourhoods.

5 Character Area 5: Morris Road

4.6 CA5: Morris Road

- Modern development comprising detached and semi-detached housetypes. Mix of affordable, social and privately owned properties.
- Red brick with white render providing variation on the streetscene.
- Mix of parking provision with examples of front of property and side of property parking - predominantly on-plot.
- Low to open boundary treatments with adolescent planting delineating between public and private space.
- Residential use with a Co-Op store on the site frontage to Low Road.
- High level of connectivity to adjacent streets and neighbourhoods.
- Natural slate roofing materials in a traditional pitch. Some examples of link gables and open gables on the frontage.
- The use of porches, Cheshire fencing and variety in property design creates a variety and prevents hegemony of look and feel.
- Change in surface materials reinforces the street hierarchy and naturally slows vehicle speeds.

Key characteristics

Colours and materiality

Façade

Red brick

White render

Roofing

Traditional pitch

Grey tiling

Boundary treatments

Detailing

Openings

4.6.2 Design Code CA5: Morris Road

In conjunction with the Area-wide codes set out in Section 03, all development in the Morris Road character area must:

1. Be of a density that reflects the wider character, between 35-40 dph, as set out in Section 3.4.7 of this report.
2. Adopt and enhance materials and architectural features as set out in the adjacent imagery. Materials should be limited to red brick with white render providing variation on the streetscene.
3. Propose low or open front boundary treatments, in line with adjacent properties.
4. Be no more than 2 storeys in scale. Focal points and articulated corners can exceed 2 storeys to provide variance on the roofscape.
5. Adopt natural slate roofing materials with a traditional pitch.
6. Integrate new development with the wider footpath network retaining the existing high level of connectivity.

Phases 2 and 3 of the wider development should seek to improve and enhance the standards set out by phase 1.

Character area	Average Net Dwellings per Hectare (DpH)
Morris Road	35-40

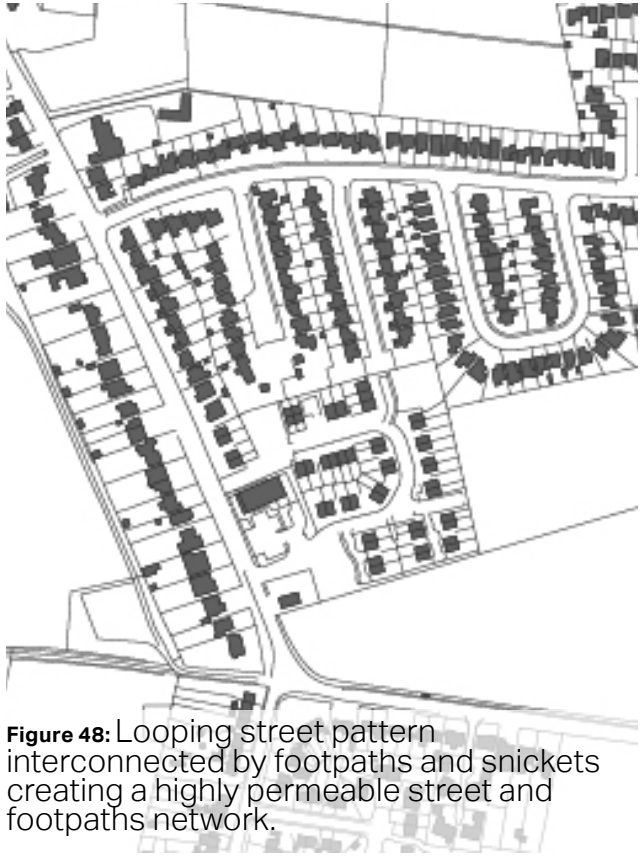
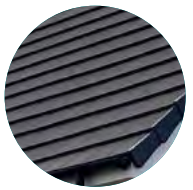


Figure 48: Looping street pattern interconnected by footpaths and snickets creating a highly permeable street and footpaths network.

Materials and detailing

Red brick



Grey tiling

White render

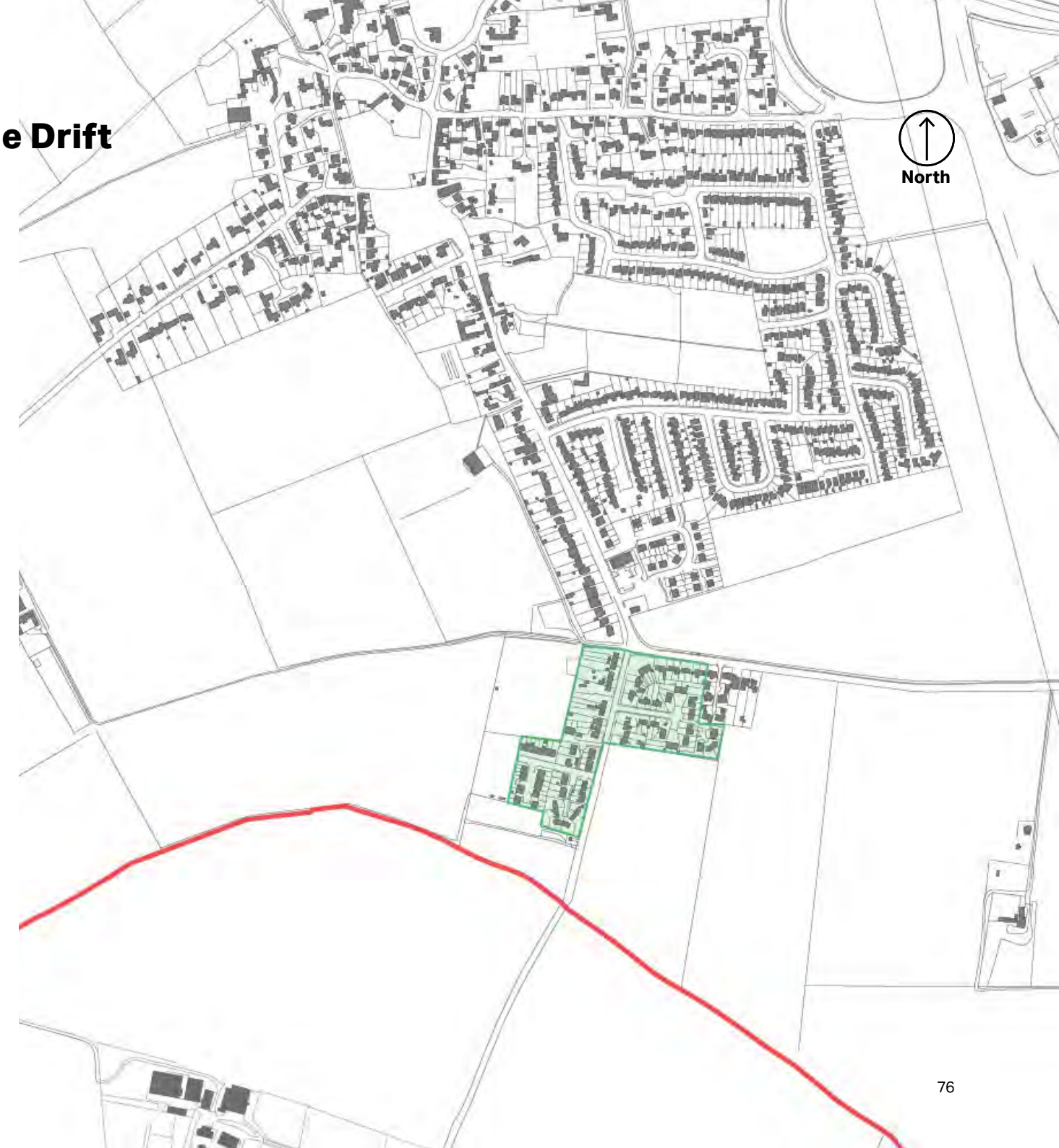
Colour

Figure 49: Materials, detailing and boundaries across CA5. The images reveal a dominance in red brick as an elevational treatment with white render used sporadically throughout the character area. Boundaries are minimal with some planting and estate fencing delineating between public and private space. The streetscape varies with a change in materiality naturally slowing vehicles down.

6 Character Area 6: The Drift

4.7 CA6: The Drift

- Mix of 2 storey dwellings and single storey post war and some more modern dwellings.
- Dwellings are primarily semi detached and terraced.
- Bricks are a mix of red and buff and pick with brown tile roof. Some use of render and cladding.
- Frontage hipped and pitched roofs are common place.
- Architectural detailing present in the locality includes bay windows and brick detailing, but this is not universal
- Dwellings benefit from uniform set backs from the pavement.
- Mix of parking provision with examples of front of property and side of property parking - predominantly on-plot.
- Boundary treatment is primarily hedging, with some low walls and fences and some dwellings having open frontages.



Key characteristics

Colours and materiality

Façade

Red brick

Timber

Roofing

Natural slate

Grey pantile

Boundary treatments

Detailing

Openings

4.7.2 Design Code CA6: The Drift

In conjunction with the Area-wide codes set out in Section 03, all development in the Morris Road character area must:

1. Be of a density that reflects the wider character, between 25-30 dph, as set out in Section 3.4.7 of this report.
2. Adopt materials and architectural features as set out in the adjacent imagery. Materials should be limited to red and buff brick with render providing variation on the streetscene.
3. Be set back from the road behind front gardens with hedgerow or low masonry walls as front boundary treatments.
4. Be no more than 2 storeys in scale. Focal points and articulated corners can exceed 2 storeys to provide variance on the roofscape.
5. Adopt brown tile with a hipped or pitched roof treatment.

Character area	Average Net Dwellings per Hectare (DpH)
The Drift	25-30

Figure 50: Ribbon type development arranged along the Drift, complimented by infill and backland development

Materials and detailing

Red brick

Natural slate

Timber

Grey pantile

Brick banding

Colour



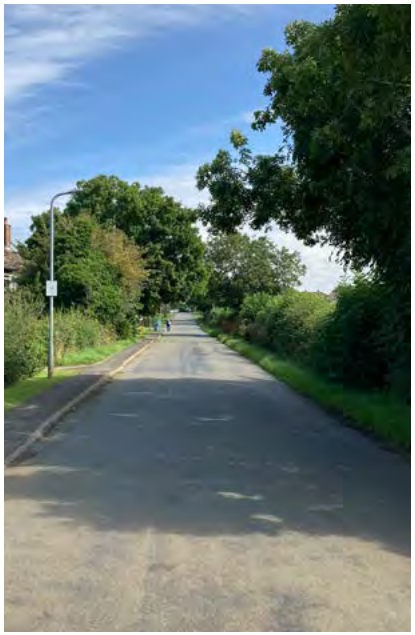


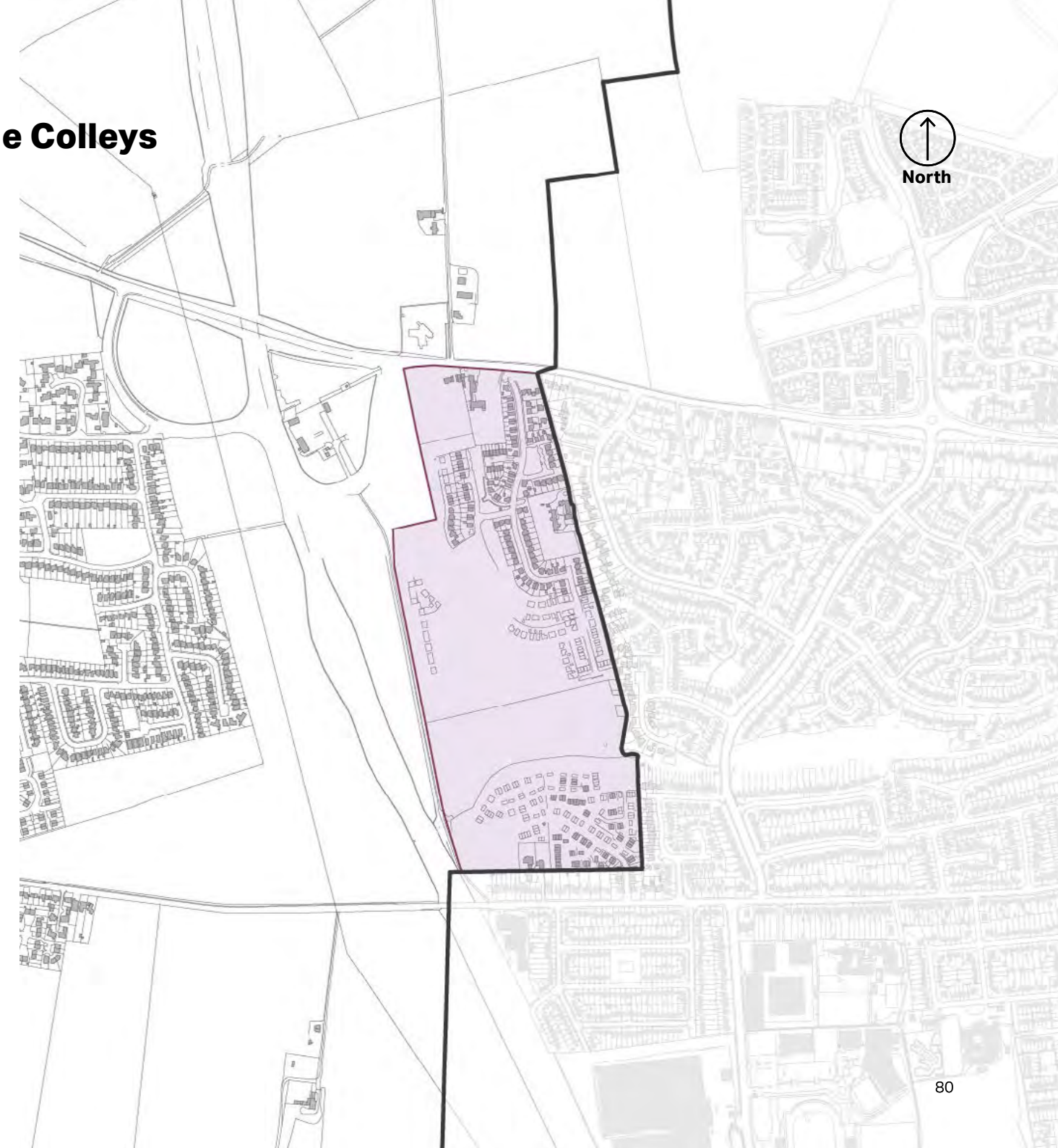



Figure 51: Materials, detailing and boundaries across CA6. The images reveal a dominance in red brick as an elevational treatment with brick detailing and banding. There are some cases of timber facades providing variety on the streetscene. The character area has a sylvan character with significant planting within the streetscene and tree planting within residential curtilages.

7 Character Area 7: The Colleys

4.8 CA7: The Colleys

- Two modern development sites located to the east of the A1 and the main urban area of Barrowby. The Colleys to the north (bounded by A1 and A53) and the Windrush development to the south bounded by the A1 and Dysart Road.
- There is a mix of red brick and white render properties.
- Stone sills, brick lintels and banding/ detailing are commonplace.
- Parking is predominant provided on-plot, mainly to the side of the property.
- Grass verges and street tree planting provide significant visual relief along the street.
- Building are mainly arranged along a looping spine road that provides access to secondary and tertiary streets.
- Buildings are mainly 2 storeys in scale with a few cases of 2.5 storeys providing diversity to the height of buildings. The roofscape is further articulated through the use of gablets.
- Mix of semi-detached and detached properties. Gaps between properties allow for views through the plot.



Key characteristics

Colours and materiality

Façade

Red brick

White render

Roofing

Rosemary tiles

Grey tiling

Boundary treatments

Detailing

Openings

4.8.2 Design Code CA7: The Colleys

In conjunction with the Area-wide codes set out in Section 03, all development in The Colleys character area must:

1. Be of a density that reflects the wider character, between 30-35 dph, as set out in Section 3.4.7 of this report.
2. Adopt and enhance materials and architectural features as set out in the adjacent imagery. Materials should be limited to red brick with white render providing variation on the streetscene.
3. Propose low or open front boundary treatments, in line with adjacent properties.
4. Be no more than 2.5 storeys in scale. Focal points and articulated corners can exceed to 3 storeys to provide variance on the roofscape.
5. Adopt a traditional pitch for roofs. Articulation to the roofscape can be provided with gablets.
6. Integrate new development with the wider footpath network retaining the existing high level of connectivity.

Character area	Average Net Dwellings per Hectare (DpH)
The Colleys	30-35

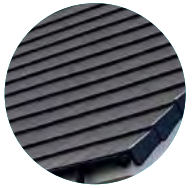
Figure 52: Looping spine road with a series of tertiary residential street radiating away serving access to properties.

Materials and detailing

Red brick

Brick banding

White render



Grey tiling

Colour

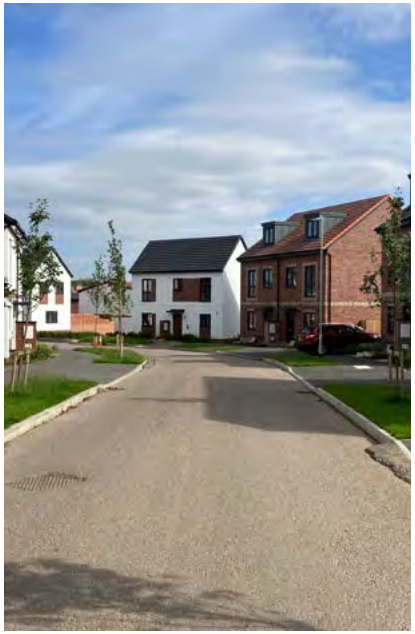


Figure 53: Materials, detailing and boundaries across CA7. The images reveal a dominance of red brick and white render as elevational materials. Boundaries are minimal with some planting and estate fencing delineating between public and private space. The streetscape varies with a change in materiality naturally slowing vehicles down. Images taken at the Windrush adn Colleys developments.

Checklist

05

5. Checklist

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

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, firstly, considering 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

Local green spaces, views & 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?
- 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?
- Have opportunities for enhancing existing amenity spaces been explored?
- Will any communal amenity space be created? If so, how this will 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)?

3

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?

4

Buildings 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?
- 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?

5

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?

6

Building materials & 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?
- Can the proposed materials be locally and/or responsibly sourced? E.g. FSC timber, or certified under BES 6001, ISO 14001 Environmental Management Systems?

7

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?

8

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?

9

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?

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?

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