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GILLESPIES

DESIGN CODE

LAND AT MASTIN MOOR

DERBYSHIRE



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SECTION 1
INTRODUCTION

1. INTRODUCTION

1.1 PURPOSE OF THE DESIGN CODE

This Design Code has been prepared by Gillespies on behalf of Devonshire Property (MM) Limited in fulfilment of requirements of the outline planning permission (ref. CHE/20/00700/OUT).

The Design Code sets out a number of key design principles to be applied across the site so as to help ensure the development will be a distinctive and attractive place where people want to live, work and visit for generations to come.

The Design Code should be read alongside the Mastin Moor Design and Access Statement, and be applied having regard to relevant Local Plan policies.

The Design Code seeks to provide guidance on how identified placemaking principles can be applied across the development to support the delivery of the overall vision. It does this by setting out design principles to be applied in relation to key elements of the Masterplan and by providing guidance on how different parts of the development should be designed in order to create distinctive, characterful places defined by their landscape and built form.

The placemaking principles reflect an appreciation of the special characteristics observed both in the local area and in further afield across Derbyshire. The Design Code is intended to help to ensure development of consistently high quality is achieved across the site. Chesterfield Borough Council, as the Local Planning Authority, in determining applications for detailed design (reserved matters), will use the Design Code to help ensure any proposals satisfy these expectations. Developers should therefore use the Design Code as a tool, integral to their own design processes and procedures.

The design principles that are considered to be fundamentally important to the development of Mastin Moor are listed below:

- Character
- Built Form
- Homes
- Landscape and Public Realm
- Ecology and Biodiversity
- Play
- Streets
- Active Travel
- Parking
- Wayfinding
- Community Involvement



FIG.01: DISTINCTIVE HOMES THAT POSITIVELY ADDRESS OPEN SPACE AND ARE INTEGRATED WITH THE WIDER GREEN INFRASTRUCTURE FRAMEWORK



FIG.02: COMMUNITY SPACES THAT CREATE A FOCAL POINT AND OFFER GATHERING AND MEETING SPACES



FIG.03: ACTIVE TRAVEL ROUTES THAT CONNECT HOMES WITH SERVICES, FACILITIES AND THE WIDER PUBLIC RIGHT OF WAY NETWORK

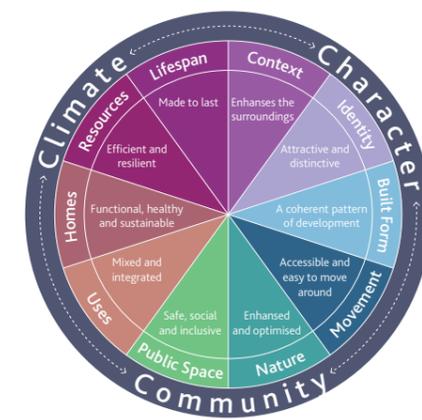


FIG.04: 10 CHARACTERISTICS OF WELL DESIGNED PLACES, NATIONAL DESIGN GUIDE

1. INTRODUCTION

1.2 THE SITE

The site is located at Mastin Moor, to the south of Worksop Road (A619) to both the east and west of Bolsover Road, with part of the site extending southwards to Woodthorpe Road. It encompasses some 46.2 ha of mainly agricultural land. The overall site forms a valley sloping from the ridge lines along Worksop Road and Woodthorpe Road towards a watercourse that runs in a east-west direction through the site. The highest part of the site is around 119m AOD in the north-east and the lowest area in the south-west of the site at around 56m AOD

The site is primarily comprised of undulating arable fields with limited features. The main features of note include:

- An unnamed watercourse that flows in a westerly direction through the site
- Bolsover Road that runs through the site on a north-south axis
- Pump House Farm (dwelling and curtilage) that is surrounded by the development but does not form part of it
- Field boundaries that are a mixture of hedgerows, stone walls and woodland
- Isolated trees
- Sloping topography

The main part of the settlement of Mastin Moor is located to the north of the site, on the northern side of Worksop Road. The settlement of Woodthorpe is located generally to the west of the site. The site abuts a limited number of residential properties, as well as the Mastin Moor Community Garden.

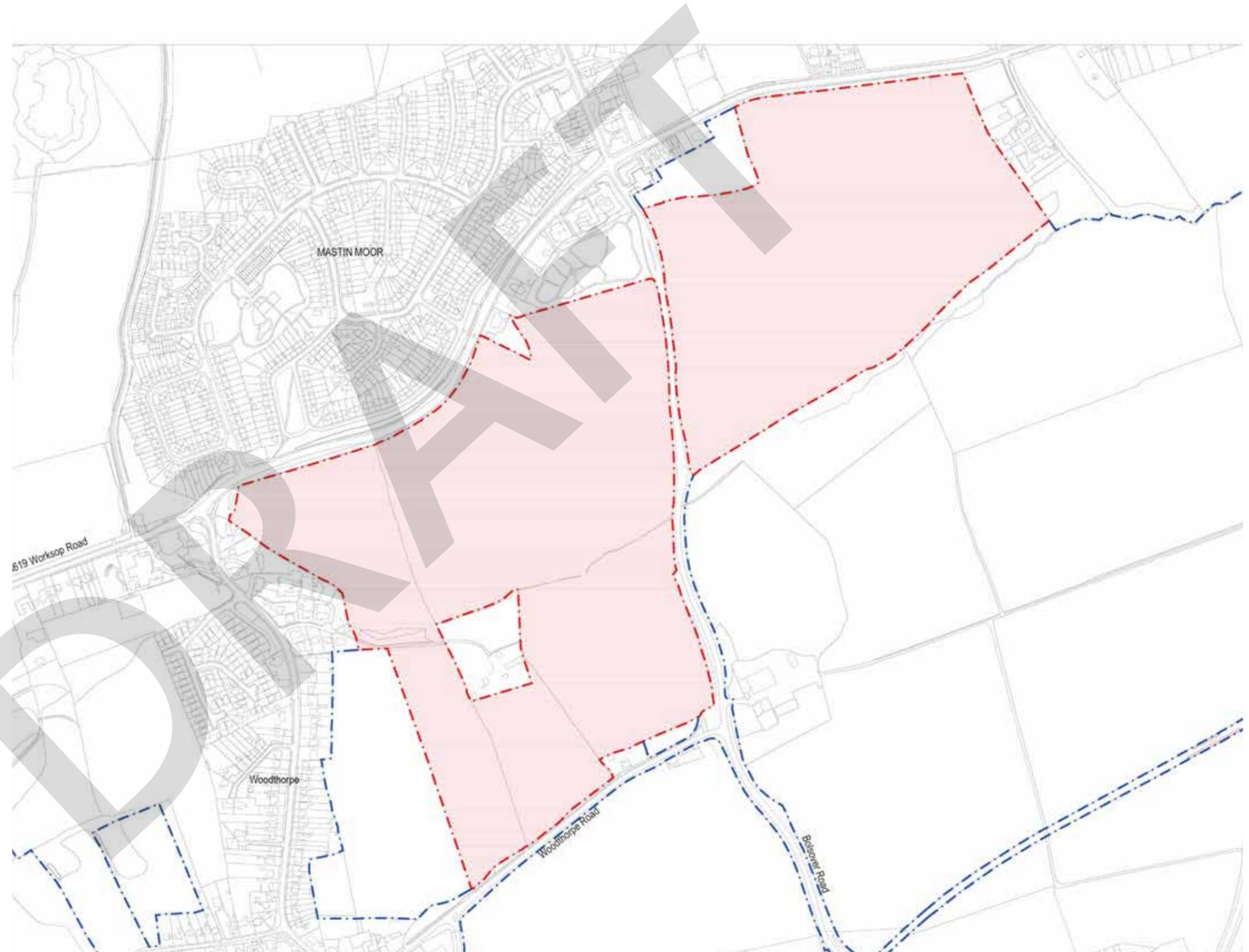


FIG.05: LOCATION PLAN

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SECTION 2
CONTEXT & SITE ANALYSIS

2. CONTEXT & SITE ANALYSIS

2.1 BACKGROUND

LOCAL PLAN

The Chesterfield Local Plan (adopted July 2020) allocates the site for development by way of Policy CLP3, Site H35. The site also sits within Regeneration Priority Area RP1.

PLANNING PERMISSION

In response to planning application ref. CHE/20/00700/OUT, Chesterfield Borough Council resolved, on 15th February 2021, to grant outline planning permission, subject to conditions and the signing of a S106 agreement, for 'residential development of up to 650 dwellings, a residential care facility with extra care, a Local Centre (including local retail, health facilities, leisure facilities, other local facilities and services, offices), open space, community garden extension, community building, parking and associated infrastructure and earthworks' on this site. At the time of writing, that decision has not yet been issued. This Design Code has, however, been prepared in accordance with the requirements of the conditions that will be imposed.

Prior to the above, outline planning permission was granted at appeal (appeal ref. APP/N1015/W/20/3250716, application ref. CHE/17/00469/OUT) for 'residential development of up to 650 dwellings (including elderly care and specialist accommodation), a local centre (including local retail, health facilities, other local facilities and services), open space, community garden extension (including community building and parking) and associated infrastructure'. The conditions to be imposed in response to application ref. CHE/20/00700/OUT will mirror those imposed upon permission ref. CHE/17/00469/OUT.

REQUIREMENT FOR DESIGN CODE / FRAMEWORK

Condition 11 of the planning permission (ref. CHE/20/00700/OUT) will require:

'Prior to or no later than concurrent with the first reserved matters application, a Design Code/Framework shall be submitted to the local planning authority for approval in writing. The Design Code/Framework shall set out the overarching design approach for the whole site and set a site wide open space, green infrastructure and accessibility framework to inform any phased reserved matters proposals. The Design Code/Framework should be compatible with, and expand upon, the principles set in the Design and Access Statement (DAS) dated October 2020 no. P20181-00-001-GIL-0703-03 received 12.10.2020. All reserved matters applications shall accord with the approved site wide Design Code/Framework.

Reason: To ensure that the development is constructed to appropriate design quality / standard in accordance with the requirements of policies CLP3, RP1 and CLP20 of the Adopted Local Plan and the 'Successful Places' SPD.'

This Design Code has been prepared in accordance with the requirements of condition 11.

DESIGN AND ACCESS STATEMENT

Condition 12 of the planning permission (ref. CHE/20/00700/OUT) will require:

'The submission of the reserved matters applications shall be broadly in accordance with the details shown in the Design and Access Statement (DAS) dated October 2020 no. P20181-00-001-GIL-0703-03 received 12.10.2020; and the Indicative Masterplan P20181-00-001-100 Rev 02 dated 06.08.20 received 12.10.2021.

Reason: To ensure that the development is constructed to appropriate design quality / standard in accordance with the requirements of policies CLP3, RP1 and CLP20 of the Adopted Local Plan and the 'Successful Places' SPD.'

The Design and Access Statement provides additional details as to the assessment of the site and design process that led to the outline proposals. Developers should make themselves familiar with the Design and Access Statement so as to best inform their own design processes and proposals.

2. CONTEXT & SITE ANALYSIS

2.2 POLICY & EVIDENCE REVIEW



FIG.06: PLANNING POLICIES AND DOCUMENTS

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SECTION 3
VISION AND MASTERPLAN

3. VISION AND MASTERPLAN

3.1 VISION

DESIGN VISION

A vision for this development at Mastin Moor has been prepared based around design principles that will help to foster successful and sustainable neighbourhoods and contribute to wider regeneration, inline with the objectives and aspirations set out in the Local Plan.



FIG.07: A VARIETY OF ATTRACTIVE DISTINCTIVE HOUSES



FIG.08: MAINTAIN AND ENHANCE LOCAL ECOLOGY

DESIGN PRINCIPLES

The following design principles have informed the overall vision for the site:

- A new Local Centre to provide essential facilities and services that meet the needs of existing and new residents, contributing to sustainable communities.
- Contribute to regeneration within Mastin Moor area.
- Improve the mix of house types and access to facilities and services.
- Provide a strong green infrastructure network that is available to the communities of Mastin Moor and Woodthorpe, providing attractive green spaces for recreation, exercise, relaxation and interaction.
- Create safe environments where open spaces are well designed and overlooked so as to reduce crime and anti-social behaviour.
- Contribute to healthy communities with safe and convenient access to attractive walking and cycle trails, connecting to key facilities and jobs through sustainable modes of transport.
- Promote environmental, economic and social sustainability, including through the long term management of on-site facilities and community involvement.
- Help sustain and improve the existing Mastin Moor Community Garden.

- Create a balanced and integrated mix of dwelling types and tenures so as to provide improved choice of housing for existing and new residents.
- Respect and respond to existing characters.
- Help reduce existing off-site flood risk.
- Provide a strong sense of 'arrival' and 'place'.
- Offer benefits to existing and new residents.
- Maintain and enhance ecological values.
- Minimise impacts on the wider landscape.
- Help people to live near where they can work.
- Facilitate high quality design for all future development across the site.

MASTERPLAN

The Illustrative Masterplan (Fig.09) is a spatial expression of the Design Vision, integrating the design principles and mechanisms by which they can be achieved as part of the development.



PARK AT THE HEART
Open-space provides a green heart to link the new development with Woodthorpe and Mastin Moor

FIG.09: CONCEPT SKETCH

3.2 ILLUSTRATIVE MASTERPLAN



FIG.10: ILLUSTRATIVE MASTERPLAN



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SECTION 4
DESIGN CODE

4. DESIGN CODE

4.1 CHARACTER AREAS

Through the appraisal of both the context and characteristics of the development, along with how the Illustrative Masterplan (Fig.29) has developed, a number of distinct areas have evolved that respond to the natural and built context and build on the positive qualities of each. These form distinct character areas within the townscape that work and are informed by both the Access and Movement Strategy and Green Infrastructure (see 4.3 and 4.4 of this document).

The Masterplan identifies a number of distinct areas that respond to their natural and built context. These areas will be differentiated within the site through their design expression, but remain consistent with the overarching design principles and contribute to the overall vision.

Six character areas have been identified:

1. Local Centre
2. Family neighbourhood. Spittal Flatts
3. Family neighbourhood. Ridding
4. Family neighbourhood. Ridding
5. Family neighbourhood. Old Hall Close
6. Green spine

A focused Vision for each of the character areas provides further guidance as to how this differentiation can be achieved, along with specific Character and Qualities and Design Parameters.



FIG.11: CHARACTER AREAS

4. DESIGN CODE

4.1 CHARACTER AREAS

1. LOCAL CENTRE

Vision

The Local Centre will form the main gateway for the development and provide a new community hub with local shops, cafés and services for the surrounding existing neighbourhoods of Mastin Moor, Woodthorpe and the new development.

This communal hub will be visible from the main Worksop Road but will be centred around a public square creating a lively place for people to meet, shop and use local services.

The ground floors should be used for commercial and service functions with the opportunity for apartments above to create a lively and active Local Centre. Specialist elderly residential accommodation could be located close to the local facilities and form part of the Local Centre.

The house-types of Mastin Moor with limited commercial buildings and community buildings



FIG.12: LOCATION OF CHARACTER AREA 1

offer little opportunity for developing a strong character suitable for replication within the site. The contemporary styling of the Cambrian Acer Clinic offers an incite into what can be achieved using high quality modern and traditional materials.

Character and qualities

- Provide the main gateway to the wider development with access through a wide tree lined avenue that can accommodate pedestrians, cycles, cars and buses.
- Passively inform users of Worksop Road that there are shops and services available by addressing and overlooking the road but retaining the hedgerow.
- Public square that creates a formal open space framed by local shops and facilities with outdoor spill-out food and drinking areas to animate the public space.
- Community facilities to address open space.
- Opportunity for elderly residential / extra care facility .
- Residential apartments above ground-floor shops and services to create a lively and active place and provide passive surveillance to the Local Centre.

DESIGN PARAMETERS

- Buildings up to 3 storeys in height.
- Buildings located along Worksop Road to front formal open space whilst appropriately addressing Worksop Road.
- The civic space or square should be defined by a strong architectural narrative with unifying themes, which could contain taller buildings of 3 storeys.
- Service yards to be located behind buildings with appropriate planted buffer screening to existing residential properties.
- Formal parking areas with limited on-street parking
- New signalised junction on Worksop Road to provide vehicle access to the development with cycle and pedestrian links between the new centre and Mastin Moor.
- Buildings facing Worksop Road should be of a scale, design and massing appropriate to provide a 'gateway' setting.
- Opportunity for elderly / extra care facility associated with Local Centre.
- A strong gateway / entrance feature will be incorporated to the Local Centre to create the sense of arrival and enhance the local identity.
- Primary street to include Avenue planting within a verge, segregated cycle lane and min. 6m carriageway able to accommodate a bus route.
- New pedestrian and cycle routes should be well connected to other character areas, open space, the surrounding existing neighbourhoods and amenities.
- Design parameters for active travel and street design: see 4.3 Access and Movement.



FIG.13: TREE PLANTING IN VILLAGE SQUARE



FIG.14: FORMAL PARKING AREA FOR LOCAL CENTRE WITH TREES AND PLANTING



FIG.15: VILLAGE SQUARE, WITH TREES, PLANTING AND SEATING

4. DESIGN CODE

4.1 CHARACTER AREAS

2. SPITTAL FLATS

Vision

Contemporary designed family homes associated with the Local Centre will provide higher density housing located close to shops and services. Design themes and materials should be shared with the Local Centre to reinforce a defined character. The development will be outward looking and actively seek to limit driving speed on Bolsover Road

Character and qualities

The informal street grid will have a hierarchy that provides obvious links with the Local Centre and green spaces. A central tree-lined avenue linking Bolsover Road and Worksop Road through the Local Centre will be emphasised at each end providing key nodes to provide distinctive locations. At this node, building heights may be increased to 3 storeys and will address the corner with active frontages on both streets. A change in materials and expressed details will also emphasise the quality of the buildings in this location. The estate road may have a raised platform and change in material to further emphasise this key location. Where the avenue meets Bolsover Road a gateway feature will be expressed in both the landscaping and built form. Buildings will have continuous building lines and be 3 storey high to emphasise the entrance to the development. A spacious green frontage will allow for tree and shrub planting.

Development along Bolsover Road will be designed to inform road users that they are entering a residential neighbourhood and slow down.

The south facing slope should be exploited to its best potential with house designs that make the most of their orientation for passive solar design. Larger detached houses and plots are to be located overlooking open space around perimeter of area to create a graded density and allow for a variety of edge treatments.

DESIGN PARAMETERS

- Buildings up to 2.5 storeys in height, with the exception of 3 storeys at gateways and nodes
- Buildings along Bolsover Road should actively front Bolsover Road
- Permeable street pattern with minimal dead-ends
- Informal grid street pattern that generally follows the topography
- Perimeter blocks with a clear distinction between public and private spaces
- Strong building lines with active street frontage
- Carefully detailed corner buildings so as not to present blank façades to the public realm
- Parking within curtilage. Limited visitor parking on secondary and peripheral streets only, generally located beside open space
- Density to graduate through area with higher density around the Local Centre, grading down to a lower density around the perimeter
- Open 'leafy' street-scape, street/front garden trees and front gardens
- Strong visual identity at gateways and nodes using distinctive high quality materials and landscaping.
- Primary street includes avenue planting within a verge, segregated cycle lane and min. 6m carriageway to accommodate a bus route. See more details in 4.3 Access and Movement.
- See 4.3 Access and Movement for the design parameters for active travel routes.

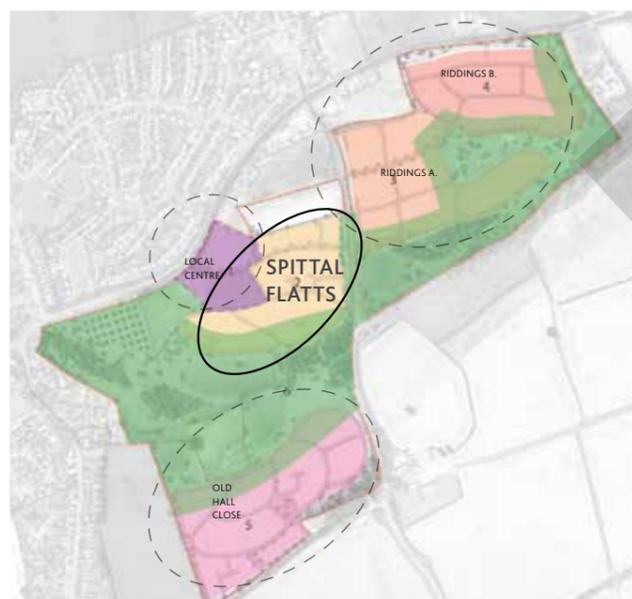


FIG.16: LOCATION OF CHARACTER AREA 1



FIG.17: SEVEN ACRES, CAMBRIDGE



FIG.18: ACCORDIA, CAMBRIDGE



FIG.19: DERWENTHORPE, YORK



FIG.20: DERWENTHORPE, YORK

4. DESIGN CODE

4.1 CHARACTER AREAS

3 & 4. RIDDINGS

Vision

The general character, qualities and parameters for character areas 2 and 3 are the same but the detail of built form should contribute to a differentiation in character.

These areas are on a south facing slope, with distant views overlooking open countryside. This rural outlook and solar orientation should be optimised with large picture windows to take advantage of views and passive solar design

The materials here could reference the Victorian character of local buildings and be generally of brick and render

Character and qualities:

The informal street grid will have a hierarchy that provides obvious links with the Local Centre and green spaces. A central tree-lined avenue will form a spine through the development linking with Bolsover Road. There will be key nodes along the avenue to provide distinctive locations to aid wayfinding. The main node will be where a green finger cuts through the development to meet the avenue.

Where the avenue meets Bolsover Road a gateway feature will be expressed in both the landscaping and built form. Buildings will have continuous building lines and be 3 storey high to emphasise the entrance to the development.

Where development overlooks agricultural land a feather-edge approach should be used to help the development interface with the countryside. The central green finger should have strong building lines to define the space.

DESIGN PARAMETERS:

- Informal grid street pattern that generally follows the topography
- Perimeter blocks with a clear distinction between public front and private rear
- Density to graduate through site with higher density along avenues and lower density around perimeter
- Buildings generally up to 2 storey in height, with the exception of 3 storeys at areas gateways and nodes
- Key buildings and features will be identified at nodes with appropriate quality, detailing and building heights
- Raised highways tables and changes in materials at nodes to help define key spaces
- Parking within curtilage. Limited visitor parking on secondary and peripheral streets only, generally located beside open space
- Corner buildings to be carefully detailed so as not to present blank façades
- Strong building lines with active street frontage
- Permeable street pattern. Where levels require streets to terminate for vehicles, footpaths should join with the wider footpath network.
- Design parameters for active travel and street design: see 4.3 Access and Movement.

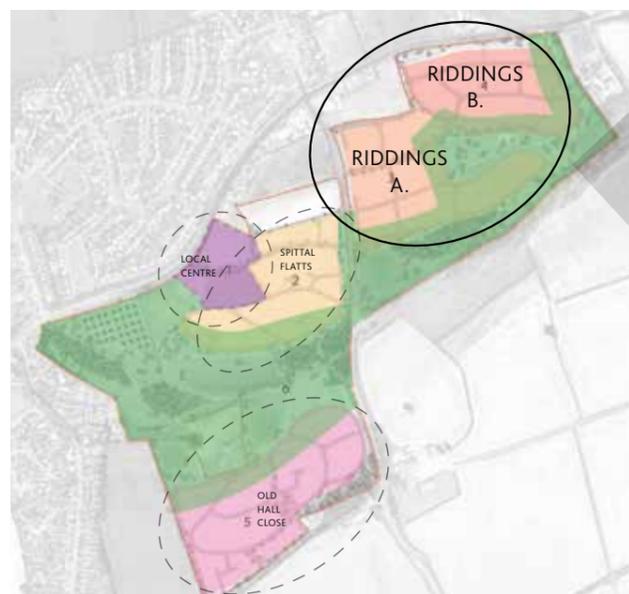


FIG.21: LOCATION OF CHARACTER AREAS 3&4



FIG.22: RURAL STYLE DEVELOPMENT, LIGHTMOOR



FIG.23: ACTIVE FRONTAGES



FIG.24: QUALITY MATERIALS



FIG.25: OVERLOOKED OPEN SPACE

4. DESIGN CODE

4.1 CHARACTER AREAS

5. OLD HALL CLOSE

Vision

This character area will be an extension to the village feel of Woodthorpe drawing upon on the positive characteristics within the area making best use of traditional materials and architectural detailing to strengthen and emphasise the existing character.

While using surrounding context for inspiration, this area of development will respect the village feel of Woodthorpe by separating development from the village and use buffer planting to minimise the impact of development on other neighbours.

A connection to existing public rights of way through Pumphouse Farm will be maintained but provision of well defined alternative routes will offer alternative routes.

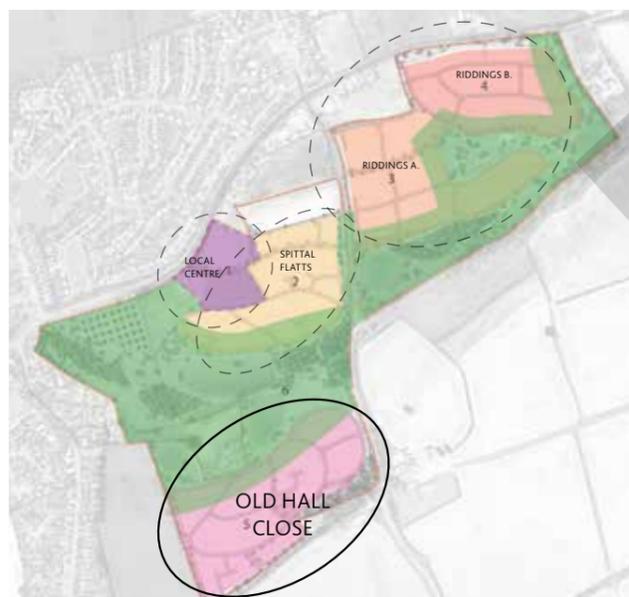


FIG.26: LOCATION OF CHARACTER AREA 5

Character and qualities

The area has the opportunity to use the surrounding context to inform design detailing and through that strengthen the existing qualities of the area. The historic nature of Woodthorpe provides a rich pallet of materials and architectural styles to provide a base to develop a well defined character. Stone, render and brick are the main materials with stone predominantly used for front boundaries and key buildings. To fit with the context of Woodthorpe, a loose knit, semi continuous village feel should be incorporated that will result in a lower density housing. The main spine road through the development will continue the tree-lined avenue treatment of Woodthorpe Road.

DESIGN PARAMETERS

- Buildings generally up to 2 storeys in height, with the exception of 2.5 storeys at area gateways and nodes.
- Front boundaries to be low stone walls and / or hedging.
- Density to graduate through site with higher density to the immediate north of Woodthorpe Road.
- Nodes will be defined by key buildings and / or other features, including trees
- Corner buildings to be detailed so as not to present blank façades
- Buildings will actively address open space
- Parking within curtilage, primarily to side of dwelling and within garages
- Consideration of replacement of any necessary tree losses along Woodthorpe Road to maintain avenue of trees
- Extension of existing field-edge tree planting around south-eastern corner to provide landscape edge and screening of/for Woodthorpe Hall Farm
- Landscape planting to provide buffer adjacent to Pumphouse Farm.
- New landscape mitigation with buffer planting along the west perimeter of the area should be created to reduce the visual impact of the development to the existing Woodthorpe neighbourhoods.
- The new access on Woodthorpe Road will provide all the vehicle access to the area, in order to maintain the landscape character of Woodthorpe Road.
- Design parameters for active travel and street



FIG.27: KEY BUILDINGS IN STONE



FIG.28: TREE-LINED AVENUE, GRASS VERGE, RENDERED HISTORIC BUILDING AND STONE BOUNDARIES



FIG.29: NEW DEVELOPMENT AROUND TREE



FIG.30: PROMINENT LISTED STONE EX-CHURCH IN WOODTHORPE., STONE FRONT BOUNDARY, LOOSE KNIT

4. DESIGN CODE

4.1 CHARACTER AREAS

6. GREEN SPACE

Vision

A key component of the development will be the green open space forming a spine running down the valley, providing a green heart that links the communities of Mastin Moor, Woodthorpe and the new development. Providing active travel routes along with space for recreation and leisure, wildlife and water, it will be a defining feature of the site. There may be opportunities for local residents to participate in the design, planting and maintenance of the open space, along with habitat enhancement such as community woodland and orchards, wildflower areas and bug hotels. The open space should contribute to the health and well-being of existing and new residents.

Character and qualities:

The open space should have a parkland feel with clumps of trees, wild flower meadows and provide space for play, active travel, community interaction and water

The open space should be well overlooked. Houses fronting the green spaces are included within this character area.

Provide opportunities for active play in a variety of different habitats.

DESIGN PARAMETERS:

- Houses fronting enclosed open space should have strong building line to define the space
- Houses fronting open space adjacent to open countryside should have a feather edge, i.e. informal building lines, less rectilinear and varied setbacks. Space between buildings that can offer views and or planting to break up the edge of development.
- Well connected by a network of active travel routes and recreational routes, see 4.3 Access and Movement.
- Provide a variety of habitats including: Woodland, wildflower meadows, wetland/SuDS, orchards, amenity openspace, formal gardens, play areas including both formal and informal areas. See Open Space Provision in 4.4 Green Infrastructure.
- Where possible existing trees and hedgerows should be retained.



FIG.31: LOCATION OF CHARACTER AREA 6



FIG.32: PLANTED SLOPES WITH FOOTPATH



FIG.33: NATURALISTIC WOODLAND



FIG.34: WATER BODY PROVIDING LEISURE OPPORTUNITY AND WILDLIFE HABITAT



FIG.35: INFORMAL RECREATIONAL OPEN SPACE PROMOTING SPORTS AND COMMUNITY ACTIVITIES

4. DESIGN CODE

4.2 BUILT FORM

Responding to the local landscape and characteristics of surrounding areas, a set of design elements have been identified to guide the built environment. Each element will inform the collective identity and distinctiveness of the character areas. These overarching Urban Design Principles have been derived from an appreciation of the site and what the overall form and quality of development that must be achieved. The resulting built form will influence not only how the development will link to the surrounding communities in a physical way but also socially and culturally. The built form of the development will help to strengthen the identity of Mastin Moor and enhance local distinctiveness. The built form will help to influence the creation of the distinct character areas, imbued with quality, richness of experience and liveability. This key Urban Design Principles set out in this Design Code will be further refined and applied in detail by the site's developers.



FIG.36: URBAN DESIGN PRINCIPLES

4. DESIGN CODE

4.2 BUILT FORM

DEVELOPMENT BLOCKS

Successful Place SPD (2013) sets out 'blocks of 60-90m X 90-120m provide the optimum dimensions to support good pedestrian accessibility, vehicle movement and allow for sufficient back to back / back to side separation distances'. Development blocks can vary in shape and size according to the configuration of future proposed layouts.

A perimeter block structure provides clarity between the fronts and backs of buildings, between public and private spaces, and enables continuous overlooking of the street or open space. Creating variation in the shape and size of perimeter blocks helps to generate interesting and distinctive character areas.

The use of perimeter blocks must be consistent throughout the development. Their sizes and shapes should respond to the use, existing landscape features, topography, permeability and connectivity, character and density.

Fronts and backs

Designing development blocks with a clear distinction between residential fronts and backs is crucial in order to achieve best practice in placemaking, and create secure and coherent streets and places.

A clear distinction should be made between public fronts and private/semi-private backs. The primary access of the buildings should align with the public spaces to create activity and provide passive surveillance, while private or semi-private edges – such as service areas and gardens – should be located to the rear. Fronting the public space with blank walls/ gable ends, high fences and hedges which block the view of the public spaces must be avoided. Ambiguous spaces that are neither fully public nor fully private should be avoided. Blocks that contain narrow lanes with pedestrian and cycle routes should ensure that they are overlooked in order to create natural surveillance and a sense of security.

Building lines and setbacks

Building lines and setbacks are important to the overall character of the area and the sense of enclosure of the streets and public realm. Continuous building lines with a minimum gap creates a strong distinction between public and private spaces, and provides a sense of enclosure to the public areas. Where buildings step back from the building line, this should be designed in order to create usable and attractive spaces.

Around the higher density areas, building lines should be continuous with consistent setbacks and a small private strip, to accommodate a small garden or area for planting. In low to medium density residential areas, setbacks can vary in depth in order to accommodate larger front gardens or landscaped strips. This can also respond to the character and the landscape context of the area. Front gardens can be much deeper along the peripheries of the development in order to create a softer transition between surrounding countryside, woodland, parks and built environment.

Well-defined public and private space

Buildings fronting the streets and open spaces give life to the public realm, therefore primary access and principal frontages should always face onto public spaces. Spacing between principal habitable rooms should be sufficient to avoid being intrusively overlooked and the need for curtains and blinds to be drawn. Setbacks from the street and front garden landscaping should seek to balance privacy for front living rooms with the need for a view of the streets.

Successful Place SPD (2013) sets out the requirement for separation distances:

- Min. 21m between the rear elevations of two dwellings directly facing one another;
- Min. 12m front to front;
- Min. 12m rear to a side wall/gable.

Appropriate boundary treatments should be incorporated into design layouts to clearly distinguish public and private space.



FIG.37: DEVELOPMENT BLOCK SIZE



FIG.38: BUILDING LINE, SETBACK AND SEPARATION DISTANCE

4. DESIGN CODE

4.2 BUILT FORM

Edges

The interface of development edges to countryside, open space, green links or boundaries of the site has a critical role in defining the character and the quality of a place.

At all the edges of the development, buildings will positively address the public realm, providing natural surveillance. The building scale, mass and typologies should respond to the topography, existing landscape and its context. Architectural and public realm material will be chosen sympathetically to the existing landscape character. Where buildings face sensitive edges such as existing highways across the site, a sensitive approach should be followed with appropriate setbacks, landscape buffer and screening, building heights, roof typologies and the use of materials.

The various types of development edges established for the development can be found in Fig. 55 Urban Design Principles.

Corner treatment

It is an important design principle of Built Form to appropriately address the corners of a development block. Where corners of development plots are visually prominent, dual aspect buildings (buildings with more than one entrance and two active frontages) or semi-detached corner buildings should be implemented with prominent entrances and windows.

In lower density areas closer to the peripheries of the development, continuous built frontage should address the corner by using a series of linked dwellings where possible. When a terrace, detached or semi-detached house faces out onto the corner, the buildings should have the main entrance and habitable room windows facing both aspects to create activity, and should provide natural surveillance by overlooking the street. This building can also be taller or have a distinctive architectural element, to ensure a greater presence than the neighbouring buildings to articulate the corner.



FIG.39: EDGES AND CORNER BUILDINGS

Gateway or entrance

Workshop Road, Bolsover Road and Woodthorpe Road will serve as the primary vehicular connectors into the development. Four gateways have been identified in the whole development. Two of them will provide accesses to the Local Centre through a wide tree lined avenue which accommodates pedestrians, cyclists, cars and buses.

The gateways should be emphasised by grouped buildings or a small enclosing green. Buildings at gateway or landmark locations will require especially high quality design solutions that emphasise the local identity and architectural distinctiveness. It is one of essential wayfinding strategies.

Entry features will give strong visual identity to the development and provide the sense of arrival. Community involvement for designing signage and entry features should be encouraged to embrace local community spirit, which will contribute to the atmosphere of the community neighbourhood, see Wayfinding Strategy in 4.3 Access & Movement of this document.



FIG.40: SOME EXAMPLES OF GATEWAY FEATURES

Boundary treatment

Locally there are three main boundary treatments. Stone/brick walls, timber fencing and hedges are predominantly used along road edges and urban areas, while hedges make up the majority of field boundaries in rural locations.

Development with more formal layout should use defined building lines, similarity of materials and coherent boundary treatments to create a strong sense of enclosure.

Continuity of boundary treatments should be required along the length of streets within particular character areas.

- Low stone/brick walls with max. height of 1m should be used as the formal front boundary treatment along primary streets as well as around the main gateways to the development.
- Low hedges or fences with max. height of 1m could be used as front boundary treatment in less formal development.
- Hedges should be used for single sided development and dividing boundaries between properties.



4. DESIGN CODE

4.2 BUILT FORM

DESIGN CODE SUMMARY - BUILT FORM

- Perimeter blocks should be used to ensure that there is a distinction between public and private space and to ensure that the public realm is overlooked.
- Buildings should positively address public realm by being overlooked by windows from habitable rooms and/ or access doors.
- Building setbacks should respond to the context. Dwellings fronting primary streets should have limited setbacks of up to 5 metres and provide strong building lines. Buildings fronting secondary and tertiary streets can have a more varied building line with deeper setbacks.
- Sufficient building separation distances must be provided to avoid overlooking. Back to back distance should be min. 21m. Min. 12m front to front distance and rear to side distance.
- Buildings located on street corners should be designed to address both streets.
- Boundary treatments should generally consist of low stone/brick walls fronting primary streets and a mix of hedge and fence for secondary, tertiary and local streets. Open space should be fronted with hedges.



FIG.41: BUILDING LINE AND SETBACKS, PRIVATE AND PUBLIC



FIG.42: CORNER BUILDINGS



FIG.43: DEVELOPMENT EDGE FACING OPEN SPACE



FIG.44: VARIED BOUNDARY TREATMENTS

4. DESIGN CODE

4.2 BUILT FORM

DENSITY PLAN

The residential land use is divided into three density zones in order to achieve a diverse mix of housing types within 4 different phases (see Fig. 128 Phasing Plan):

Higher density should be centred around the gateways and main access routes through the development and lower density located around the perimeter of the development and fronting open space.



FIG.45: RESIDENTIAL DENSITY STRATEGY

4. DESIGN CODE

4.2 BUILT FORM

High density zone

- Block Layout: more formal with continuous building line.
- Building typologies: predominantly townhouse & semi-detached.
- Max. Building Height: 12m with max. eave height of 9m.
- Max. Building Storey: 3.
- Building Setback: up to 5m.



Medium density zone

- Block Layout
- Building typologies: predominantly semi-detached.
- Max. Building Height: 12m with max. eave height of 9m.
- Max. Building Storey: 3
- Building Setback: up to 6m.



Low density zone

- Block Layout: more informal with varied building setback.
- Building typologies: predominantly semi-detached & detached.
- Max. Building Height: 9m with max. eave height of 6m.
- Max. Building Storey: 2.5.
- Building Setback: varied with min. setback of 6m.



FIG.46: PROTOTYPES FOR RESIDENTIAL HIGH/MEDIUM/LOW DENSITY

FIG.47: PRECEDENTS FOR RESIDENTIAL HIGH/MEDIUM/LOW DENSITY

4. DESIGN CODE

4.3 ACCESS AND MOVEMENT

The development will benefit from safe, convenient and attractive links both within the site and to the surrounding areas. This will help residents to easily access local community facilities, other amenities and employment sites. Key destinations will include: primary and secondary schools; the community garden; Eventide Rest Room; Chesterfield Canal (Norbriggs Cutting); Norbriggs Flash Nature Reserve; Staveley Town Centre; Markham Vale. In addition to walking and cycling, the site will offer convenient access to public transport and safe access to the local road network.

The high level of connectivity will encourage and allow residents of existing parts of Mastin Moor and Woodthorpe to make use of the site's greenspace and the Local Centre.

The strategy prioritises active travel modes over vehicle usage to encourage more sustainable travel choices and healthier lifestyles.

The strategy will help to tie different parts or phases of the development together by providing a consistent, high standard of accessibility with common themes and legibility through common design parameters. This will contribute to the overall harmony of the scheme, an important element of the comprehensive approach to the site.

The Access and Movement Strategy comprises:

- Active Travel Strategy.
- Vehicle Access Strategy.
- Parking Strategy.
- Wayfinding Strategy.

The strategy takes consideration of access requirements for all users in the following orders:

- Pedestrians;
- Cyclists / equestrians;
- Public transport;
- Specialist service vehicles - emergency services/ refuse / delivery vehicles;
- Private vehicles.

A number of parameters are associated with different elements of the access and movement strategy which are set out in the coming pages.



FIG.48: SEGREGATED CYCLE LANE



FIG.49: PROPOSED GREEN ACTIVE TRAVEL ROUTES ACROSS THE DEVELOPMENT



FIG.50: PARKING SOLUTION



FIG.51: WAYFINDING STRATEGY

4. DESIGN CODE

4.3 ACCESS AND MOVEMENT

KEY:

-  Site Boundary
-  Local Nature Reserve
-  Sports Facilities & Play Provision
-  River / Water Body
-  Built Up Area
-  Employment Area
-  Proposed HS2
-  Motorway (M1)
-  A Road
-  Existing Local Street
-  Proposed Vehicle Access
-  Proposed Street
-  Existing PRoW / Footway
-  Sustrans National Cycle Network (NCN 67) & Trans Pennine Trail (TPT)
-  Key Cycle Network (Chesterfield Borough Local Plan 2020)
-  Local Cycle Network (Chesterfield Borough Local Plan 2020)
-  Proposed Active Travel Link
-  Existing Primary School
-  Existing Secondary School

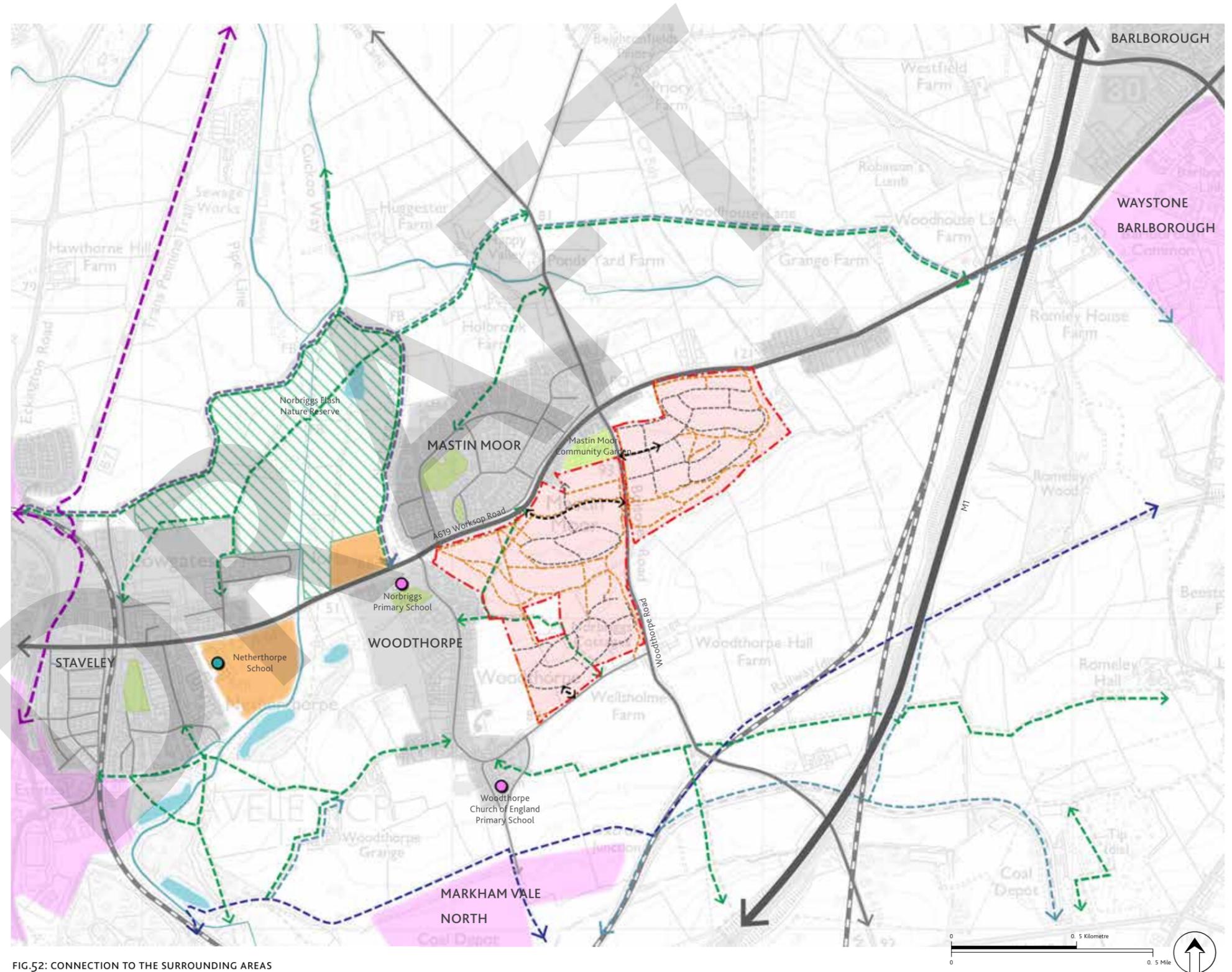


FIG.52: CONNECTION TO THE SURROUNDING AREAS

4. DESIGN CODE

4.3 ACCESS AND MOVEMENT

ACTIVE TRAVEL ROUTES

The pedestrian and cycle network promotes active travel within the development. The internal path network is well linked to the wider public rights of way. It also connects the new neighbourhoods with the existing surrounding communities of Mastin Moor, Woodthorpe, Staveley and Markham Vale.

The strong pedestrian and cycle connection through the development aids both permeability and navigation and offers safe routes to schools, local facilities and services, and the wider footpath network.

Multi-user routes form strategic links through the open space with interconnecting footpaths. Where strategic links pass through development areas, segregated cycle lanes should be considered to ensure safe and direct routes for all.

Cycle Infrastructure Design (LTN 1/20) states preferably pedestrian and cycle routes are segregated with min. 2m of footpath and 3m of cycleway.



4. DESIGN CODE

4.3 ACCESS AND MOVEMENT



FIG.55: SECTION 1 - ACTIVE TRAVEL ROUTE (OFF ROAD)

DESIGN PARAMETERS - ACTIVE TRAVEL ROUTES
 Shared Active Travel Route (off road) - in line with
 Sustrains traffic-free Routes and Greenways Design
 Guide:

- Active forms of travel including: cycle, walking scooter as well as accessibility carts.
- Width: min. 3m.
- Gradient: max. 1:20 (5%), while 1:14 (7%) may be acceptable for steeper contours for the distance up to 30m;
- Surface: level and sealed to allow wheeled use

Active Travel Route (on road):

- Footways: min. 2m along both sides of the carriageway (min. 3m at bus stops and outside health care facility, min. 4m in shopping area to cater for additional pedestrian movements);
- Cycle provision: min. 3m segregated two-way cycle lane to be provided along bus-compatible route.

Recreational Route:

- Footpath: min. 2m;
- Steps where needed: preferred 300mm tread depth with min. 250mm, preferred 130-150mm height of riser with max. of 170mm. Max. number of steps in one flight is 12 with resting places every 12 steps.
- Surface: may be loose bound

Others:

- Street furniture: see 4.4 Green Infrastructure.
- Signpost: see more in Wayfinding Strategies



FIG.56: SECTION 2 - ACTIVE TRAVEL ROUTE (ON ROAD, WITH SEGREGATED CYCLE LANE PROVISION)



FIG.57: MULTI-USER ROUTE (OFF ROAD)



FIG.58: RECREATIONAL ROUTE



FIG.59: GREEN ACTIVE TRAVEL ROUTES TO BE IMPLEMENTED ACROSS THE SITE

4. DESIGN CODE

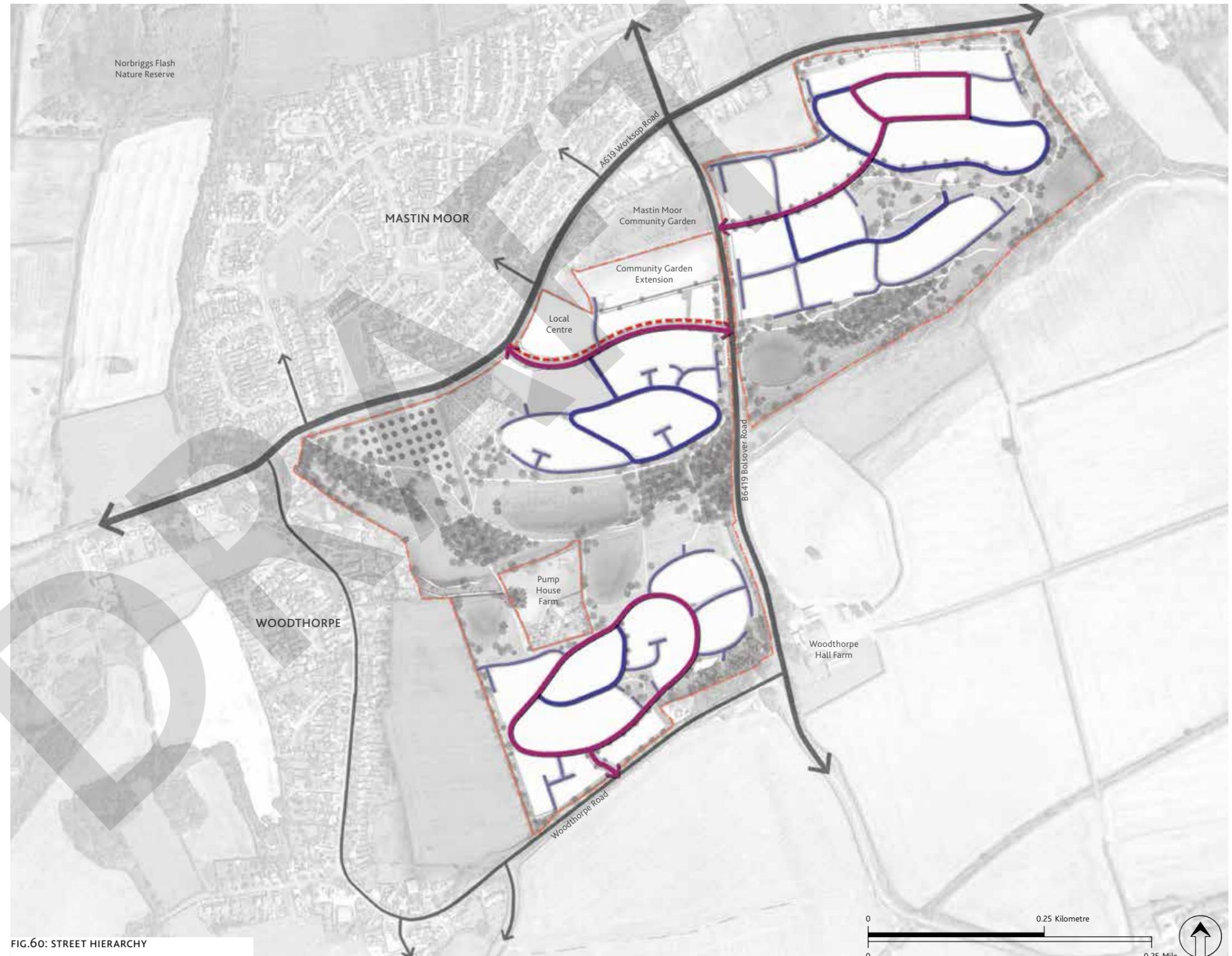
4.3 ACCESS AND MOVEMENT

STREET HIERARCHY

Within the development, buildings will be designed and positioned with landscaping to define and enhance streets and spaces. A well connected street formation with a clear and thematic street hierarchy as below is the fundamental structure of the Masterplan:

- Primary street;
- Secondary street;
- Tertiary street / Local Access

A route capable of accommodating buses will be provided within Phase 3.



4. DESIGN CODE

4.3 ACCESS AND MOVEMENT

Primary street

The circuitous primary streets provide the main access routes through the development connecting to the external road network from Worksop Road, Bolsover Road and Woodthorpe Road.

The primary street should be characterised by the formality of road alignment, boundary treatment and the street enclosure strengthened by higher density building typologies and smaller building setback (see 4.2 Built Form).

Trees along the main roads will provide a distinctive 'green and leafy' character and contribute to the wayfinding strategy within the development. Parking should generally be provided on plot.

The primary street will be adopted.

Three types of primary street are identified in the Masterplan. Their typical street sections are shown in Fig. 80, 81 & 85 with the location plan in Fig.86.

- Avenue
- Leafy street
- Bus-compatible route

Bus-compatible route

A compatible bus link with avenue trees will connect from Worksop Road to Bolsover Road via the new Local Centre. A segregated two-way cycle lane will be provided.



FIG.61: PRIMARY STREET TYPICAL SECTION 1: AVENUE

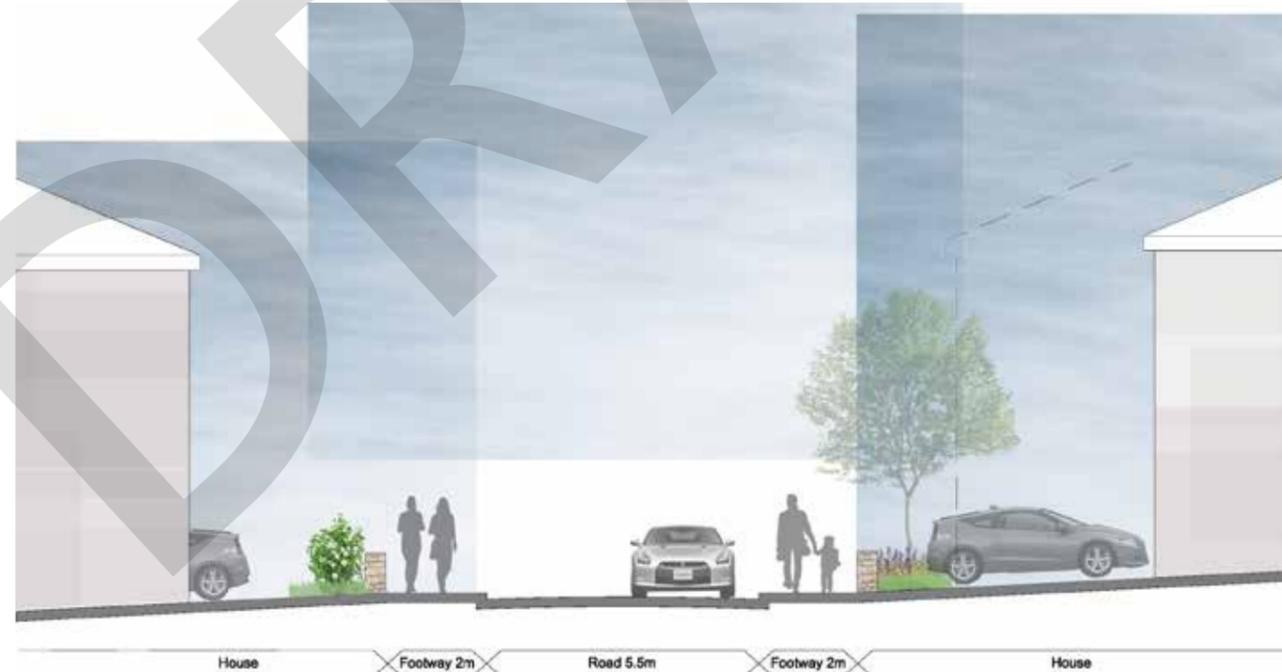


FIG.62: PRIMARY STREET TYPICAL SECTION 2: LEAFY STREET



FIG.63: AVENUE STREET, LETCHWORTH



FIG.64: DERWENTHORPE, YORK



FIG.65: STREET SCENE IN DONCASTER

4. DESIGN CODE

4.3 ACCESS AND MOVEMENT

Bus-compatible route

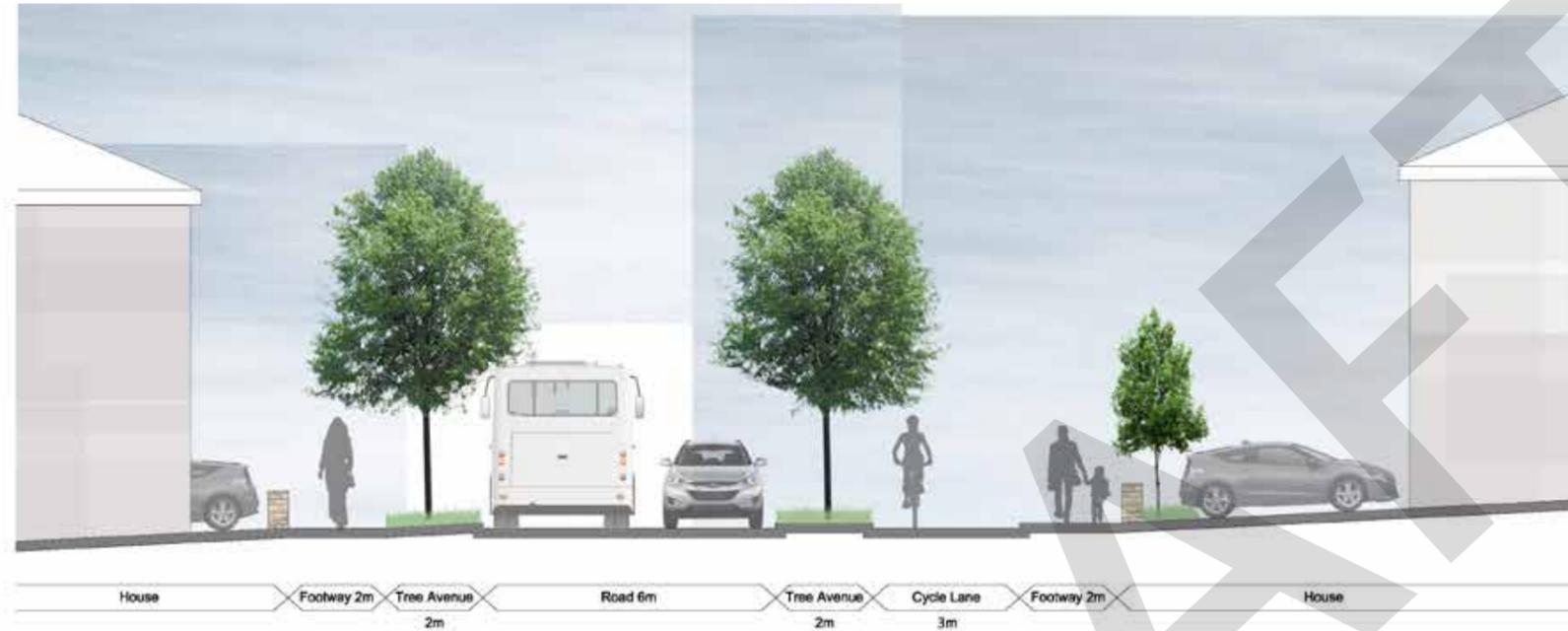


FIG.66: PRIMARY STREET TYPICAL SECTION 3: BUS-COMPATIBLE ROUTE THROUGH PHASE 3 LOCAL CENTRE

DESIGN PARAMETERS - PRIMARY STREET

- Carriage width: min. 5.5m (6m where it is a Bus-compatible route);
- Road speed: 20mph;
- Footways: min. 2m along both sides of the carriageway (min. 3m at bus stops and outside health care facility, min. 4m in shopping area to cater for additional pedestrian movements);
- Cycle lane: on-street generally due to low traffic flows (min. 3m segregated two-way cycle lane to be provided along bus-compatible route);
- Trees should be avoided in visibility splays of junctions.
- Boundary treatment: see 4.2 Built Form;
- Street furniture: see 4.4 Green Infrastructure.
- Signpost: see Wayfinding Strategies.

Bus-compatible Route:

- Carriage width: min. 6m;
- Footways: min. 2m along both sides of the carriageway with min. 3m at bus stops to cater for additional pedestrian movements;
- Cycle lane: min. 3m segregated two-way cycle lane to be provided;
- Landscape verge with avenue trees: min. 2m wide, along both sides of the carriageway.



FIG.67: SECTION LOCATION PLAN FOR 3 TYPES OF PRIMARY STREET



FIG.68: STREET TREE, SEGREGATED CYCLE LANE AND PEDESTRIAN CROSSING



FIG.69: LOCAL CENTRE WELL CONNECTED BY SUSTAINABLE TRAVEL METHODS

4. DESIGN CODE

4.3 ACCESS AND MOVEMENT

Secondary street

Secondary streets provide links to development parcels from the primary routes. See Street Hierarchy in Fig. 79.

Tertiary street / Local access

Tertiary roads provide local accesses to individual buildings / driveways, maintain pedestrian permeability, whilst avoiding 'rat running'.

The secondary street will be adopted. The adoption of tertiary street / local access will be determined at detail design stage.

Where on plot parking provision isn't sufficient to meet full parking requirements or visitor parking is required, designated on-street parking bays should be provided to avoid inappropriate parking on footways. It should be integrated with interval landscape verge or landscape to avoid appearing visually dominant in the street scene. See more detail in Parking Provision.

DESIGN PARAMETERS - SECONDARY STREET & TERTIARY STREET

- Carriage width: min. 5.5m;
- Road speed: 20mph;
- Footways: min. 2m along both sides of the carriageway
- Cycle provision: on-street, no segregated cycle lane due to low traffic flows.
- On-street parking bay: min. 2m width and 6m length with interval landscape verge.
- Trees should be avoided in visibility splays.
- Boundary treatment: see 4.2 Built Form;
- Street furniture: see 4.4 Green Infrastructure.
- Signpost: see Wayfinding Strategies

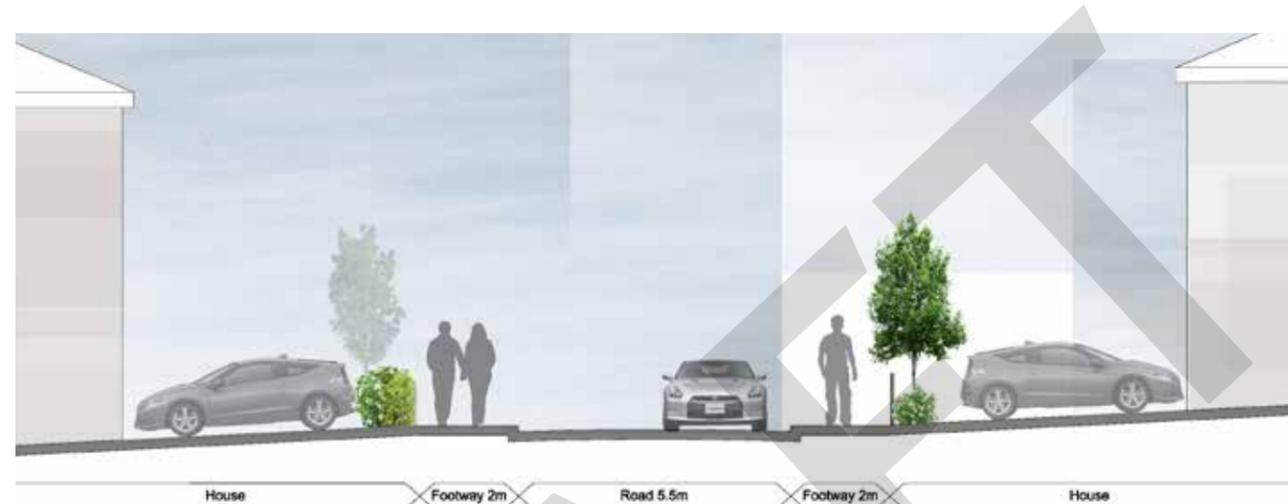


FIG.70: SECONDARY / TERTIARY STREET TYPICAL STREET SECTION



FIG.71: SECONDARY STREET WITH ON-STREET PARKING BAYS 2.4m



FIG.72: SINGLE SIDED DEVELOPMENT WITH VIEW OUT ACROSS LANDSCAPE. ON-STREET PARKING BAY PROVIDING DESIGNATED PARKING AREA FOR VISITORS.



FIG.73: CAMBRIDGE



FIG.74: DESIGNATED ON-STREET PARKING AREA WITH INTERVAL TREE PLANTING.



FIG.75: SINGLE SIDED DEVELOPMENT FACING TO OPEN SPACE

4. DESIGN CODE

4.3 ACCESS AND MOVEMENT

PARKING PROVISION

Parking should be provided for residents and visitors. An adequate number of spaces must be provided such that the needs of all users of the development are met, whilst also discouraging over-reliance on the use of motor vehicles. Parking spaces must be designed as integral part of the new neighbourhoods, provided in safe and convenient locations but not dominating street character. It should be clear to any vehicle driver where it is acceptable – and where it is not acceptable – to park. The level of parking provision across the development will be agreed with Chesterfield Borough Council.

On-street parking

On-street parking should be incorporated in the Local Centre, higher density areas and adjacent to public open spaces. Street trees and other planting should be used as part of a comprehensive approach to landscaping to integrate parking provision but avoid street character being dominated by parked vehicles. This type of parking provides opportunities for minimising building setbacks and enhancing street enclosure.

On-plot Parking

Parking to the side of plots can allow properties to be brought forward to create a formalised street character, whilst achieving necessary parking provision and separation between buildings. It allows for the provision of front gardens with boundary treatment and planting.

Integral parking / garaging

Dwellings in lower density area may include integral or attached garages. These should be designed and located so as to avoid dominance within the street scene. Garages must be of a size to be able to accommodate a car.

Parking court

Parking Courts provide off-street parking located internally within a block, which can help reduce the visual impact of vehicle parking along the street. Factors contributing to parking courts that are safe, well-used and convenient include:

- Avoiding excessive size (typically 10-12 spaces maximum);
- Integration of some residential units to provide natural surveillance;
- Selection of surface materials, landscaping and lighting to create spaces that are both attractive and safe;
- Provision of safe, convenient and direct routes to the properties they serve.

Car park

The Local Centre will include a landscaped public short stay car park for customers and other visitors. The car park will be essential to the operation of the Local Centre but should not dominate its design or be the defining feature of that part of the site. Long stay provision may be required for employees. The Elderly Care Facility will require its own dedicated parking provision, which should also be landscaped in a way compatible with the overall landscaping strategy.

Electric vehicle charging points

The provision of electric vehicle charging points to new dwellings is a requirement of the planning permission. Charging points should also be made available in the Local Centre.

Cycle parking

Secure, covered cycle parking should be provided for all dwellings. Short stay secured cycle parking should be provided in the Local Centre, play areas and other public open spaces.



FIG.76: EXAMPLE OF VARIOUS PARKING SOLUTIONS AND FACILITIES

4. DESIGN CODE

4.3 ACCESS AND MOVEMENT

WAYFINDING

When places are legible and well signposted, they are easier for the public to comprehend and likely to both function well and be pleasant to live in or visit. It is easier for people to orientate themselves when the routes are direct. Visual articulations and landmarks can also emphasise the identity and the hierarchy of the place.

The development should have a clear and straight forward urban layout, enabling residents and visitors to easily navigate to where they live or work. It should contain memorable and recognisable landmark buildings, places and open spaces. Landmarks, gateways and focal points should be clearly identified in order to create visual links, and a clear hierarchy should be established between places. The street network and active travel routes should be direct and easy to navigate.

Residential areas should be designed around a series of nodal points, and variety in the types of articulations should help them to be more memorable. Landmarks should be created around gateways and the new Local Centre by using taller buildings and distinctive architectural elements.

The quality of signage on shops and other non-residential premises in the Local Centre should contribute to the identity and legibility of the areas.

Artwork can also be used throughout the development to help create distinctive character areas. Community buildings should emphasise the identity of the areas and create focus for community engagement.

A clear wayfinding system should be established throughout the whole development consistently, especially along the key multi-user active travel routes and linking with existing PRoWs around the development to promote security and legibility.

A range of signposts and public realm elements, such as street furniture and lampposts should be introduced. See more detail of Street Furniture in 4.4 Green Infrastructure of this document.

Community involvement

Community involvement for designing signage and entry features will embrace community spirit and promote identity. Entry features, wayfinding signage and neighbourhood identity all contribute to the atmosphere of the community neighbourhood. It also creates a comfort, welcoming, quality and consistent environment to improve community experience.

Heritage

The site was the location of a very early, historically significant industrial horse-drawn tramway, linking the coalmine at Pumphouse Farm to Norbriggs Cutting, a purpose-built extension of the Chesterfield Canal. Features within the open space and interpretation signage can link to and explain the heritage of the area. This could include any features identified through further archaeological investigations.



FIG.79: INTERPRETATION OF HISTORIC REMAINS WITH INFORMAL PLAY



FIG.77: EXAMPLE OF SIGNAGE



FIG.78: COMMUNITY SIGNAGE, RSM DESIGN



FIG.80: THE WEBB ESTATE ENTRY FEATURE, PURLEY



FIG.81: ENTRY FEATURE TO COMMUNITY GREEN, RSM DESIGN

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4. DESIGN CODE

4.4 GREEN INFRASTRUCTURE

GREEN INFRASTRUCTURE

Green infrastructure will be a defining component of the development, providing both a setting a link between its different built components. It will be an area of movement between destinations and a destination of its own, for leisure, recreation and community interaction - the 'park at the heart' of the new and existing communities.

The design of the green infrastructure takes cues from the surrounding landscape character whilst introducing new features best suited to meeting the needs of the communities.

- KEY:**
- OPEN SPACE / DESTINATIONS:**
- Local Nature Reserve
 - Retained Agriculture Land
 - Community Garden
 - Community Orchard
 - Naturalistic Parkland / Wildlife Corridor
 - Productive Woodland
 - Formal Garden
 - Rose Garden
 - Neighbourhood Green
- PLAY PROVISION:**
- Existing Playing fields
 - N Existing NEAP (Neighbourhood Equipped Play Area)
 - L LEAP (Local Equipped Play Area)
- CONNECTIONS / GREEN LINKS:**
- PRoW (Public Rights of Way)
 - Green Links / Active Travel
 - Existing Road
- OTHERS:**
- Existing Trees
 - Avenue Trees & Planting
 - Buffer Planting
 - Hedgerow
 - Existing Watercourse
 - Attenuation Basin



FIG.82: GREEN INFRASTRUCTURE STRATEGY

4. DESIGN CODE

4.4 GREEN INFRASTRUCTURE

OPEN SPACE PROVISION

The site will provide high-quality accessible open spaces, providing links both between different parts of the site and the surrounding areas. It will include formal and informal areas with a variety of planting types, including areas for wildlife and habitat enhancement. It will be a place to be experienced and enjoyed by people of all ages and abilities, supporting community vibrancy, social capital and delivering a range of health and well-being benefits.

The proposed landtake for landscape open space is as follow:

Site Area	46.2 ha
Neighbourhood Parks	Circa 1.6 ha
Formal Garden	Circa 0.6 ha
Naturalistic Parkland	Circa 14.8 ha
Community Garden Extension	Circa 1.3 ha
Community Orchard	Circa 0.9 ha
Community Woodland	Circa 2.8 ha
Attenuation Basins	Circa 3.2 ha
Equipped Play Areas	Circa 0.1 ha
Informal Play	Circa 0.2 ha

Formal Open Space

A hard landscaped square in the Local Centre will provide an opportunity for small scale events such as farmers markets and food & drink festivals to provide a focus for community activities and interaction.

- Buildings and trees/planters provide enclosure to the space;
- Shops, cafés and community facilities should face the civic space or square with outdoor seating areas;
- Parking area should be provided with a short-stay parking for customers and a long stay parking for staff. On-street parking should be avoided;
- Service yards to be located behind buildings, not accessed off the open space or square;
- Upper floors should accommodate apartments to provide natural surveillance of the square through day and night

Neighbourhood Parks

Three neighbourhood parks with different landscape characters will be accommodated within the development, including:

- A formal garden with a rose garden adjacent to Local Centre;
- A neighbourhood green with a LEAP in Phases 1&2;
- A neighbourhood green in Phase 4

All neighbourhood parks are linked to naturalistic parklands to create continuous wildlife corridors, whist also connected by active travel routes to the surrounding landscape destinations.



FIG.83: FORMAL OPEN SPACE AND NEIGHBOURHOOD PARK

4. DESIGN CODE

4.4 GREEN INFRASTRUCTURE

Naturalistic Parkland

The parkland will accommodate community orchard, productive woodland, attenuation basins and meadow flower areas. It will be natural and informal in character with areas of long meadow grass and scrub to provide foraging for birds, bats, badgers and other wildlife.

It will be managed and vary in scale and location across the site to provide landscape diversity for wildlife and ensure good accessibility for all residents.

Community Garden

- The development provides land to allow the existing Mastin Moor Community Garden to be extended, with provision for a new access from within the site. The intention is that the extension to the community garden will be managed holistically along with the existing community garden area. It will be used by the local community to grow vegetables and fruit, with the opportunity for community outreach and training programmes to also make use of the community facility. The extension to the community garden may facilitate the provision of a new multi-purpose building to include function, storage and changing facilities. Other structures, including sheds, will not be permitted within the community garden, unless agreed by the management.

Community Orchard

A new community orchard is located in the west of the site, sandwiched between woodland and formal garden, providing another opportunity for creating community spirit and health and wellbeing.

- A traditional open orchard covering over 1 Hectare with space between trees for activities and relaxation.
- Potential for the planting and management of the orchard to be undertaken in association with users of the Community Garden

Productive / Community Woodland

Four new areas of woodlands enhance the rich variety of habitats and improve biodiversity. It could be associated with the community orchard and community garden to boost the community spirit for local people. It will provide opportunities for recreation and enhancing habitats.



FIG.84: PARKLAND, COMMUNITY GARDEN AND COMMUNITY ORCHARD

4. DESIGN CODE

4.4 GREEN INFRASTRUCTURE

PLAY PROVISION

Areas for formal and informal play will be provided throughout the development.

The masterplan identifies the location for three Local Equipped Areas for Play L(LEAP) within the site. These will complement the existing Neighbourhood Equipped Area for Play within the Mastin Moor estate. The open space around the LEAPs will be designed to facilitate safe informal play.

New dwellings adjacent to the LEAPs should face towards and look over the play areas to maximise natural surveillance, following 'Secure by Design' principles.

Within the wider open space areas, opportunities for more informal play and recreation will be provided. This will include trim trails and opportunities for self-directed exercise.

All play areas will be well connected by active travel routes and include secured cycle parking spaces.

Tree planting in combination with seating will provide sheltered and shaded areas in proximity to the play area and elsewhere within the open space.

Lighting will be provided where necessary to enhance safety and convenience, whilst avoiding excessive illumination and minimising light spill.

KEY:

- Existing NEAP: (Neighbourhood Equipped Area for Play)
- Proposed LEAP: (Local Equipped Area for Play)
- NEAP Catchment Area
- LEAP Catchment Area



FIG.85: PLAY PROVISION

4. DESIGN CODE

4.4 GREEN INFRASTRUCTURE

LAP (Local Area for Play) Guidance:

- 'Door-step' play spaces for children up to the age of 6;
- Located within approx. 100m walking distance (1 min walk) from a child's home;
- Min. Activity zone: 100 sqm;
- Spaces should encourage informal play and social interaction, not relying on play equipment;
- Natural materials should be used where possible such as logs, rocks and low earth mounding.

LEAP (Local Equipped Area for Play) Guidance:

- Independent play for children;
- Minimum activity zone: 400 sqm;
- Located within approx. 400m walking distance (5min walk) from dwelling to play.



FIG.86: PRECEDENTS OF NATURALISTIC PLAY, INFORMAL PLAY & LEAP

4. DESIGN CODE

4.4 GREEN INFRASTRUCTURE



FIG.87: LEVELS

LEVEL STRATEGY

The overall site forms a fluvial V shaped valley sloping from the ridge lines along the A619 Worksop Road and Woodthorpe Road towards an existing east-west watercourse, with the highest 118.7 m AOD in the north-east and the lowest part in the south-west at 55.9m AOD.

Key principles of the level strategy include:

- Ensure level access for all abilities is provided to all key public open spaces.
- Key street network will have a max. fall of 1:20 in general to enable development and max flexibility.
- See design parameters for street design and active travel routes in 4.3 Access and Movement of this document.
- See open space provision in previous pages.



FIG.88: LEVEL STRATEGY IN OPEN SPACE

4. DESIGN CODE

4.4 GREEN INFRASTRUCTURE



FIG.89: PLANTED SLOPES WITH FOOTPATH



FIG.90: LEVEL ACCESS FOOTPATH & STEPPED ACCESS IN THE LANDSCAPE



FIG.91: PLAY FEATURES MAKE USE OF LEVEL CHANGES



FIG.92: INFORMAL PLAY IN NATURE



4. DESIGN CODE

4.4 GREEN INFRASTRUCTURE

SUSTAINABLE DRAINAGE

The surface water drainage system within the development will incorporate a variety of Sustainable Urban Drainage System (SuDS) techniques. SuDS features, such as attenuation basins, will be integrated to offer additional benefits, both in terms of amenity and biodiversity, that will contribute to the overall quality of the development and its long term enjoyment by residents and visitors.

Surface water will be discharged to the watercourse that runs in a east-west direction through the site. The drainage system, including on-site attenuation, will ensure that there is no increase in the risk of off-site flooding and that all new properties will be safe from flooding.

A variety of source control methods will be used leading to conveyance systems and storage.

The Illustrative diagram (Fig. 112) shows a number of multi-stage attenuation basins. The basins will be graded so that the need to erect safety fencing around them can be avoided. The basins will be designed to be 'dry' or retain a small amount of water for purposes of habitat creation.#

It is important that the attenuation basins can be accessed and enjoyed as an integral part of the open space.



4. DESIGN CODE

4.4 GREEN INFRASTRUCTURE

MANAGEMENT AND MAINTENANCE

The management and maintenance of the open space including drainage infrastructure will be undertaken in a comprehensive way to ensure a consistently high standard of provision is maintained across the whole development. The mechanism(s) for this management and maintenance will be agreed as part of detailed design. Whatever is agreed, it will be important that local residents are involved in decision making so as to help ensure the open space continues to meet their needs, opportunities for its enhancement are realised, and to further foster the sense of belonging, emotional ownership and community cohesion. There may be opportunities for parts of the open space to be used in association with informal and formal training programmes including apprenticeships, community-led activities and volunteering.

DESIGN PARAMETERS:

- Relevant requirements from the Environment Agency and other statutory requirements, along with guidance from Ciria, RoSPA and others will be followed
- SuDS techniques to be implemented across the development to enhance amenity, contribute to place-making and biodiversity as well as control surface water
- SuDS techniques to be implemented in both soft and hard landscaped areas
- The use of a variety of techniques will be considered (which may include: source control, permeable paving, green roofs, water butts, rainwater harvesting) to limit the rate of surface water run-off and thereby minimise the size of attenuation basins around the development
- SuDS attenuation basins to incorporate a mixture of dry and wet features, having regard to opportunities for ecological enhancement



FIG.94: SUDS

4. DESIGN CODE

4.4 GREEN INFRASTRUCTURE

LANDSCAPE & ECOLOGY STRATEGY

The landscape and ecology strategy should retain and enhance the existing high value vegetation within the development. Fig.114 illustrates the wildlife and ecology strategy.

- KEY:**
-  Local Nature Reserve
 -  Agriculture Land
 -  Community Garden
 -  Community Orchard
 -  Greenspace
 -  Woodland
 -  Formal Garden
 -  Existing Trees
 -  Avenue Trees & Planting
 -  Buffer Planting
 -  Hedgerows
 -  Existing Watercourse
 -  Attenuation Basin
 -  Green Spine
 -  Wildlife Corridors



FIG.95: LANDSCAPE & ECOLOGY STRATEGY

4. DESIGN CODE

4.4 GREEN INFRASTRUCTURE

The overarching principle for the landscape and ecology strategy ensures at least 10 percent biodiversity net gain will be achieved across the development. The key drivers for the strategy are as follows:

- A strong landscape and ecology strategy should enhance the local distinctiveness and sense of place when related to the existing landscape.
- Retain and enhance the existing central valley as the green spine to provide a key east-west wildlife / ecology corridor connecting towards Norbriggs Flash Nature Reserve and the wider countryside.
- The extensive areas of open space should be planted so as to enhance ecological diversity and values.
- Create connected green corridors for wildlife through the site, including badgers, bats and birds.
- Create accessible landscape buffer with a min.5 metres wide in general between the development and surrounding to protect sensitive landscape and ecological values.
- Key long distance views in and out of the site should be protected.
- Existing hedgerows and mature trees should be protected (where possible), enhanced and managed appropriately to ensure they continue to provide suitable habitats.
- Where possible the existing hedgerows and trees should be retained along with grass verges on Bolsover Road.
- Any creation or enhancement of hedgerows should utilise native species of local provenance where possible.
- Any open areas of grassland should use a proprietary wild flower grassland mix of native species.

- The addition of attenuation basins and SuDS (see Fig. 112) should include suitable native planting and management to enhance the aquatic biodiversity across the site.
- Suitable badger and hedgehog runs/gaps should be incorporated to boundary fencing to allow access by badgers and hedgehogs.
- Incorporate bird and bat boxes on suitable trees and buildings, where appropriate to enhance the site.
- Consider the use of green and brown roofs on buildings where appropriate to increase biodiversity by providing additional habitats.
- Landscaping with native fruit and nut bearing shrubs to ensure that badgers and other wildlife have a food supply over the autumn and winter period.
- Development should be offset away from the watercourse along the valley bottom to provide a corridor through the site for ecology, SuDS and movement. A 10 metre offset is recommended, though this could be adjusted in response to other design considerations.

The development will achieve at least 10 percent Biodiversity Net Gain, leaving the biodiversity of the site in a better state than before.



FIG.96: LANDSCAPE & ECOLOGY

4. DESIGN CODE

4.4 GREEN INFRASTRUCTURE

STREET FURNITURE

Street furniture should be designed and located so as to contribute to the overall sense of place and continuity of character across the site. It can be used to help create distinct places, in accordance with the hierarchy of character areas, but must also work together to provide a harmonious and consistent palette.

Street furniture should be responsive to the environment in which it is located. It must make a positive contribution to streetscapes and enhance the pedestrian experience.

Street furniture should be used as part of the strategy for creating a 'sense of place' and to aid informal wayfinding.

It should be used to help create placemaking intersections that foster the use of outdoor spaces.

Street furnishings should be placed such that footway/path remains uncluttered and safe for pedestrian access, having particular regard to the needs of the visually impaired, elderly and less mobile.

All street furniture must comply with relevant standards.

Street furniture should be attractive and easy to use and maintain.



4. DESIGN CODE

4.4 GREEN INFRASTRUCTURE

FORMAL OPEN SPACE & URBAN AREA

- More formal aesthetic feel;
- Opportunities for using colours and designs to create and enhance neighbourhood identity;
- Appropriate lighting levels to ensure the safety of the public spaces and streets;
- Varied lighting types and sources are used to meet the need of different purposes;
- Ensure that adjacent dwellings are not in direct light.



NEIGHBOURHOOD PARKS / GREENS

- Natural materials should be used to sit harmoniously within their settings;
- Furniture should provide opportunities for seating, play and socialising;
- Furniture should be both grouped and scattered allowing for group socialising and sitting alone;
- Key spaces and routes should be well lit ensuring safe and comfortable conditions for users. Lighting will be subject to required LUX levels.



NATURALISTIC PARKLAND

- Should be sympathetic to its natural setting;
- Using natural materials. Strongly encourage the re-use of on-site materials;
- Trees which are fell within the site should be re-purposed, e.g. seating and log stepping stones;
- Seating, play, picnic areas should be located alongside well-used routes;
- Sensitive lighting and Lighting Impact Assessment solution so as not to disturb the wildlife.



FIG.98: STREET FURNITURE EXAMPLES

4. DESIGN CODE

4.5 LANDUSE

LANDUSE

The Landuse strategy takes into account the outline planning permission, development constraints and the design principles to indicate the quantum of the development that can be accommodated on the site. The proposed landuse quantum are as follow:

Site Area	46.2 ha
No. Of Homes	650 new homes
Residential Developable Area	Circa 21.8 ha, including: · Phases 1&2: circa 10.4 ha; · Phase 3: circa 4.9 ha; · Phase 4: circa 6.5 ha.
Local Centre	Circa 1.7 ha
Community Garden Extension	Circa 1.3 ha
Open space	Circa 21.4 ha
Attenuation	Circa 3.2 ha



FIG.99: LAND USE PLAN

- KEY:**
- BUILT FORM**
- Local Centre
 - Housing
- LANDSCAPE**
- Public Open Space
 - Retained Agriculture Land
 - Community Garden
 - Community Orchard
 - Formal Garden
 - Neighbourhood Green
 - LEAP (Local Equipped Play Area)
 - Attenuation Basin

4. DESIGN CODE

4.6 HOMES AND BUILDINGS

HOMES

This principle shall ensure the development has a mix of housing types and tenures that suit local requirements, therefore building a diverse and balanced community.



FIG.100: WHERE HOUSES ARE DESIGNED TO COMPLY WITH THE REQUIREMENTS OF LIFETIME HOMES - DERWENTHORPE, YORK



FIG.101: ABODE, GREAT KNEIGHTON - VARIETY OF TERRACED, SEMI AND DETACHED HOME TYPES

A suitable housing mix

Densities of individual residential parcels should vary in line with the character areas. Parcels with higher densities comprising max. 3 storey dwellings, shall be located around the primary streets in the development. Parcels with lower density shall be found around the outskirts of neighbourhoods. See 4.2 Built Form of this document.

Type and tenure

The current approved planning application (Ref:APP/N1015/W/20/3250716) provides two options for providing affordable housing in accordance with LP Policies RP1 and CLP4:

- A commuted sum of £1.96m to provide 18 affordable homes off-site and 28 homes on site as intermediate housing, equating to some 7% of the housing provision.
- 93 units of AH on-site equating to 14.4% of the housing provision.

Tenure-blind neighbourhood

A mix of homes can help to provide a more diverse and balanced community. The new neighbourhoods within the development should be tenure-blind and avoid differentiation of dwelling types. It is also recommended to avoid neighbourhoods that only provide homes for one market segment. Exterior features of dwellings, landscaped boundary treatment and parking provision shall not differ, to enable easy identification of various tenure types within the development.

House types

To increase the quality of development it is expected that developers use house types that are site and location specific and should be designed to respond to the local character and specifics of the development and location. The quality of development should strive to be better than the surrounding areas, and while standard house types may be used, they must be carefully selected to sit comfortably with local traditions, surrounding landscape and character areas. A number of site specific bespoke houses in key locations will be encouraged.

The current approved planning application (Ref:APP/N1015/W/20/3250716) requires '25% of units within the whole of the outline development to be constructed to the optional requirement for Adaptable and Accessible dwellings in Part M4(2) of the Building Regulations'.

DESIGN CODE SUMMARY - HOMES

- Principles of creating homes of meeting long term needs will be supported. Building for a Healthy Life standards should be applied to development.
- Dwelling densities should be varied across the sites. Higher densities located near Local Centre and along primary streets.
- Affordable housing should be tenure blind and indistinguishable from other dwellings.
- Brown and green roofs to be considered on buildings where appropriate.
- Developers are expected to use house types that are location and site specific.
- Home working spaces should also be considered within the housing designs.
- Affordable housing to be provided according to the conditions of planning application.
- Adaptable and accessible dwellings to be provided according to the conditions of planning application.

4. DESIGN CODE

4.7 PHASING STRATEGY

INDICATIVE PHASING

The phased delivery of the site will be agreed as part of detailed design,

The Phasing Plan (Fig. 128) shows how the site could be delivered across 4 main phases. The order of these phases has had regard to the need to construct key infrastructure and deliver the benefits of development as early in the build programme as possible, having regard to viability.

- The first phase is located to the east of Bolsover Road and is located close to the existing shops and services of Mastin Moor. The relatively easy access and good ground conditions make this a good place to start development as it offers good opportunity to create revenue and increases the local population prior to any new shops and services being built, which improves the commercial prospect for those services and facilities.
- The second phase is an extension of the first phase with good links to existing shops and facilities.
- The third phase is the new Local Centre and associated housing to the west of Bolsover Road. This phase will provide new shops and services to the existing and new communities. Due to ground conditions, this area will require more costly foundations.
- The fourth phase is located to the north of Woodthorpe Road and the south end of the site, linked to the other phases by the network of green infrastructure.

KEY

- Phase 1
- Phase 2
- Phase 3
- Phase 4



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