ROYSTON MASTERPLAN FRAMEWORK

MASTERPLAN FRAMEWORK AND DESIGN CODE

BARNSLEY Metropolitan Borough Council ARUP GILLESPIES

OCTOBER 2020

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*This Masterplan Framework Report shall be read in conjunction with the following reports:

- Evidence Base Report
- Site and Context Analysis Report
- Statement of Community Engagement Report

Glossary of Acronyms

BMBC	Barnsley Metropolitan Borough Council
GI	Green Infrastructure
LEAP	Local Equipped Area of Play
NEAP	Neighbourhood Equipped Area for Play
PRoW	Public Rights of Way
SuDS	Sustainable Drainage Systems
TPT	Trans Pennine Trail
NCN	National Cycle Network
DPH	Dwellings per Hectare
SPD	Supplementary Planning Document
POS	Public Open Space

Glossary of terms

Active Travel	Walking, cycling and other forms of transport which include exercise
Green Belt	Land that is safeguarded from development around the periphery of a settlement
Placemaking	Developing in unique and characterful way that will bring identity to a development

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1. INTRODUCTION

1.1 Background

The Barnsley Local Plan was adopted in January 2019 and required that a number of allocations were supported by Masterplan Frameworks to inform any future planning applications made. The Royston Masterplan Framework will need to be approved by Full Council prior to the approval of subsequent planning applications.

The Royston Masterplan Framework has been commissioned by BMBC. It will be responsible for setting the objectives for the development to ensure that it contributes towards BMBC's wider objectives and is aligned with the Local Plan. The framework will serve to coordinate sustainable development across a number of land parcels and ownerships, integrated with surrounding landscape and existing communities.

This Masterplan Framework incorporates feedback from public consultation held in Summer 2020. It has been developed in consultation with landowners as it has progressed. It should be read in conjunction with the adopted Local Plan and the SPDs.

This report presents the strategic framework and Design Code based on the preferred option. The report builds on research and analysis from the Stage 1 (Evidence Base) and Stage 2 (Site and Context Analysis) reports, and has been produced through a combination of input from the public and stakeholders, document reviews, OS mapping data, site surveys, professional analysis and collaborative work with the multi-disciplinary project team and BMBC.

This Masterplan Framework forms part of a wider programme of work to bring forward regeneration and economic growth across Barnsley, including Royston. This includes improvements proposed through the Local Plan Spatial Strategy, Barnsley Transport Strategy and the Sheffield City Region Transport Strategy and associated Implementation Plans. Whilst this Masterplan Framework is focused on specific Local Plan site allocations, it is reflective of these wider initiatives which are being brought forward by the Council and its partners.

Fig. 1: Site Location Map MU5

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1.2 Overview

The Royston allocation has been designated to be a new mixed used development for 994 homes, a primary school and a small shop. The designated site is located west of Royston town centre, and surrounded by the Green Belt to the north, west and south.

On part of the site, 166 homes are already under development by Barratt Homes. A small local shop is proposed close to the new roundabout off Lee Lane, a new community hub is proposed to the southeast of the site including a new primary school and an informal recreational area. The site is well connected to existing PRoW and active travel links, connecting this community with Royston town centre, Carlton, Mapplewell and Athersley.

A network of green corridors is proposed across the site, connecting new neighbourhoods with open spaces, play areas, facilities and surrounding GI - including Notton Wood Local Nature Reserve to the northwest and TPT to the east.

BMBC have commissioned Arup and Gillespies to develop a Masterplan Framework and Design Code for this proposed development. The process has involved the analysis of issues and opportunities, exploration of options and intensive engagement and consultation.

1.3 Use of this Document

The purpose of this document is to ensure coordinated, comprehensive and quality development is brought forward at Royston. It will form material guidance in the determination of any planning applications on the site. Applicants are required to present each application to the Design Panel and demonstrate compliance with the Masterplan Framework and Design Code through a Masterplan Framework Compliance Statement, which shall form part of the validation requirements for submission of a planning application, including any of the land edged in red in Figure 1. Where applicants judge that either the requirements cannot be complied with or they wish to put forward alternative proposals that they believe will continue to meet the aims of the Masterplan Framework, these shall be clearly set out in the Masterplan Framework Compliance Statement with supporting evidence setting out the rationale for this, to permit consideration by the Local Planning Authority as part of the determination process. It is recommended that any proposed departures from the Masterplan Framework are discussed with the Local Planning Authority as part of formal pre-application discussions and are included in pre-application public consultation.

The Masterplan Framework Compliance Statement shall set out:

- How the proposed application accords with the Masterplan Framework, by framework layer.
- How the proposed application accords with the Design Code, by Design Code principle.

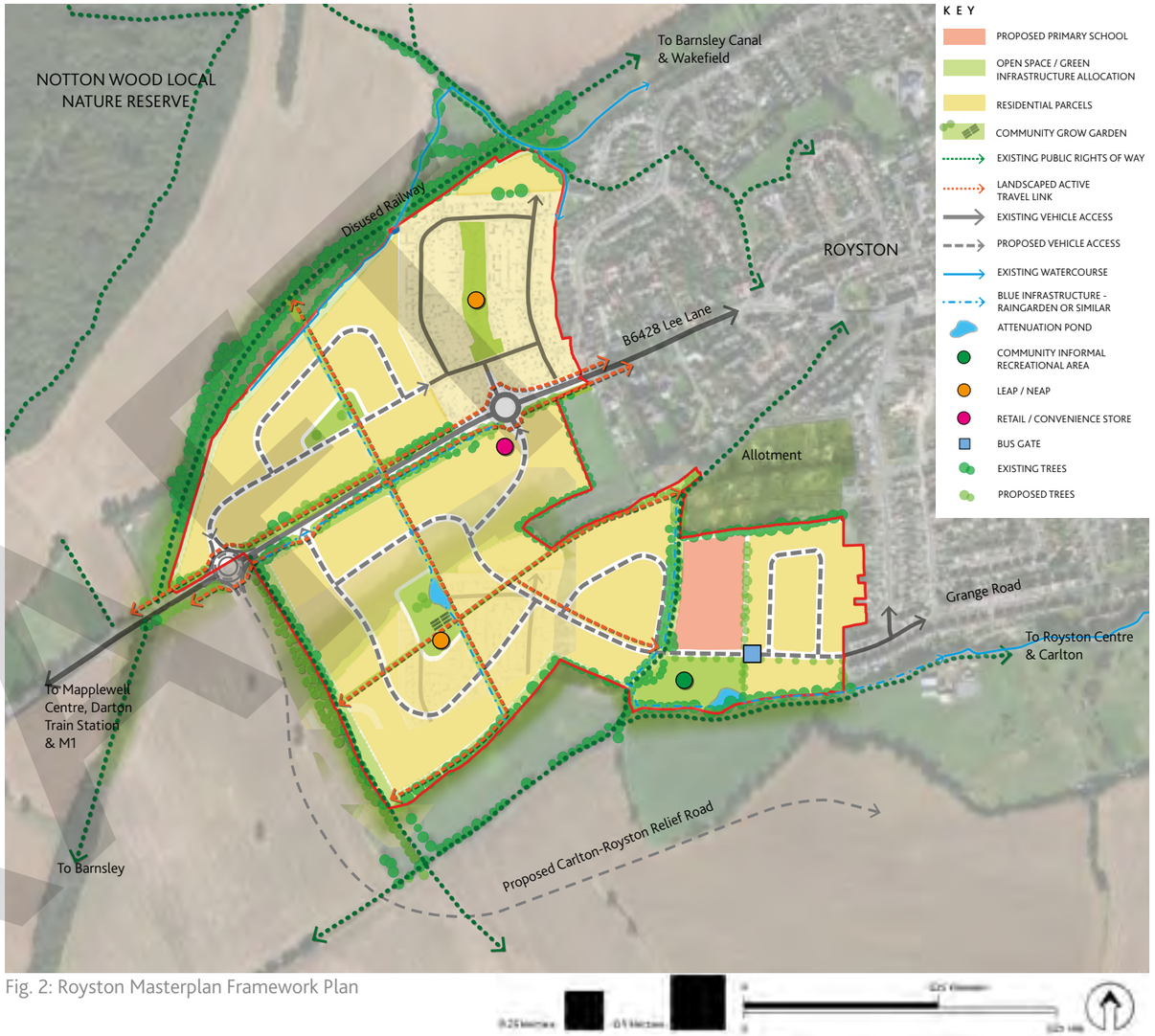

Fig. 2: Royston Masterplan Framework Plan

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2. PLACEMAKING PRINCIPLES

The themes and concept for this Royston development have been developed from the baseline analysis, best practice and stakeholders engagement sessions.

8 strategic placemaking principles have been developed based on agreed objectives, and are supported by distinct design and development themes evolved through the baseline and tested through engagement sessions:

Placemaking *For Royston*

Design quality and local character

High quality distinctive design that reflects the local character of Royston and the surrounding landscape, such as Notton Wood Local Nature Reserve

Sustainable and active travel

A new part of the community with landscaped active travel links to Royston and the surrounding countryside including the Trans Pennine Trail

Facilities and community hub

A place with a new primary school, with a park and facilities as a hub for the community. Also, a place with a small local shop on the main gateway

Landscape, open space and wildlife

A new part of the community with a park at the heart of each neighbourhood, landscaped wildlife links, trees and play areas for all

Housing mix and neighbourhood

A diverse new neighbourhood consisting of a rich mix of housing types and tenures, providing high-quality homes for all

Sustainability and carbon zero

A new part of the community that explores clean alternative energy usage and minimum carbon consumption

Deliverability

Viability and delivery to be ensured for new housing and local facilities within the development

Engagement and stewardship

Green space and grow gardens to be taken care of by the community. Pockets of nature in the development for all

Design quality and Local character - Goldsmith Street, Norwich

Design quality and Local character - Derwenthorpe, York

Facilities and Local hub - Blacon community hub

Engagement and Stewardship - Community allotment garden

Housing mix and Neighbourhood - Accordia Cambridge

Landscape, Open space and Wildlife - Port sunlight river park, Liverpool

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Fig. 3: Placemaking Concept for Royston Development

3. SITE CONSTRAINTS AND OPPORTUNITIES

3.1 CONTEXT

Policy MU5 of the Barnsley Local Plan designates this 35.2ha site on the western edge of Royston for mixed use.

The site lies less than 1 km west of the centre of Royston, adjacent to a mostly residential area and is approximately 6.5km to the north of Barnsley. The site is accessible via the M1 (J38) and A637.

The site is bounded to the north, west and south by Green Belt and to the east by the existing boundaries of Royston. The MU5 site is bisected by Lee Lane (B6428), which is the main western entrance to Royston.

Fig. 4: Site Context Map

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3.2 TOPOGRAPHY

The site sits on a relatively flat area with the highest point at the southwest end and the lowest point at southeast and northeast ends. It has a gentle level change of about 10m.

No main rivers are within or near to the site. There are small watercourses to the north and south east of the site.

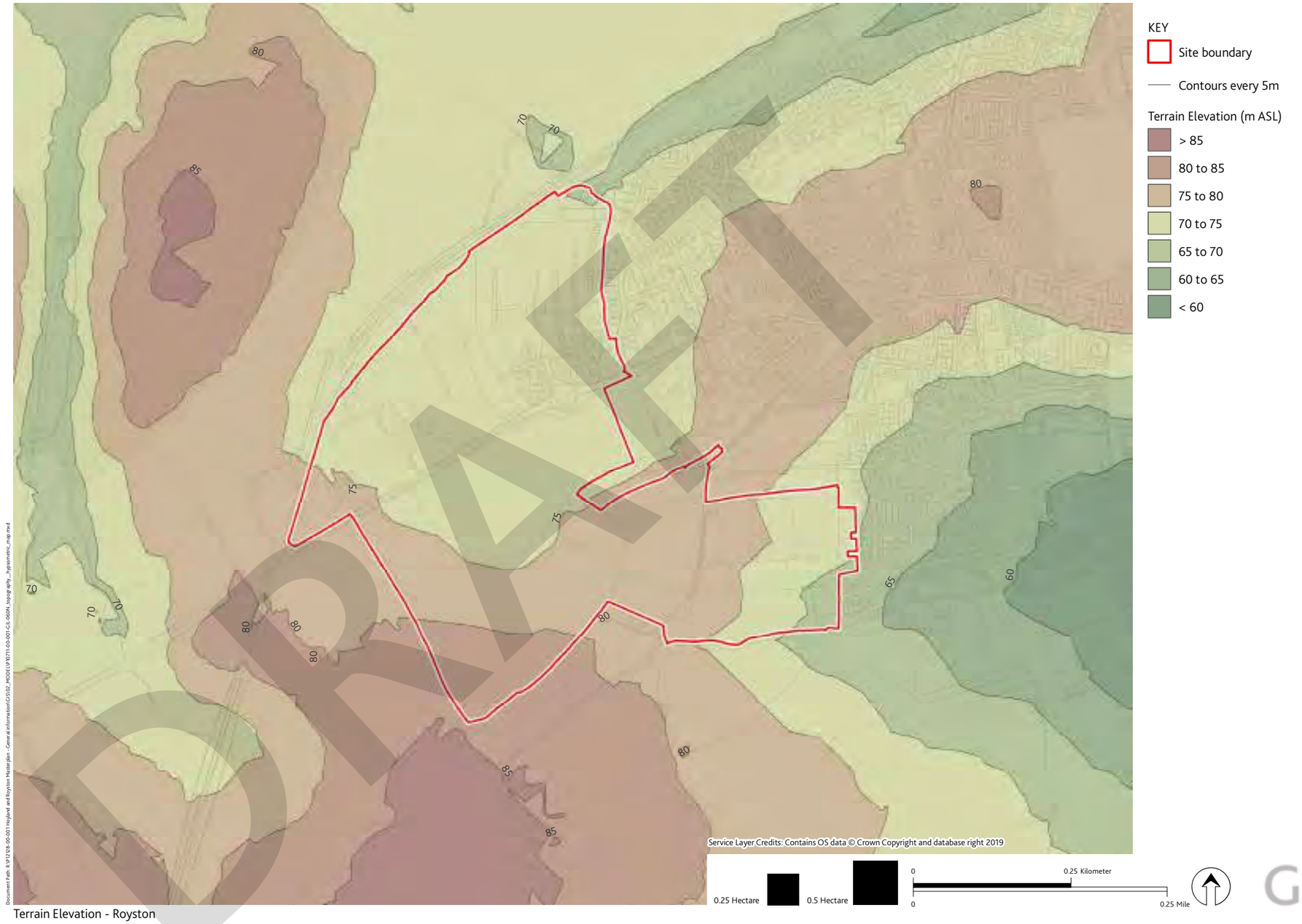

Fig. 5: Royston Existing Topography

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3. SITE CONSTRAINTS AND OPPORTUNITIES

3.3 KEY CONSTRAINTS

The site constraints plan summarises the various technical constraints that are found within and around the site.

Key

- Footpath
- Bridleway
- Rail Line
- Primary School
- Listed_Buildings
- Scheduled Monument
- 11kV Overhead
- 11kV Underground
- BT Ducting
- Foul Sewer
- LV Electric Service Main
- LV Electric Underground
- Water Main Over 4in
- Allotments
- Surface Water
- Tree Protection Order
- Green Space
- Green Belt

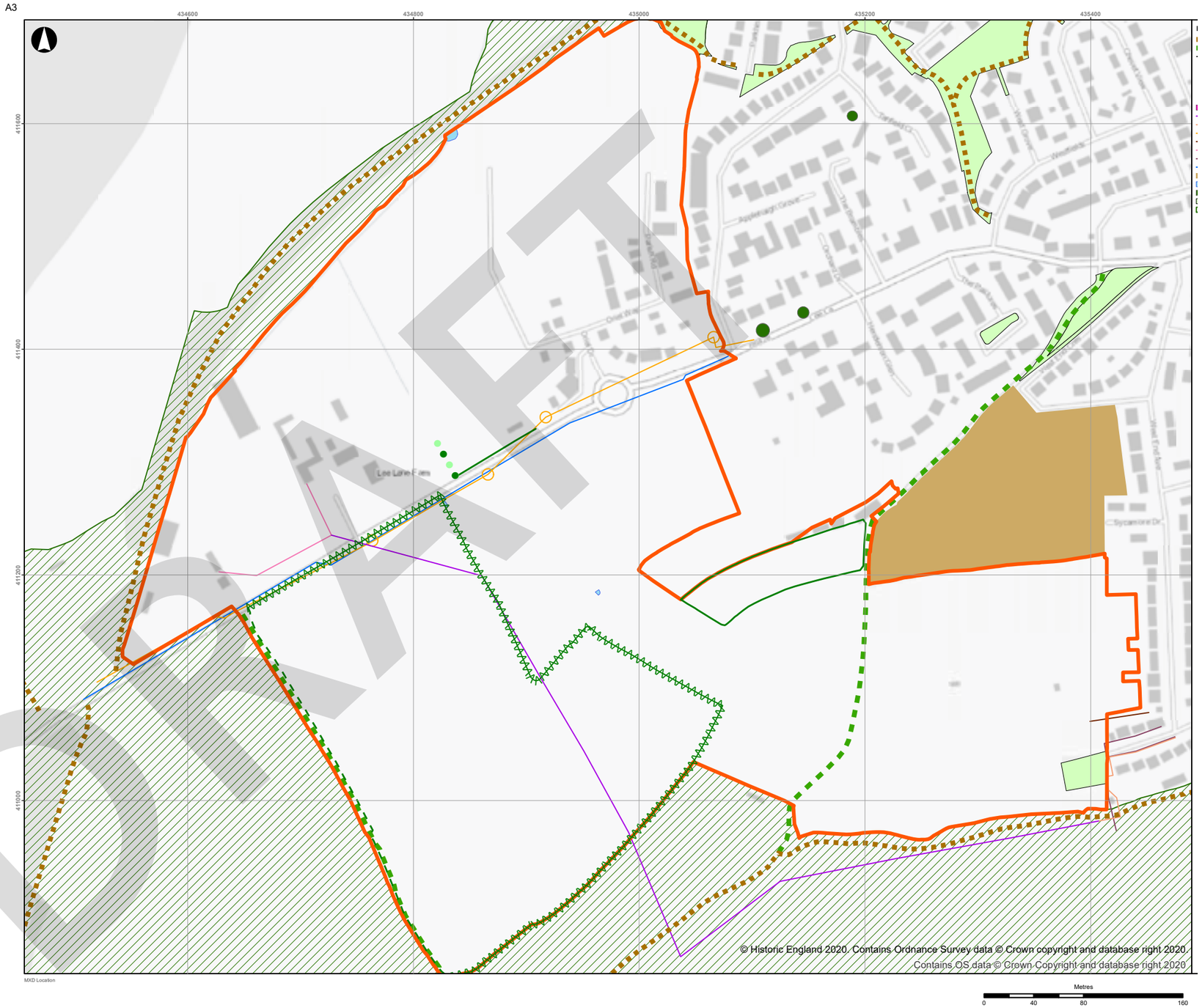


Fig. 6: Royston Site Constraints Plan

3.4 SITE OWNERSHIP

The complex landownership within the development site, as shown in Fig 7, is also considered a key constraint.

There are 13 different land owners with varying sizes of land parcels between themselves as indicated. Of the land parcels, LO_14 is owned by BMBC and planning permission has already been granted to LO_15 for 166 dwellings and is currently under construction.

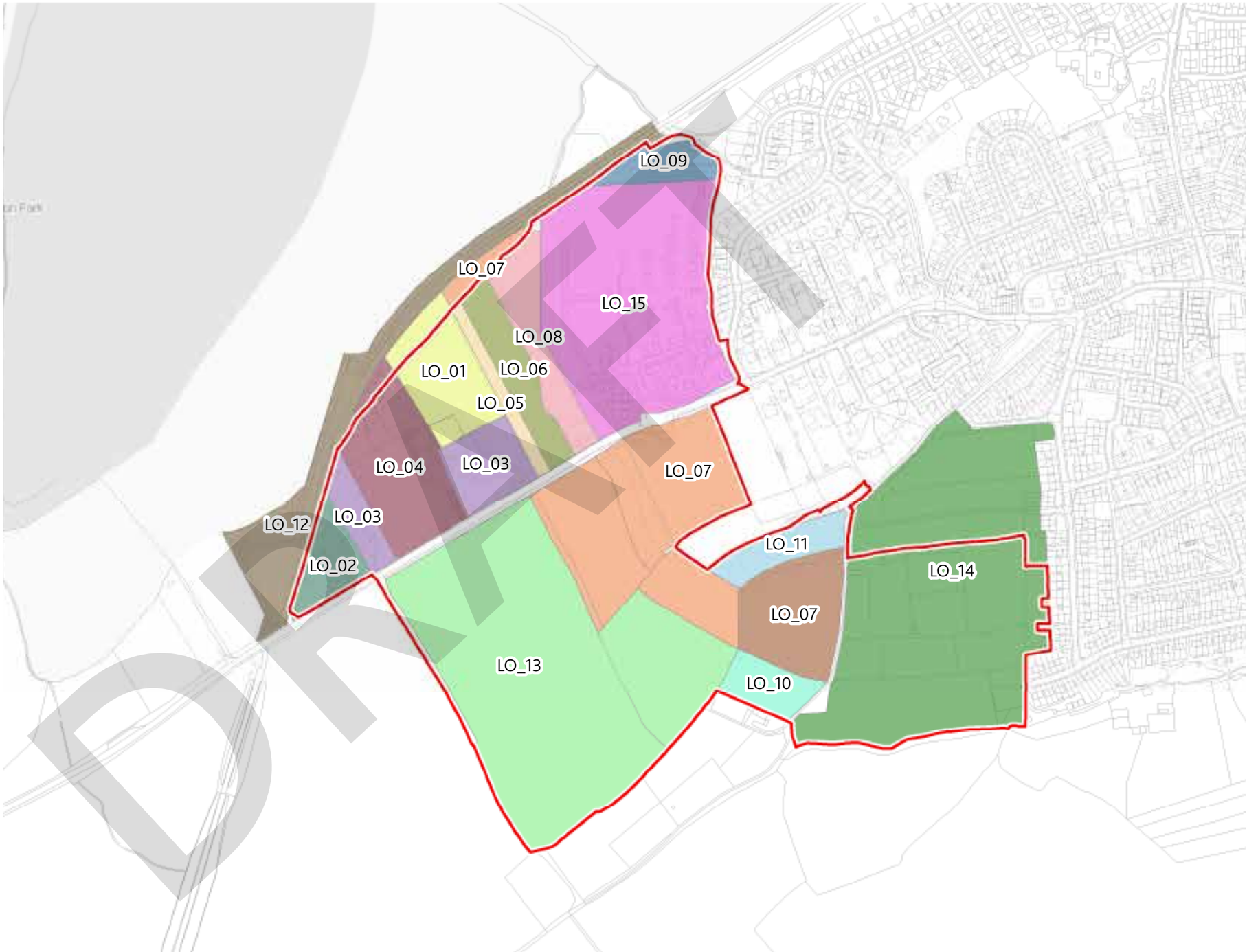


Fig. 7: Royston Landownership Plan

3. SITE CONSTRAINTS AND OPPORTUNITIES

3.5 URBAN DESIGN ANALYSIS

It is essential to understand and analyse the site and its surrounding context to identify the various issues, opportunities and urban design cues for the development. A key summary of the analysis plan (Fig. 8) includes:

- The proposed development should integrate with Barratt Homes scheme to deliver a coherent masterplan.
- The proposed development should respond to local heritage and landscape characteristics of the surrounding context.
- The development should ensure good connection and interfacing with the existing edge of Royston to the east.
- Promote good public transport and safe active travel links to local employment, schools, leisure and community facilities around Royston centre.

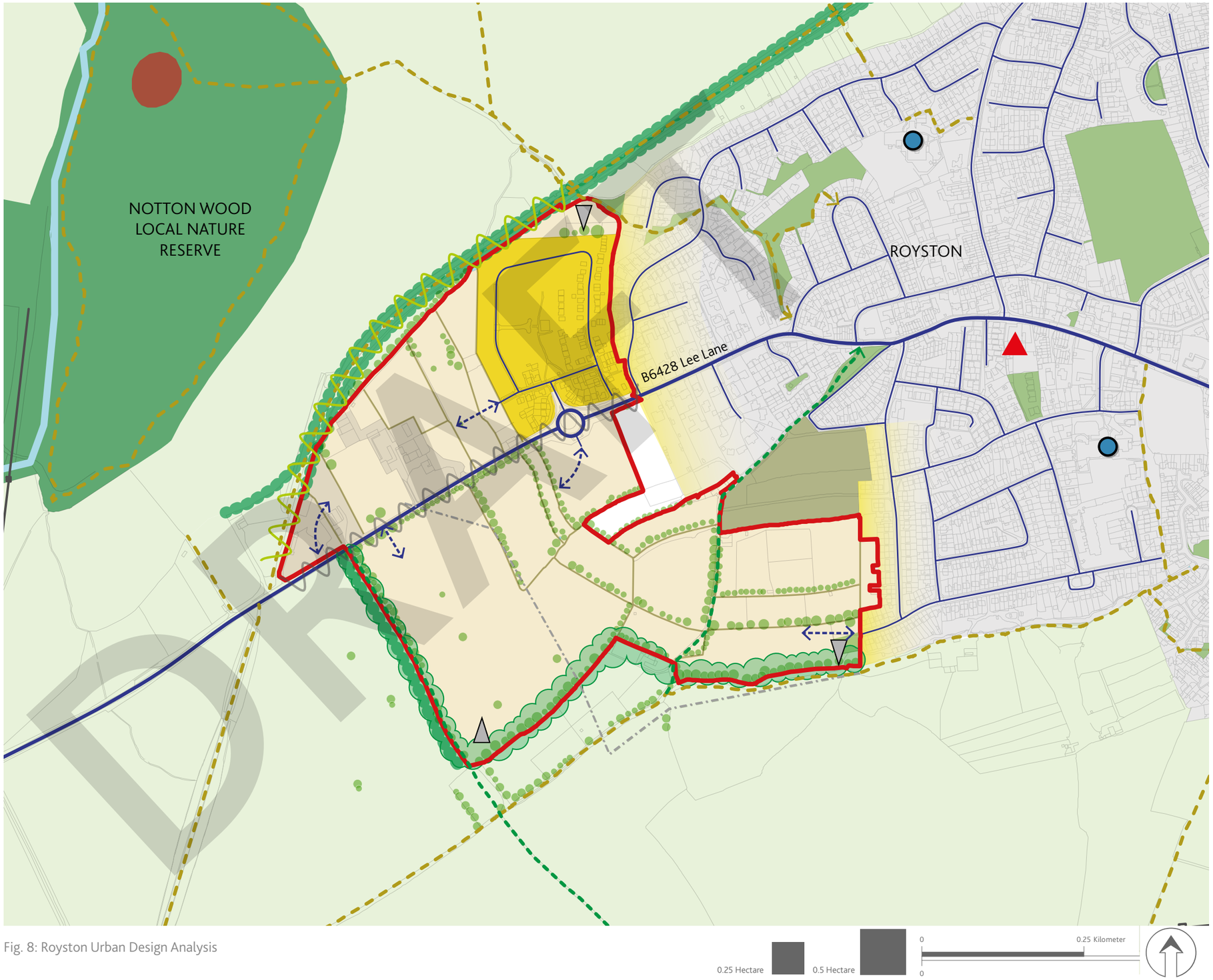


Fig. 8: Royston Urban Design Analysis

3.5 URBAN DESIGN ANALYSIS

Townscape Characters Review

The site and its surrounding areas have distinctive characteristics that help create placemaking strategies for the new development:

1 ROYSTON CENTRE

The traditional centre of Royston at the crossroads of Church St and High St. It is located approximately 1 mile to the east of the site boundary. The majority of the commercial buildings date from the late Victorian period with later 20th century and modern infill. Residential properties (1a & 1b) are again a mix of late Victorian and later development that follows a loose grid layout.

2 COMMON LANE

The residential area located around Common Lane is generally later 20th Century developer led housing following a perimeter block and grid layout.

3 STRAWBERRY GARDENS

Strawberry Gardens is an open plan estate with little definition between public and private gardens or front and backs of properties. The layout lacks a sense of order.

4 THE OVAL

A residential area consisting of public and prefabricated housing, following an oval form.

5 EVERGREEN

Area of mid / late 20th century public and developer housing following a loose grid layout.

6 CHURCH HILL

Church Hill is predominantly public housing with a small area of late Victorian housing along Church Hill.

7 NORTHLANDS

Small area of council bungalows following a grid layout.

8 NEW TOWN

Mid 20th century public housing in an elongated grid layout.

9 SUMMERFIELDS

Late 20th century developer led housing. The layout is a disconnected grid that forms a large proportion of the northern edge of Royston.

10 MEADSTEAD

Mainly mid 20th century with modern infill, grid layout public housing and open plan estate.

11 CHEVET

Small area of mid 20th century public housing following a grid and crescent layout.

12 PASTURES

Developer led residential area of late 20th century and modern housing in a disconnected cul-de-sac layout.

13 ATHERSLEY NORTH

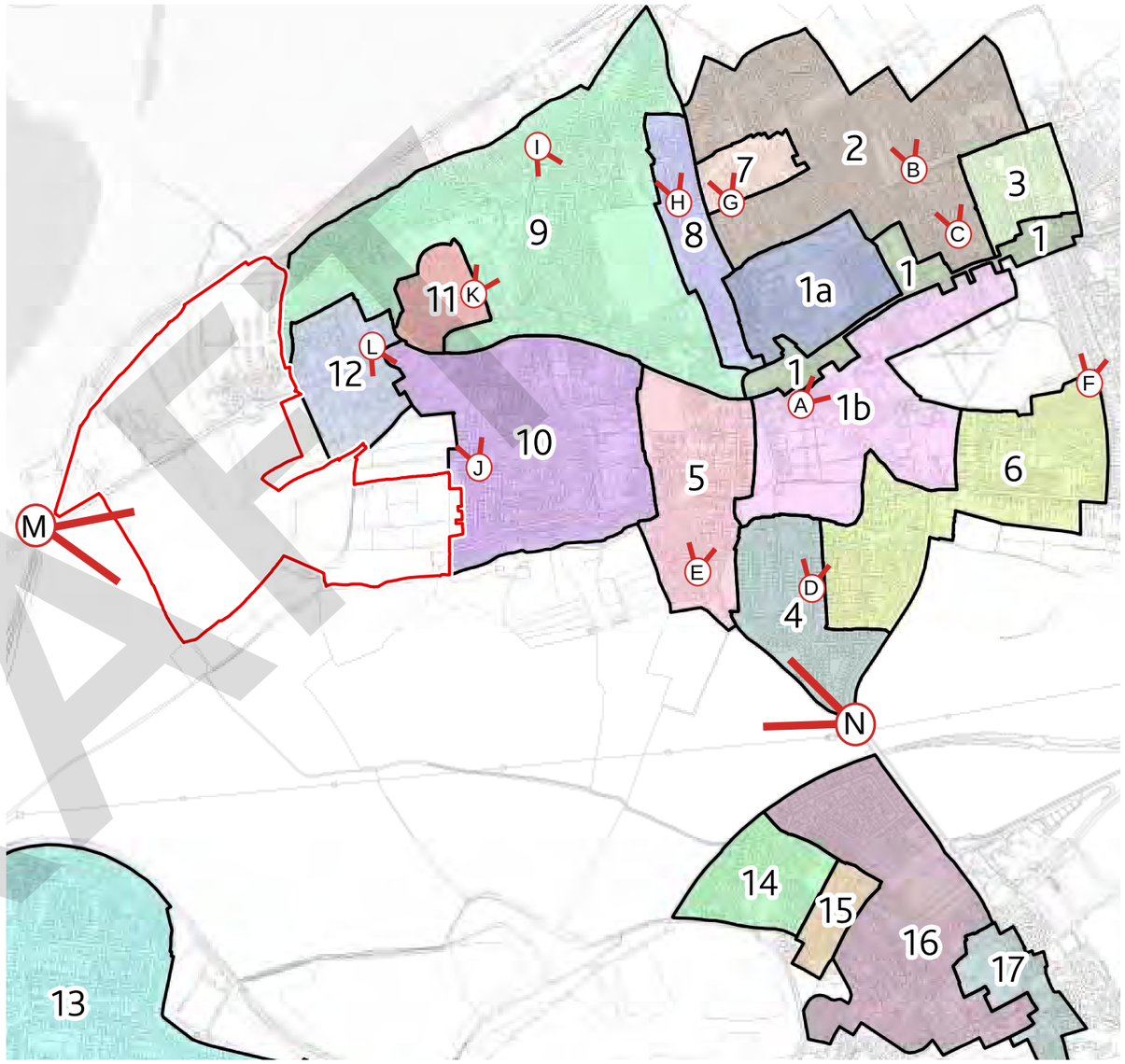
Mid 20th century public housing following a majority perimeter block layout.

14 LYNWOOD

Recent developer led edge of settlement extension following a disconnected grid form.

15 GRAYS

Small area of late Victorian terraces in a grid layout.



16 CARLTON

Mixed residential area to the south east of the site.

17 CARLTON CONSERVATION AREA

A small conservation area centred around the church. Predominantly stone built.

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Fig. 10: Royston site photos (Source: google street view)

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Fig. 11: Landscape View M - View east from B6428/ disused railway

Fig.12: Landscape View N - View north west from B6132

CONCLUSIONS

The areas of Pastures and Summerfields are directly adjacent to the site, forming the eastern boundary and links to the town centre. They offer a weak typology to draw from as they predominantly consist of late 20th century developer-led housing that lack a sense of street hierarchy, permeability and distinctiveness. The area of Meadstead is adjacent to the southeastern boundary of the site, it consists mainly of mid 20th century grid layout public housing and lacks character and community focus.

The more historic areas of Carlton and Carlton Conservation Area are distant from the site, but they show how a local typology can be developed through the use of coherent materials and landscape treatment.

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3. SITE CONSTRAINTS AND OPPORTUNITIES

3.6 BASELINE CONCLUSIONS

Initial Land Take Estimates

Our initial high-level assessment of the broad land-take for a range of placemaking and development parameters for the new development are outlined below. This is an initial review based on site analysis and previous experience, and has informed the development of the Masterplan Framework.

Site Area Circa **35.2 ha**

Homes Circa 994 homes @ 40 dph (average) = **24.9 ha**
Including a range of densities and 10 percent affordable housing

Local shop up to **0.1 ha**
Including a small local shop and required parking and unloading facilities

Education One 210 place primary school = up to **2 ha**
Including school buildings and associated play facilities.
(Requirement per national guide by Department for Education and info from BMBC)

Open space At least 35.2 X 15 percent = **5.28 ha**
Including recreational facilities, area for green and blue infrastructure.
(Requirement per BMBC Local Plan, 2019)

Pitches N/A
Informal recreational area will be provided within site instead

Surface water attenuation **0.93 ha**
(Require storage between 7,500 – 11,000m³. Assume max 1m depth)

Summary Opportunities

- A new primary school and a small local shop to be included in the development.
- New community recreational space/ multi use game areas.
- The landscaped strip to the north and the hedgerows to the west offer existing green corridors, public footpath routes and bridleways.
- Promote active travel options, physical activities and sense of wellbeing within the new development.
- A newly constructed four arm roundabout provides main access and gateway to the site.
- Enhanced public transport and active travel links to provide safe routes to the new school and nearby town centres.
- New green corridors and open spaces to connect with existing GI network in the surrounding.
- To implement a minimum 10 percent BNG (Biodiversity Net Gain) to maintain and strengthen the immediate and surrounding ecology and wildlife
- Priority to retain existing hedgerows and trees on site
- Connect the new LEAP within the permitted scheme with other green/ open spaces within the site.
- Opportunity to use the sandstone bedrock for infiltration drainage.

Summary Issues

- Need for a clearly defined boundary with the adjacent green belt land.
- Potential effects on landscape character and visual amenity
- Shortage of health facilities and local shops around the site.
- Complex allocation of land ownerships within the site.
- Potential issue of third party land and utility easements.
- Limited bus stops and services around the site.
- Uncertainty of Carlton-Royston Relief Road.
- Lack of high quality green spaces, play areas and sport pitches in close proximity to the study area.
- PRoW and cycleway network disconnected within and around the area.
- The elevated PRoW to the north and Lee Lane create barriers for permeable pedestrian network.
- Management and maintenance of green space.

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4. OPTIONS REVIEW

4.1 THREE CONCEPT OPTIONS

Baseline analysis including key issues and opportunities and initial stakeholder engagement has informed the generation of three concept options in Fig. 13.

Option 1

Key elements of this option include:

- New local hub (including a primary school, small local shop and informal recreational space) located in the southeast of the site.
- Proposed relief road is not taken into consideration.
- Multiple green connections across the site to connect with surrounding active travel links

Option 2

Key elements of this option include:

- New local hub (including a primary school and small local shop) located to the west of the site south of Lee Lane.
- Proposed relief road is taken into consideration.
- Multiple green connections across the site to connect with surrounding active travel links

Option 3

Key elements of this option include:

- New local hub (including a primary school and play area) and new residential neighbourhood located in the southeast of the site.
- Small local shop located centrally in the site to the south of Lee Lane.
- Proposed relief road is taken into consideration.
- Multiple green connections across the site to connect with surrounding active travel links

Fig. 13: Royston Framework Spatial Options

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4.2 THE PREFERRED OPTION

Based on the feedback gathered from various engagement workshops with stakeholders and BMBC, a preferred option was generated based on assessing the pros and cons of each option.

Fig. 14 shows the preferred concept option diagram, which is largely based on Option 3. It takes the proposed Carlton-Royston Relief Road into consideration, provides a new community hub (including a primary school and informal recreational space) to the southeast of the site, serving surrounding new neighbourhoods and existing community to the east. A small local shop is proposed south of Lee Lane offset from the newly constructed roundabout, this is to avoid congestion on Lee Lane while making the shop accessible to the surrounding communities. The preferred option has been further developed within this document to generate the Masterplan Framework.

Fig. 14: Royston Framework Preferred Option

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5. MASTERPLAN FRAMEWORK

5.1 THE MASTERPLAN

The Royston Masterplan Framework is designed to meet the site specific requirements for policy MU5 in Barnsley's adopted Local Plan (2019). It aims to create a strong sense of place, which responds to the site and its surrounding context.

The site is bound to the north, west and south by Green Belt and connects the existing settlement of Royston to the east. Lee Lane (B6428) bisects the site and provides the main vehicular access into the site from Royston town centre. It is a key movement spine across the site and forms a network of streets that is permeable and well connected with the surroundings.

A strong framework of multifunctional landscape spaces will provide opportunities for a variety of activities including walking, running, natural play, informal sports and other recreational uses. It should protect and enhance the wildlife within the site.

A new local shop and community hub are included within the development. The local shop is located off the southern arm of the newly constructed roundabout adjacent to Barratt Homes scheme, where it will be easily accessible from the rest of Royston via Lee Lane. The community hub is located to the southeast of the site, where it integrates with the new primary school, informal recreational area, existing neighbourhoods and allotment to the east.

Four POS' (including a linear park in Barratt's scheme) are proposed within the development. They are in prominent and accessible locations within the site and are designed to appropriate scales providing a number of recreational uses and facilities. A NEAP/ LEAP is proposed in the open space south of Lee Lane alongside the LEAP proposed in Barratt Homes scheme. The informal recreational area south of the new primary school shall accommodate a range of informal play areas that are incorporated in the open space.

The proposed east-west and north-south landscaped active travel links connect the neighbourhood open spaces with the rest of the development. The block structure and street formation of the development is based upon a loose grid responding to the existing layout of the site. The layout seeks to maximise active travel movement within and beyond the site, it should also reduce the need for car use by encouraging sustainable modes of transport.

The Masterplan Framework will make effective use of the site through appropriate scale, height and massing reflecting its relationship with the surrounding landscape settings. An integrated SuDS network should be implemented to mitigate flood risk and ensure that the development is resilient to the potential impacts of climate change.

Fig. 15: Placemaking concept for Royston development

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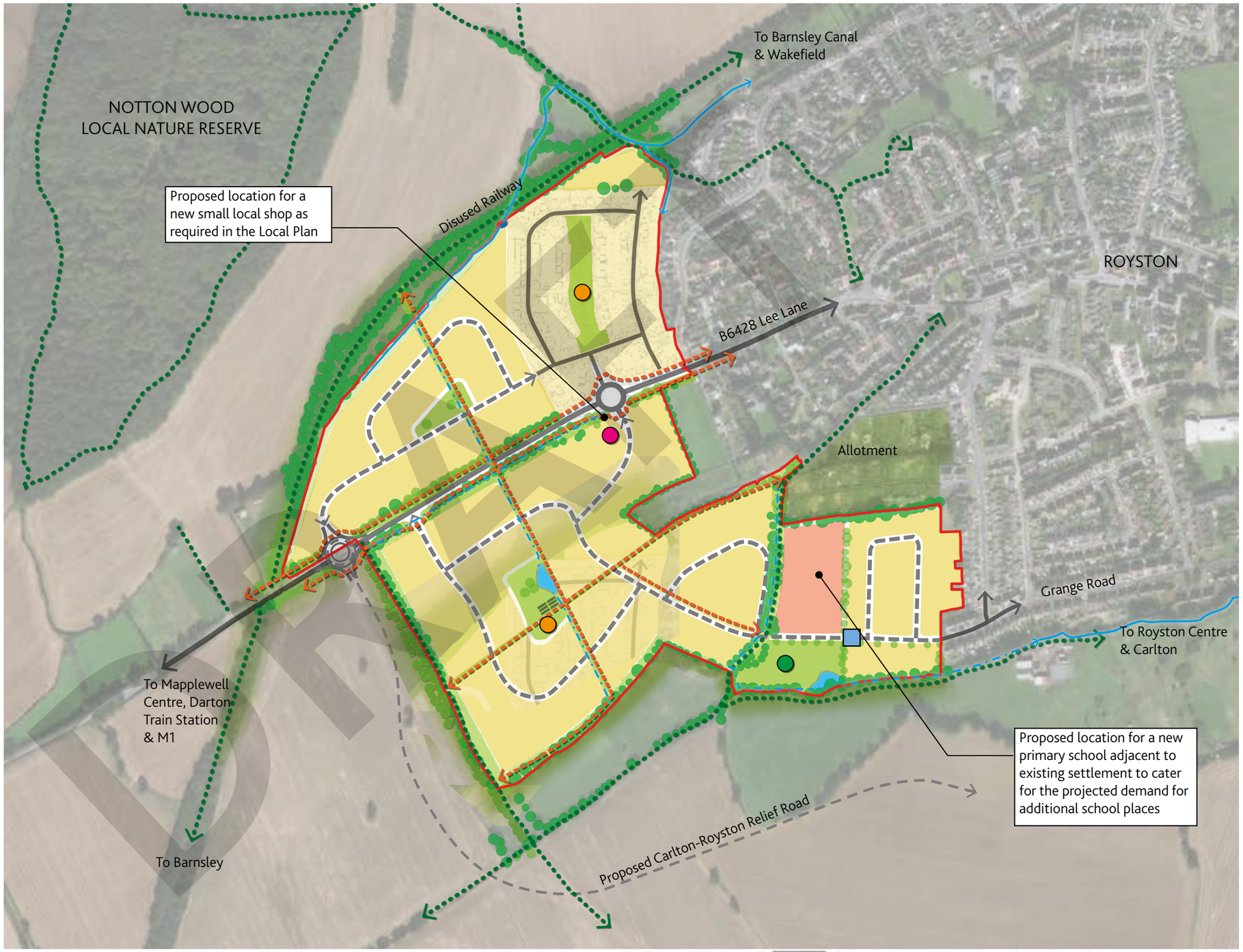
5.1 THE MASTERPLAN

The Royston Masterplan Framework plan is based on the preferred concept option sketch in Fig. 14. The key features of the Masterplan Framework include the provision of:

- 994 homes, including 166 homes in Barratt Homes scheme
- A new primary school
- A small local shop
- Multiple NEAP/ LEAPs, an informal recreational area, a community grow garden and neighbourhood open spaces
- A network of green wildlife corridors and active travel links
- Multiple residential neighbourhoods within various character areas

Detail on specific design principles of this Masterplan Framework are discussed further in the Design Code section.



KEY

- PROPOSED PRIMARY SCHOOL
- OPEN SPACE / GREEN INFRASTRUCTURE ALLOCATION
- RESIDENTIAL PARCELS
- COMMUNITY GROW GARDEN
- EXISTING PUBLIC RIGHTS OF WAY
- LANDSCAPED ACTIVE TRAVEL LINK
- EXISTING VEHICLE ACCESS
- PROPOSED VEHICLE ACCESS
- EXISTING WATERCOURSE
- BLUE INFRASTRUCTURE - RAINGARDEN OR SIMILAR
- ATTENUATION POND
- COMMUNITY INFORMAL RECREATIONAL AREA
- LEAP / NEAP
- RETAIL / CONVENIENCE STORE
- BUS GATE
- EXISTING TREES
- PROPOSED TREES

Fig. 16: Royston Masterplan Framework Plan

5. MASTERPLAN FRAMEWORK

5.1 THE MASTERPLAN

Land use quantum are as follows:

Gross site area	**35.2 ha**
No. Homes	**994** homes (including Barratt Homes' 166 homes) Average residential density: **40dph**
Residential	**24.7 ha**
Local Shop	**Up to 0.1 ha**
Education	**1.2 ha** (assumed 210 place primary school)
Open space	**5.8 ha** POS in Barratt Homes Scheme - circa 0.53ha POS North of Lee Lane - circa 0.25ha POS South of Lee Lane - circa 0.45ha Informal Recreational Ground - circa 1ha Accessible Landscape Buffer/ Green Corridor - circa 3.6ha
Attenuation	Circa 0.93ha
Infrastructure	**0.06 ha of car parking in the primary school** **0.03 ha parking area for a small local shop**

Residential land use is allocated into three density zones in order to achieve a diverse mix of housing types within different character areas (see Fig. 17):

- Low density zone 35-40 average dph
- Medium density zone 40-45 average dph
- High density zone 45-50 average dph

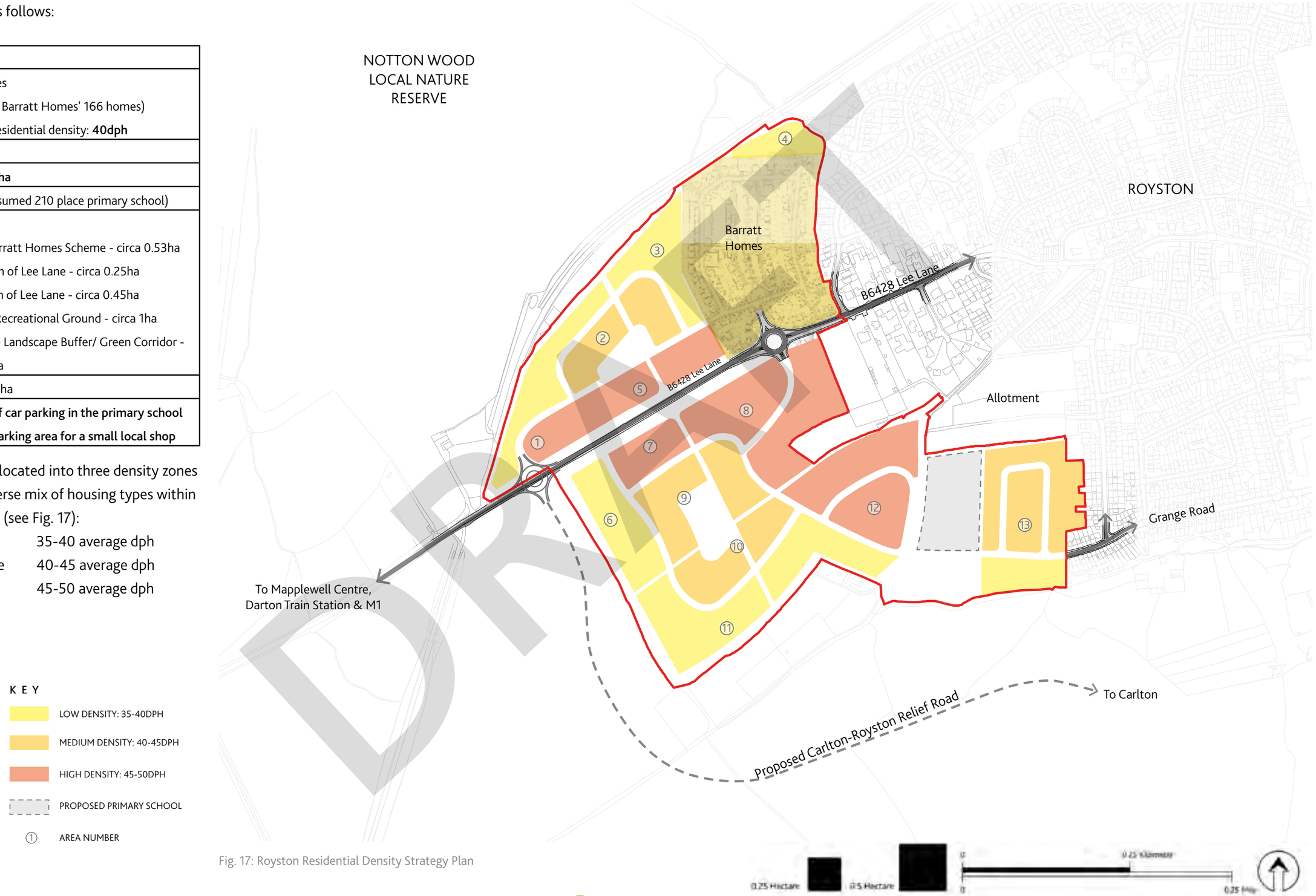


Fig. 17: Royston Residential Density Strategy Plan

The Masterplan Framework and other associated framework plans in this document are strategic, but have been informed by relevant statutory guidance and policies, detailed analysis of the site and its surrounding context, stakeholder engagement and public consultation.

The Masterplan Framework (see Fig. 16) meets the requirements of site specific policy for MU5 Royston site in the adopted Local Plan (2019), in that it delivers the necessary residential, education, commercial and open space requirements within the allocated site. Overall, the proposed development consists of the following components:

Housing
The development allows for the provision of up to 994 new homes at an average density of 40 dph. New housing should be delivered at various densities according to the different character areas within the development. A diverse mix of homes and tenures should be provided to meet different accommodation needs, including 10 percent affordable housing provision as indicated in the Local Plan. Details on housing design will be further elaborated in the Design Code (Section 7.3 of this document).

Education
MU5 policy requires the provision of a new primary school on the site. The Masterplan Framework has included provision for a primary school, nursery and associated outdoor spatial requirements. It is located to the southeast of the site, integrated with the nearby community allotment, new informal recreational space and existing urban fringe of Royston to the East by Grange Road.

Local Shop
A new community of circa 2,300 residents should generate a need for a new small local shop as indicated in Local Plan Policy TC5. It shall be part of the Lee Lane gateway, offset from the newly constructed roundabout to maximise passing trade.

Open Space
The development will provide sufficient high-quality accessible open space in response to the requirements set out in the Local Plan. This should include the provision of POS, community gardens, natural and semi-natural greenspace, equipped play areas and informal recreational space.

Movement Infrastructure
This includes a hierarchy of key and local vehicular routes with associated pedestrian and cycle paths, and a network of active travel links connecting with surrounding PRoWs throughout the development. Individual residential parking lots and designated off street parking zones for the local shop and primary school should also be included as part of this movement infrastructure land take.

GI Network
As the site is surrounded by Green Belt and Notton Wood Local Nature Reserve, a well designed GI network is essential in providing a green and attractive environment within the development, it can also ensure existing wildlife and biodiversity to be enhanced across the site. This GI system includes a range of green wildlife corridors, SuDS and attenuation ponds, green roofs and accessible landscape buffers around the outskirts of the development.


A diverse mix of house types and tenures to be included - The Avenue, Saffron Walden


Well designed private gardens and communal green space - Goldsmith Street, Norwich


Well designed POS among proposed neighbourhoods


Proposed green active travel routes across the development


Informal recreational open space will promote sports and community activities


Community grow garden as part of the integrated community hub

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Hierarchy of Routes

The movement strategy is based on a hierarchy of routes through the site, connecting with existing routes, communities and amenities. For existing active travel connections around the site, see Fig. 18.

The hierarchy comprises prioritising active travel modes over motor vehicles to encourage sustainable travel and reduce the impact of private vehicles. The scheme design considers access requirements for all users in the following order:

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

Site Boundary
Green Belt
Notton Wood Local Nature Reserve
Green Space
Allotment
Water Body
Existing Built Form
School Ground
Carlton Conservation Area
Local Centre
Overhead Line and Pylon
Listed Building / Monument

Primary Road
Secondary Road
Local Road
Proposed Vehicle Access
Public Rights of Way - Footpath
Public Rights of Way - Bridleway
Trans Pennine Trail (TPT) & Sustra National Cycle Network (NCN 67
Sustrans Link Route
Proposed Active Travel Link
Existing Primary School
Existing Secondary School
New Primary School
Community Recreational Facility
Royston Leisure Centre

Fig. 18: Royston Active Travel Movement Connections

5.2 MOVEMENT FRAMEWORK

Existing Connections

Within these modes the Movement Framework identifies existing connections, both existing transport routes within and surrounding the site, as well as existing local communities and amenities to/ from which transport links are important.

These are considered below for each mode for the site at Royston:

- PRoW (Site) – A bridleway follows the western site boundary connecting with routes to the north and south for links between Royston, Athersley and Carlton. A further bridleway crosses the south east corner of the site providing a connection from rural areas to the south to Royston via a route adjacent to West End Crescent. These routes are retained as part of the proposed scheme and upgraded to include surfacing and lighting to be consistent with new proposed routes.
- PRoW (Surrounding) – there is a network of footpaths surrounding the site – to the east, on local residential routes within Royston and in rural areas surrounding the site.
- Cycle network (Surrounding) – local routes are located to the south of the site in Carlton, connecting to Sustrans National Route 67 / TPT, which runs in a north-south direction along the disused Barnsley Canal to the east of Royston.
- There is an existing footpath along the north western site boundary on the disused rail line, providing strategic links to the Barnsley Canal / TPT to the north east and to Athersley, Mapplewell and Barnsley to the south west. BMBC is proposing to upgrade this footpath for cyclists and equestrians. The scheme will facilitate these improvements and provide links to this route from the site, thus providing enhanced walking and cycling connections to Barnsley town centre and Transport Interchange, along with local centres and leisure opportunities.
- Local communities and amenities – within walking and cycling distance are a range of amenities in Royston including local primary schools, local commercial and retail provision and Royston Leisure Centre. To the south are the communities of Athersley, Carlton and Mapplewell providing further amenities. The Outwood Academy and Holy Trinity in Carlton provide local secondary schools. A number of parks and open spaces provide amenity for local residents. The Notton Wood Local Nature Reserve is located close to the site to the north and provides a key leisure amenity. The Rabbit Ings Country Park, to the east of Royston, also provides open space within walking and cycling distance of the site. Walking and cycling connections to these amenities will be provided with site links connecting to existing routes.
- Bus routes – existing surrounding bus routes include services through Royston B6428 High Street, B6132 Station Road and Summer Lane. New bus service routing through the site will connect with these routes.

Applicants are strongly recommended to engage with Officers regarding off site improvements to pedestrian or cycle routes, bus stops or facilities at Darton Rail Station as part of the pre-application process.

Movement Framework

As a result of the review of the existing connections and hierarchy of modes, the Movement Framework comprises:

- Landscaped active travel routes
- Pedestrian links
- Cycle links
- Street hierarchy:
  - Principal streets – primary access routes – including for bus access
  - Local streets – secondary and tertiary access routes to plots

Further detail of these routes is provided below with information provided based on available guidance and best practice. The South Yorkshire Residential Design Guide provides some specification with respect to street design, although dated 2011, has been superseded by recent best practice in some areas.

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5. MASTERPLAN FRAMEWORK

5.2 MOVEMENT FRAMEWORK

There should be a network of landscaped active travel routes through the site. These provide generous, attractive, safe and direct traffic free links through the site linking to local facilities and services. Existing PRoW through the site should be retained. These new and existing routes should connect with existing external PRoW. Any new roads crossing existing PRoW shall require safe crossing provision for users.

As shown in Fig. 19, the active travel movement framework for Royston comprises:

- Landscaped active travel routes
- Pedestrian links
- Cycle links

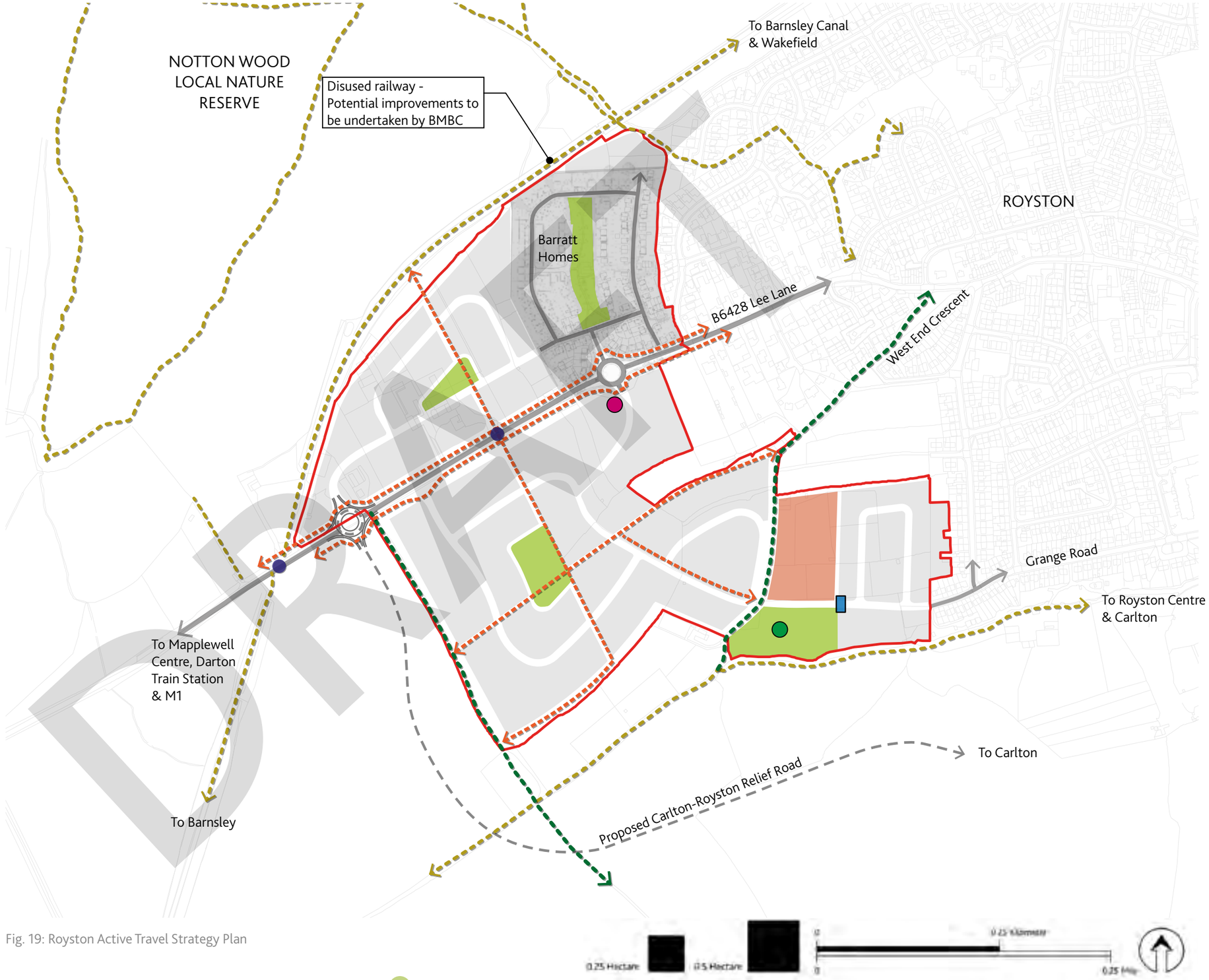

Fig. 19: Royston Active Travel Strategy Plan

5.2 MOVEMENT FRAMEWORK

All routes should be wide, include planting and provide segregation between pedestrians, cyclists and horses where relevant. Safety considerations include that routes are overlooked for passive surveillance and lighting is provided. New walking/ cycling routes will also be fully accessible for all abilities. New routes not forming part of the adopted highway will become designated PRoWs.

Crossing provision will prioritise the active travel modes over vehicles within these routes, any new roads crossing existing PRoW will require safe crossing provision for users.

Landscaped Active Travel Routes

The core routes within the site comprise north-south and east-west links through the site connecting with existing PRoWs and existing communities surrounding the site. In a north-south direction, the core route runs centrally through the site, from the existing footpath on the northern site boundary, crossing over Lee Lane with crossing provision made and continuing south to connect with the existing footpath that connects Royston with Mapplewell and Athersley.

Based on the Barratt's scheme proposals, a landscaped active travel route is identified running in a north-south direction centrally through the Barratt Homes site to the north of Lee Lane, also connecting with the existing footpath on the northern boundary for a connection to Notton Wood Local Nature Reserve and further north east towards Barnsley Canal / Trans Peninne Trail.

In an east-west direction landscaped active travel routes should run adjacent to Lee Lane to provide an attractive alternative to the road. An additional east west connection runs centrally through the southern area of the site, connecting the site with the existing bridleway route into Royston running adjacent to West End Crescent and the existing bridleway running along the western boundary of the site. The existing bridleways will be retained within and adjacent to the site.

Pedestrian Links

In addition to the Landscaped active travel routes, additional footpath routes through the site provide a wide variety of direct routes for pedestrians. Desire lines include links to local communities and amenities in Royston to the east and leisure routes through the countryside to connect Royston with Mapplewell, Athersley and Carlton. Pedestrian links will connect all dwellings to the local and wider network, including to nearby bus stops.

The proposals include a number of connections to the existing footpath along the disused rail line along the north western boundary of the site, to integrate with BMBC proposals to upgrade the TPT / Barnsley Canal route for connections between Wakefield and Barnsley.

Regular crossings will be provided to link pedestrian routes, including across Lee Lane to link development parcels on either side.

Cycle Links

Cycle provision is made along the landscaped active travel routes through the site. These will provide segregated facilities to provide legible, safe traffic free routes for pedestrians and cyclists and will link to existing routes around the site. In addition, the vehicular streets through the site will be designed to keep vehicle speeds low and enable cyclists to cycle on street. Connections to the existing route along the disused rail line on the north western boundary of the site will facilitate future provision of a cycle link for connections to the TPT along the disused Barnsley Canal to link Wakefield and Barnsley.


Cycle parking hubs to be located along active travel links throughout the development


Street trees and planters alongside pedestrian footpaths and crossing points


Street trees alongside pedestrian footpaths to enhance street scenes and provide shading


Designated cycle path with landscape segregation from vehicular route

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5. MASTERPLAN FRAMEWORK

5.2 MOVEMENT FRAMEWORK

The vehicle access strategy plan (Fig. 20) shows the street network provide for vehicular access through the site and includes the below hierarchy:

- Lee Lane
- Principal streets - primary route/ bus route
- Local streets - secondary and tertiary routes

Pedestrians and cyclists should also be accommodated on all the above routes.

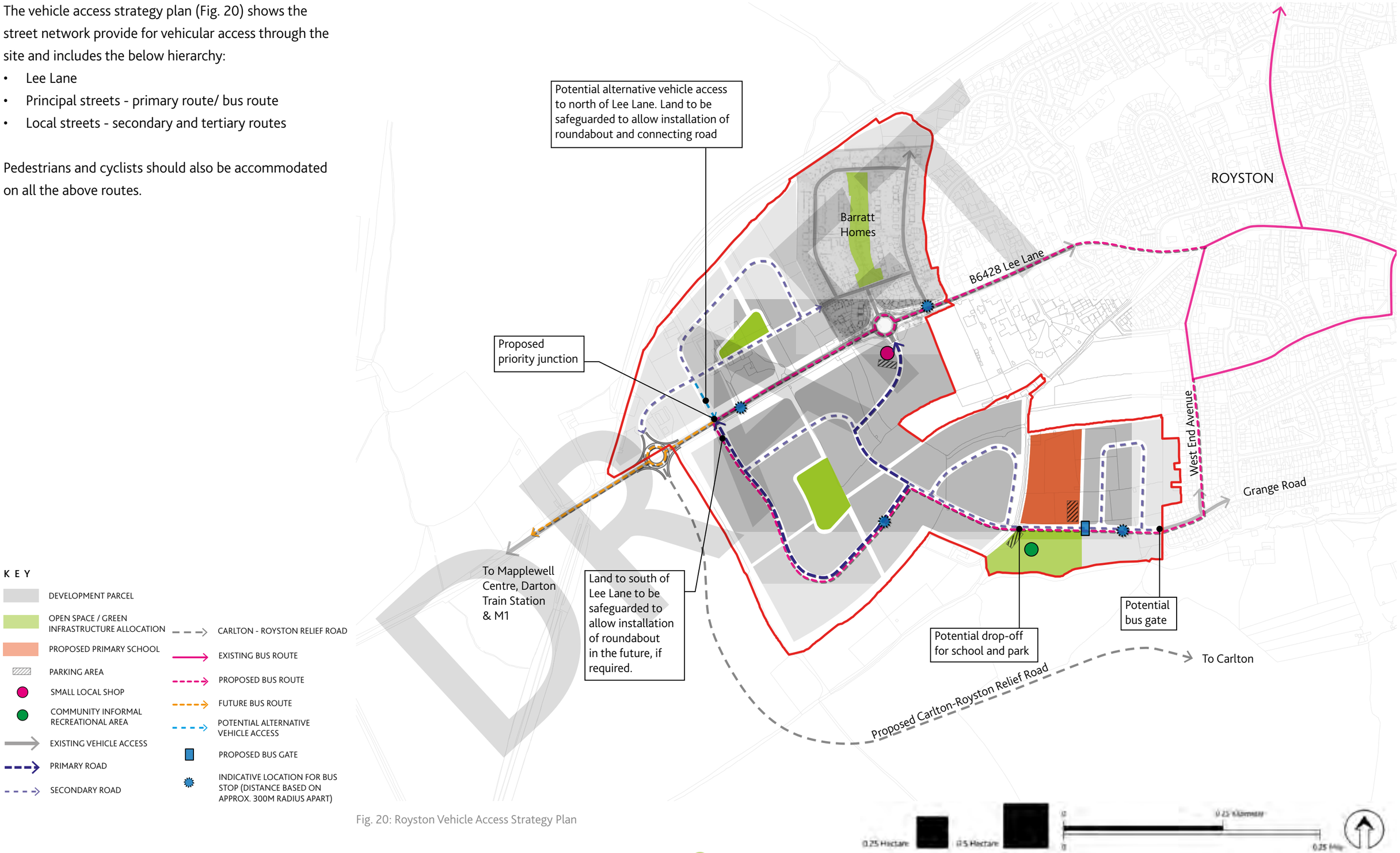

Fig. 20: Royston Vehicle Access Strategy Plan

5.2 MOVEMENT FRAMEWORK

Carlton Royston Relief Road

An indicative alignment of the Carlton Royston Relief Road is shown within the Movement Framework. Whilst this route does not form part of the Royston site proposals, there is a BMBC desire to deliver the scheme to reduce the impact of traffic on the existing communities of Carlton and Royston. The Masterplan Framework has been developed to be flexible with the access proposals considered both With and Without the Relief Road. The Carlton Royston Relief Road runs to the south and west of the site, with a four-arm roundabout provided at the junction with Lee Lane. The northern arm of the roundabout will provide access to the parcels north of Lee Lane.

Lee Lane

The existing Lee Lane runs in an east-west direction through the site and will be integrated into the site. In addition to the landscaped active travel routes running adjacent to the road, new junctions will provide access to the site parcels, bus stops will be provided and crossing provision made. BMBC is progressing a Traffic Regulation Order (TRO) to reduce the existing national speed limit to 40mph. It is anticipated that within the site Lee Lane will become a 30mph road with design features included to encourage drivers to reduce their speeds. These design features will include:

- the two roundabouts on Lee Lane
- a toucan crossing for the landscaped active travel corridor with a 2m wide median
- localised carriageway narrowing at the bus stops, the priority controlled T-junction and the road crossings
- a change to the surface texture at the road crossings
- two more 1m wide medians between the two roundabouts to provide further pedestrian crossings

Principal Streets - Primary Route / Bus Route

The Primary Route provides the main access route through the site connecting to the external network from Lee Lane. A roundabout junction with Lee Lane has recently been constructed to the east of the site as part of the Barratt Homes development. As part of the Masterplan proposals a second access junction is proposed from Lee Lane. A priority controlled T-junction, a right turn lane and pedestrian refuge will be provided to improve safety on Lee Lane. It is noted that if the Carlton Royston Link Road is not delivered, the form of this junction providing the additional access would need to be reviewed. The preferred option would be a four-arm roundabout in order to provide access to parcels north and south of Lee Lane and manage speeds on Lee Lane. The roundabout would be located in broadly the same location as the proposed priority T-junction. The land north of Lee Lane at this location is safeguarded to enable this to be implemented in the future. Detailed highway assessment of proposed new junctions as well as off site highway impacts and mitigation will be required as part of future planning applications for the site. The scope of these, and any traffic survey requirements, will need to be agreed with BMBC and Highways England.

The proposed Primary Route is circuitous, with a central loop through the site, to discourage potential rat running. Access requirements for the Primary Route are for all vehicles – buses, emergency services, refuse/ service vehicles and general traffic. A 20mph design speed is proposed. Pedestrian footways are to be provided on both sides of the carriageway. Cycle provision is on street, with relatively low traffic flows meaning cycle lanes are not considered necessary.

A Bus Route through the site is proposed to link with existing services through Royston. The bus route will follow the western section of the Primary Route loop with a connection to Grange Road through the south of the site. A bus gate is proposed at the connection to Grange Road to restrict general traffic and prevent potential rat running through the site. The Bus Route will provide bus access through the site, connecting to the new primary school, residential areas, amenities within Royston and destinations further afield including Barnsley Town centre.

The core Bus Route will be developed in consultation with Barnsley Bus Partnership (comprising BMBC, SYPTE and bus operators), including the suitability of Grange Road and West End Avenue to accommodate bus movements. An alternative Bus Route will be to / from Lee Lane following the Primary Route through the site. It is suggested that both routes through the site are designed to accommodate buses to enable flexibility of bus provision. Early liaison with Barnsley Bus Partnership stakeholders will be required to develop proposals and could include a range of bus service types such as M1 express services as well as local services.

Bus stops are to be provided at regular intervals to ensure all dwellings are within 400m walking distance, preferably 300m. Guidance indicates bus stops to be provided on street, however SYPTE/operators have indicated a preference for la-bys – this to be confirmed as the masterplan is progressed in further stages. Bus stops should include raised kerbs, seating, CCTV and real time information. Pedestrian footways to be min 3m at bus stops to cater for additional pedestrian movements. Bus stops should be connected to footways / cycleways through the site to provide good links between bus and active travel modes.

It is also suggested there will be future bus service provision on Lee Lane connecting Royston and the site with communities to the west including Mapplewell and Darton.

The Primary Route will be adopted by BMBC.

Local Streets – Secondary and Tertiary Routes

Secondary Routes provide links to development parcels from the Primary Route to the south of Lee Lane. A Secondary Route is also proposed to the north of Lee Lane, running in an east-west direction between the Barratt Homes site and the proposed Relief Road access roundabout. Access requirements are for emergency services, refuse / service vehicles and general traffic. A 20mph design speed is proposed. Pedestrian footways are to be provided on both sides of the carriageway. Cycle provision is on street.

Tertiary Routes / Local Accesses will provide local accesses to individual buildings / driveways. These are not shown on the Masterplan but are considered as part of the Movement Framework. Access requirements are for emergency services and general traffic, possibly also refuse / service vehicles. Short cul-de-sacs discourage vehicle through movements – although pedestrian and cycle links should connect streets. A 20mph design speed is proposed. Pedestrian footways are to be provided on both sides of the carriageway. Cycle provision is on street.

Secondary Routes will be adopted by BMBC. Adoption of tertiary routes and local accesses are to be determined.

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5. MASTERPLAN FRAMEWORK

5.3 CHARACTER AREA FRAMEWORK

A number of different character areas must be created that respond to the local context, its distinctive landscape characteristics and the proposed land use for each area. The surrounding neighbourhoods and local landscape along with existing site constraints will help to shape a number of distinctive character areas.

The character areas identified (including area within Barratt Homes scheme) are as shown in Fig. 21:

- Green Crescent
- Urban Gateway
- Royston Green
- Royston Common

Fig. 21: Royston Character Area Strategy Plan

5.3 CHARACTER AREA FRAMEWORK

Royston Common

This character area is located to the southeast of the development, where a new primary school, informal recreational ground and residential neighbourhood are integrated with the existing allotment to the north and urban fringe of Royston to the east. This new community heart will be easily accessible from the rest of the development via active travel links and well connected with existing PRoWs around the site.

The new primary school is located within an area of higher ground within the site and will be relatively visible from neighbourhoods to the east. The school building should be kept to maximum 2 storey tall, and should be surrounded by green perimeter fencing to soften potential visual impact. The informal recreational ground will provide high quality green space that is well connected with West End Crescent PRoW and the allotment to the north. Residential development will be of medium density (40-45 dph) north of Grange Road, and of low density (35-40 dph) where it is facing the open fields to the south. New dwellings should overlook the informal recreational ground and open fields where possible, and should comprise high quality detailing and materials (good quality brick in similar red tone to nearby Meadstead area) in order to create a residential environment that integrates well with nearby communities. Dwellings should include a mix of family oriented house types such as detached, semi detached and terraces, and should include high quality and well maintained landscaping which softens the transition between the built form and green space.

Informal recreational open space as new community heart in 'Royston Common'.

New residential development to be well integrated with existing Meadstead area east of 'Royston Common'.

Urban Gateway

This area is characterised by its close adjacency to Lee Lane and the urban edge of Royston east of the site. It comprises a new local shop south of the completed Lee Lane roundabout and Barratt Homes' scheme. Lee Lane will be enhanced with green active travel routes incorporated on both sides. Residential development in this area adjoins existing neighbourhoods and green fields to the east, the street grain will integrate with existing patterns of Royston centre where a grid provides a strong perimeter block typology. This area will also be well connected with primary streets and bus routes providing easy access to Royston centre.

The density in this area will be the highest within the site (45-50 dph), corner landmark buildings up to 2.5-3 storeys tall will be located at urban gateways on both ends of Lee Lane, framing the urban core of this development. The landmark building to the east will incorporate the new local shop on ground level to create an active streetscene. Dwellings should be setback (up to 10m) from both sides of Lee Lane to incorporate landscaped tree buffers and active travel routes. Residential development should include a diverse mix of higher density house types such as apartments, terraces and townhouses. It should also include high quality detailing and materials and well maintained landscaping.

New small local shop to be integrated on the ground level of a multi-storey housing unit in 'Urban Gateway'

A diverse mix of house types - including higher density homes can be found in 'Urban Gateway'

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5.3 CHARACTER AREA FRAMEWORK

Royston Green

This character area is located in the centre of the northern and southern half of the site, comprising the residential area around the two central neighbourhood green spaces. This area is well connected with good active travel links to the new local shop, primary school and informal recreational ground. The street grain will integrate with the nearby 'Urban Gateway' area where the grid pattern extends to a perimeter block typology. The two central green spaces will provide high quality POS, a community grow garden and equipped play area that are all easily accessible by residents across the site.

Residential development will be of medium density (40-45 dph) up to 2-2.5 storeys tall, it should overlook the two neighbourhood green spaces and surrounding streets where possible. Dwellings should comprise well designed detailing and materials in order to create a high quality and green residential environment. They should include a mix of family oriented house types such as semi detached and terraces. Residential development should also include high quality and well maintained landscaping which softens the transition between the built form and the neighbourhood green spaces.

Medium density housing facing onto POS in 'Royston Green'

Street trees, green strips and front gardens in 'Royston Green'

Green Crescent

This character area stretches along the northern and southern periphery fringes of the development, where housing feathers into open fields and Green Belt. Dwellings should front onto open fields or active travel links including the enhanced disused railway north of the site. The residential layout will be more organic and informal as it integrates with the open fields to the south. Dense tree lines along the edges will provide a min. 15m wide accessible landscape buffer to Green Belt and mitigate disruptions from nearby roads.

Residential development will be of lowest density (35-40 dph) and comprise most generous front gardens to increase landscape and tree planting. Street trees and generous front and back gardens will help feathering the built form into the surrounding green fields. Dwellings should include a mix of suburban family house types such as detached and semi detached, and should be no taller than 2 storeys and comprise well designed detailing and materials in order to create a high quality green residential environment.

Housing development adjacent to the open countryside in 'Green Crescent'

Disused railway to be enhanced as part of the active travel link around 'Green Crescent'

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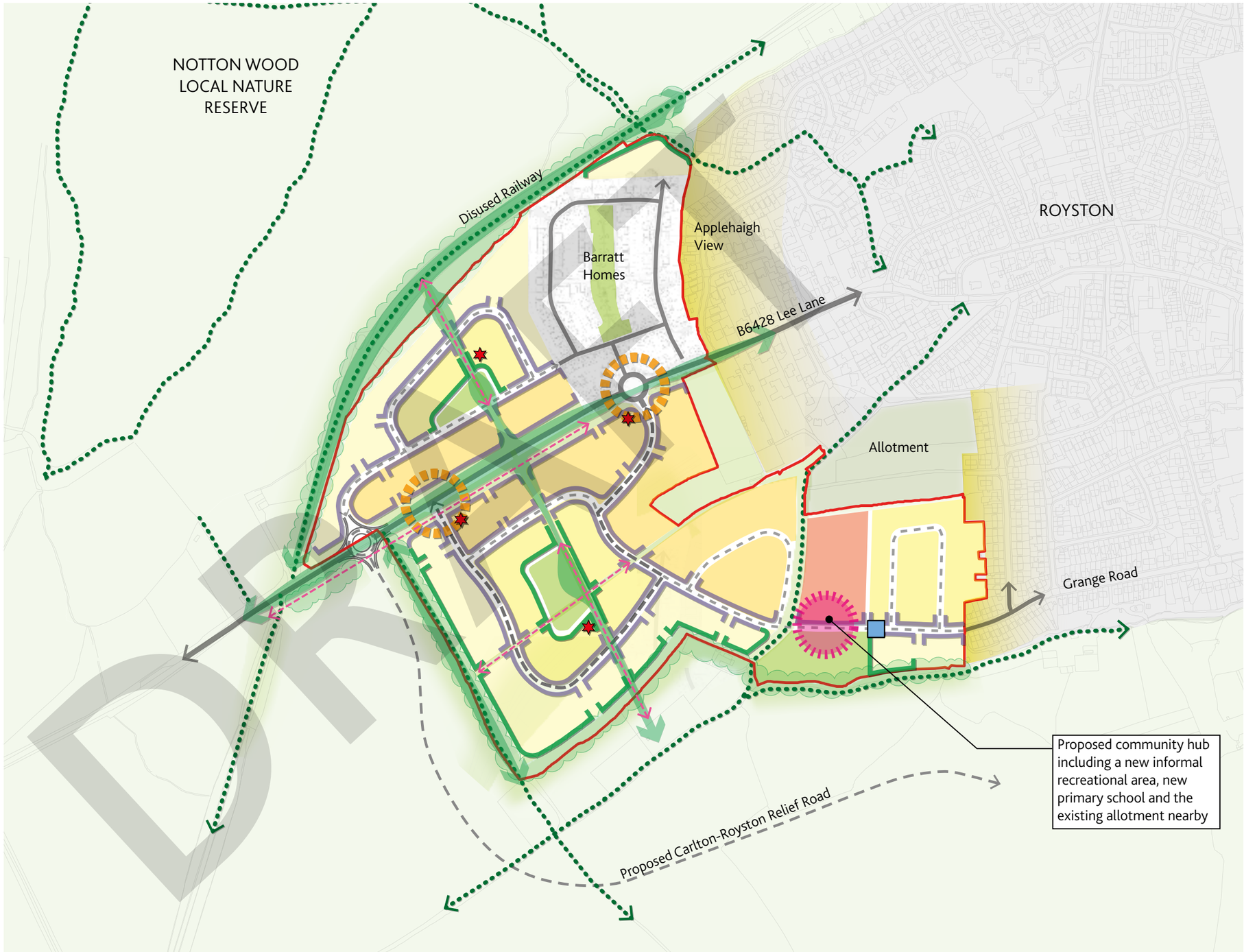
5. MASTERPLAN FRAMEWORK

5.4 PLACEMAKING/ URBAN DESIGN FRAMEWORK

The placemaking framework should promote a distinct identity and strong sense of place for the site. It should facilitate the creation of a cohesive community that sits comfortably within its context and is well integrated with the surrounding landscape and neighbourhoods.

The proposed placemaking and urban design framework for Royston is as shown in Fig. 22.



KEY

- LOW RESIDENTIAL DENSITY
- MEDIUM RESIDENTIAL DENSITY
- HIGH RESIDENTIAL DENSITY
- NEW PRIMARY SCHOOL
- EXISTING BUILT FORM
- EXISTING SETTLEMENT EDGE
- GREEN BELT
- LANDSCAPE BUFFER TO THE GREEN BELT
- OPEN SPACE / GREEN INFRASTRUCTURE ALLOCATION
- EXISTING VEHICLE ACCESS
- PRIMARY ROAD/ BUS ROUTE
- SECONDARY ROAD
- EXISTING PUBLIC RIGHTS OF WAY
- BIODIVERSITY / WILDLIFE CORRIDOR
- KEY VISTA
- PRIMARY FRONTAGE
- LANDSCAPE FRONTAGE
- GATEWAY
- COMMUNITY HUB
- LANDMARK BUILDING/ STRUCTURE
- PROPOSED BUS GATE

Fig. 22: Royston Placemaking / Urban Design Strategy Plan

5.4 PLACEMAKING/ URBAN DESIGN FRAMEWORK

As shown in the placemaking framework plan (Fig. 22), the site sits within a context of Green Belt and Notton Wood Local Nature Reserve, and is adjacent to the outskirts of Royston centre to the east. It is important to ensure the layout, appearance, built form and materials used across the site must fit in with Royston's existing urban fabric and its natural surroundings. It is also essential to retain and protect key vistas towards the open fields and Notton Wood Local Nature Reserve from the proposed development.

Lee Lane should serve as the primary vehicular connector into the site, two entry gateways are located to the east and west end of the site. These two gateways should comprise landmarks and focal points, this will be elaborated further in the Design Code section (see section 7 of this document). A new small local shop should be part of the eastern gateway along Lee Lane south of Barratt Homes scheme.

As per the adopted Local Plan at least 15 per cent of the site area should be open space, two green hearts can be found north and south of Lee Lane to offer landscape and recreational provision among the new neighbourhoods. A community hub consisting of a new primary school and an informal recreational space is located to the southeast corner of the site. It is well connected with the existing allotment nearby and the PRoWs to the south along West End Crescent. All existing PRoWs around the site should be enhanced and connect with new green links across the development. The new primary school will sit on relatively high ground within the site, it should be kept to max. 2 storeys tall to minimize potential visual impact to the east.

Development blocks are established within the site based on the proposed street and green links structure. High, medium and low residential densities should be allocated across the site based on character areas (see residential density strategy map in Fig. 17). Residential frontages and edges of different characters can be found based on their locations and adjacencies within the site, this will be further elaborated in the Design Code section (see section 7.2).

To summarise the placemaking and urban design framework of Royston, the new development should follow the below overarching framework principles:

- Provide a variety of different Character Areas which reflect variations in landscape and housing, as well as the role and function of different parts of the community;
- Create walkable neighbourhoods with vibrant centres and green hearts that are accessible to all;
- Co-locate school, community hub and open spaces close to the urban fringe of Royston to support vitality and community identity;
- Design streets as places that encourage social interaction as well as walking, cycling and public transport;
- Create a place that is easy to find your way around with a clear hierarchy of streets and spaces, landmark features and views;
- Set development within an interconnected, easily accessible network of attractive streets, GI, green corridors and open spaces to act as wildlife corridors and active travel links;
- Incorporate trees, gardens and green spaces throughout the development to provide shade, form new ecological habitats and encourage informal recreational activities;
- Support health and well-being through opportunities for active lifestyles and living in close contact with nature.


View looking onto the open fields along the southern periphery of the site


Existing terraced housing along Lee Lane consisting of sandstone and slate roofs


A variety of different character areas should reflect variations in housing and landscape across the site


Well designed GI and POS' among new residential neighbourhoods


Walkable neighbourhoods with street trees and active travel routes integrated

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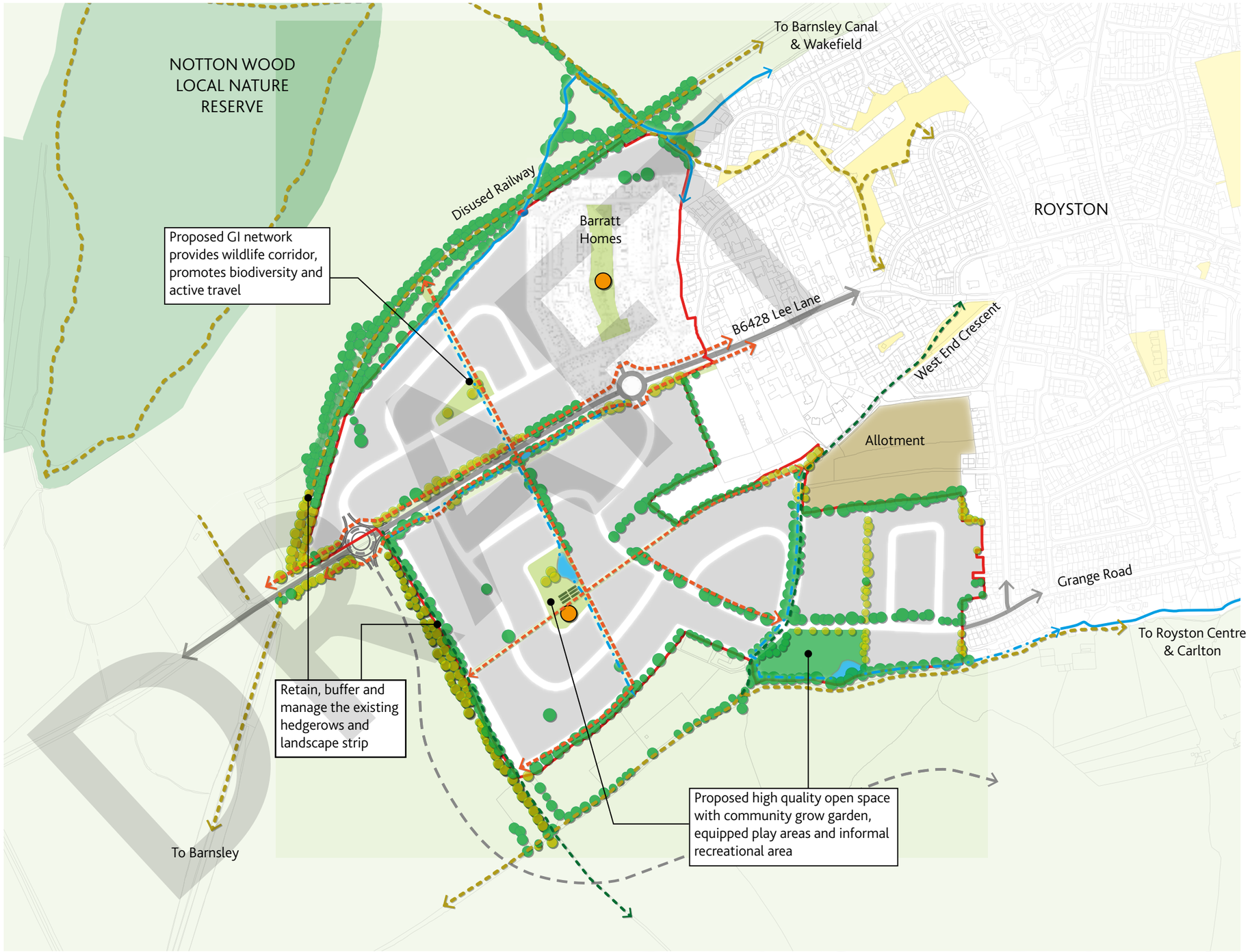
5. MASTERPLAN FRAMEWORK

5.5 GREEN INFRASTRUCTURE/ PUBLIC REALM FRAMEWORK

The development should adopt a holistic approach to planning and design with integrated GI, public realm, open spaces and play areas. The proposed framework should retain and enhance existing vegetation, create green links, enhance play and recreation provision and neighbourhood open spaces across the site. It should also promote a distinct sense of place, health and well being and enhance the biodiversity of the site.



KEY

- PROPOSED DEVELOPMENT
- PROPOSED PUBLIC OPEN SPACE
- COMMUNITY INFORMAL CREATIONAL AREA
- COMMUNITY GROW GARDEN
- NEIGHBOURHOOD PUBLIC OPENSPACE
- GREEN BELT
- EXISTING PUBLIC RIGHTS OF WAY - FOOTPATH
- EXISTING PUBLIC RIGHTS OF WAY - BRIDLEWAY
- PROPOSED GREEN LINKS / ACTIVE
- EXISTING VEHICLE ACCESS
- EXISTING WATERCOURSE
- BLUE INFRASTRUCTURE - RAINGARDEN OR SIMILAR
- ATTENUATION POND
- LEAP / NEAP
- EXISTING HEDGEROWS / TREES
- PROPOSED HEDGEROWS / LANDSCAPE BUFFER

Fig. 23: Royston GI / Public Realm Strategy

5.5 GREEN INFRASTRUCTURE/ PUBLIC REALM FRAMEWORK

The GI and public realm framework of the site draws cues from its surrounding landscape character, it should retain and enhance existing hedgerows and trees and provide a minimum of 15 per cent open space in line with Local Plan policy.

Key drivers of the GI strategy are as follows:

- Climate change adaptation and mitigation. By delivering a well connected GI framework, people should be encouraged to travel in a more sustainable way.
- Connected GI creates wildlife corridors which provides increased permeability through the landscape. Installation of attenuation features should reduce the risk of flooding and provide aquatic habitat to increase biodiversity.
- Recreation and Health. By providing recreational opportunities close to people's homes, such as community grow garden and equipped play areas, there should be a positive impact on local health and well being.
- Education. With a new primary school there is opportunity to provide an area to promote sport, physical fitness and social activities.

Open Space Provision

The development will provide sufficient high-quality accessible open space in line with the Local Plan. The open space network should respect and enhance the existing natural features and create new ones. They should manifest as a response to existing drainage, land form, ecology and recreation.

Green Corridors

Corridors of trees, green spaces, pedestrian and cycle ways should connect with surrounding PRoW network. These corridors form the green spine of the site and additionally reduce the impact of climate change, offer sustainable active travel options and enable connected wildlife corridors to increase permeability through the site.

Play and Recreation

Informed by the Local Plan, equipped areas that provide a wide range of facilities, such as play equipment and informal play by the new primary school, must be created for children and young people. Community grow gardens should be included within key open space to provide fruit and vegetables growing opportunity.

Neighbourhood Green Space

The GI framework should accommodate a series of green spaces along the key green corridors. These should be managed and vary in scale and location to ensure recreational opportunities across the development.

Biodiversity Net Gain

Biodiversity Net Gain (BNG) looks to leave biodiversity in a better state than before. As stated in the Local Plan the development should achieve at least 10 per cent Biodiversity Net Gain.

Management and Stewardship

The management, governance and stewardship of the proposed green and blue infrastructure opportunities have only been considered in principle at this stage.

The likely option shall be for the new residents to enter into a service charge arrangement run by the Land Trust and Yorkshire Wildlife Trust (YWT) who specialise in maintaining open space provision, detention basins and swales. When determining the management arrangement structure, the following should be adhered to:

- Making sure that there should be opportunities to secure biodiversity gains;
- Community engagement shall deliver added social value;
- Include management of hard and soft landscaping;
- Purpose, power, responsibilities, financial arrangements and internal procedures of the open space owner(s)/manager (management body/entity/ organisation);
- Annual reporting to the council for the first five years of management;
- Incorporation of information boards and signage to educate residents;
- Stewardship on par with those being implemented for garden communities.

This approach shall be subject to further work including assessing the scope and management required and the feasibility of management models, funding sources and legal structures.

Developers should engage with the Land Trust and YWT at an early stage so that they can input into the design of green and blue infrastructure.

The vision for transferring green and blue infrastructure to a land management arrangement is based around core principles for residents and occupiers:

- They should be instrumental in the major decisions that affect their new community;
- They should have an ongoing role in 'co-producing' the planning, decision and commissioning of services;
- They should make sure that the benefits of biodiversity enhancements are continued in perpetuity;
- They should be the beneficiary of the initiatives funded by the management organisation and are therefore best placed to evaluate the impact of these initiatives.

Children's play area and informal recreational open space as new green hearts

Green active travel routes to be implemented across the site

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5. MASTERPLAN FRAMEWORK

5.6 LANDSCAPE/ ECOLOGY FRAMEWORK

The landscape and ecology framework should retain and enhance the existing high value vegetation within the site. See Fig. 24 for the proposed approach to planning and design with integrated strategies on wildlife and ecology.

KEY

- PROPOSED PRIMARY SCHOOL
- PROPOSED PUBLIC OPEN SPACE
- COMMUNITY GROW GARDEN
- GREEN BELT
- ALLOTMENT
- NOTTON WOOD LOCAL NATURE RESERVE
- EXISTING PUBLIC RIGHTS OF WAY - FOOTPATH
- EXISTING PUBLIC RIGHTS OF WAY - BRIDLEWAY
- PROPOSED ACTIVE TRAVEL LINKS
- KEY VISTA
- EXISTING WATERCOURSE
- BLUE INFRASTRUCTURE - RAINGARDEN OR SIMILAR
- ATTENUATION POND
- EXISTING HEDGEROWS / TREES
- EXISTING BROADLEAVED PARKLAND / SCATTERED TREES
- PROPOSED HEDGEROWS / LANDSCAPE BUFFER
- BIODIVERSITY / WILDLIFE CORRIDORS

Fig. 24: Royston Landscape/ Ecology Strategy Plan

5.6 LANDSCAPE/ ECOLOGY FRAMEWORK

The overarching principle for the landscape and ecology framework ensures all future developments to achieve 10 per cent biodiversity net gain across the site. The key drivers for the proposed strategy are as follows:

- A strong landscape and ecology framework should enhance the local distinctiveness and sense of place of Royston when related to the existing landscape.
- Create connected green corridors for wildlife through the site.
- Retain and enhance the existing landscaped strip to the north and existing hedgerows to the west.
- Existing species rich hedgerows and existing trees within the site to be retained where possible. All the trees and hedges will need to be properly assessed and the findings reflected in the final proposals put forward at the application stage with regards to proposed retention and removals.
- Create accessible landscape buffer between the development and surrounding Green belt to protect sensitive landscape and ecological value.
- Key long distance views in and out of the site should be protected, enhanced or created. Key views looking into Green Belt to the south and west, and vista looking into Notton Wood Local Nature Reserve to the north should be retained along all green corridors.
- Existing hedgerows and mature trees should be protected, enhanced and managed appropriately to ensure they continue to provide suitable habitat for species identified in the Evidence Base, such as bats and breeding birds. Any creation or enhancement of hedgerows should utilise native species of local provenance where possible.
- Any open areas of grassland should use a proprietary wildflower grassland mix of native species.
- The addition of attenuation ponds and SuDS (see Fig. 24) should include suitable native planting and management to enhance the aquatic biodiversity across the site.
- Future developers should be required to achieve at least 10 per cent Biodiversity Net Gain, leaving the biodiversity of the site in a better state than before. This is in line with the forthcoming Environment Bill.
- 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.


View A - View of bridleway and hedgerows along the west side of the site


View B - View of public footpath and hedgerows adjacent to the disused railway line at the north of the site


View C - View towards the site and existing broadleaved parkland / scattered trees from southwest corner


View D - Existing trees and hedgerows along the south boundary of the site


View E - View of the existing hedgerows and trees along Lee Lane


View F - View of bridleway and hedgerows bisecting the southeast part of the site

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The proposed blue infrastructure framework should integrate and compliment the GI framework of the site. It shall provide amenity value to people. The blue infrastructure should enhance and increase biodiversity on the site, including with native aquatic and marginal planting. Attenuation ponds should also seek to provide some standing water in places for amphibian species.

Example of green swales as SuDS feature

Sunken planters as rain garden as part of SuDS

KEY

- DEVELOPMENT PARCEL
- OPEN SPACE / GREEN INFRASTRUCTURE ALLOCATION
- PROPOSED VEHICLE ACCESS
- ATTENUATION
- SWALE ABOVE GROUND
- EXISTING WATERCOURSE
- INDICATIVE SURFACE WATER DISCHARGE AREAS
- CATCHMENT AREAS
- PARCEL NUMBER

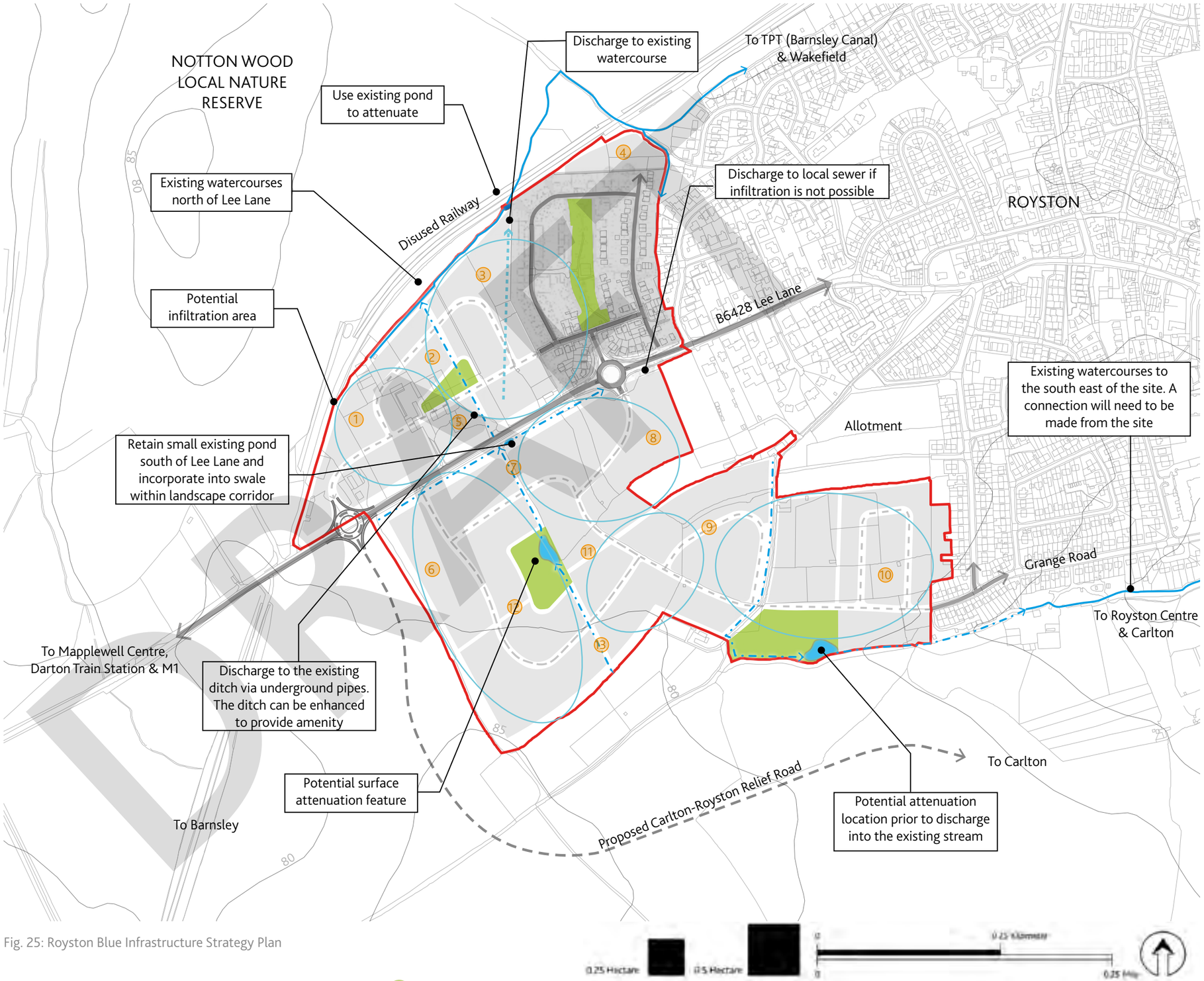

Fig. 25: Royston Blue Infrastructure Strategy Plan

5.7 BLUE INFRASTRUCTURE FRAMEWORK

Hierarchy for Discharging Surface Water
The developer should use the following drainage hierarchy for discharging the site's surface water:

A. **Maximise the use of infiltration**
Ground investigation from the northeast of the site indicates sandstone bedrock at shallow depth, within 2m of the ground surface, with a sufficiently high infiltration rate. There is therefore an opportunity to use the sandstone bedrock for infiltration drainage. This may require attenuation upstream and pre-treatment to prevent groundwater pollution.
It may be possible to use infiltration in other areas of the site; however, this will depend on the permeability of the underlying strata (glacial till can prove impermeable due to clay content). Further testing will be required by the developer to determine the suitability of infiltration.

B. **Discharge into existing watercourses**
If tests indicate that infiltration is not possible, drainage to the watercourses with flow controls is recommended. There are no main rivers within or near to the site, however smaller watercourses are identified on the plan. A flow restriction would need to be imposed, requiring surface water attenuation on the site and upstream of the flow restrictor to safeguard against downstream flooding. Potential attenuation areas have been indicated on the framework.

C. **Discharge to Yorkshire Water Sewers**
Where discharge via infiltration or to a watercourse is not possible, connection to sewers should be investigated with Yorkshire Water. A likely location for this is plots 7 and 8, which may need to be connected to the Yorkshire Water sewers on Lee Lane, potentially via a pumped connection.

High level drainage strategy
In accordance with South Yorkshire Interim Local Guidance for SuDS, the high-level strategy for the site's surface water is defined below. The incorporation of SuDS will provide amenity value to people and increase biodiversity on site. The approach based on available information for each plot is summarised in Table 1.

1. **Maximise the use of source control features**
Where infiltration is not possible, SuDS will be used. This will help to keep surface water on or as close to the surface as possible, prevent below ground drainage becoming too deep and reduce the need for large below ground attenuation tanks. It can include networks of shallow swales, rills or rain gardens through the development.
Under Sewers for Adoption 8th Edition (now known as Design and Construction Guidance document (DCG)) these can be adopted by Yorkshire Water from April 2020, as long as it can be demonstrated that the majority of the surface water is coming from houses rather than the roads. Therefore separate development and highway drainage systems should used. Drainage within adopted highway boundaries, including SuDS, will need to be adopted by the Highway Authority and an agreement will need to be reached with the Highway Authority if any SuDS are to be incorporated. SuDS within the new development will become part of the GI network, helping to achieve the targeted biodiversity net gain and offering amenity value, providing a positive impact to the health and wellbeing of residents and the local community.

2. **Convey water to discharge locations through small open channels or underground pipes depending on the context**

3. **Use flow restrictors to limit the rate of discharge and safeguard against downstream flooding**

4. **Attenuate run-off prior to discharge- using a combination of surface features such as ponds if applicable and below ground attenuation tanks**

Estimated attenuation volumes
The total site area of 35.2 ha would discharge greenfield runoff at 109 l/s for a 1 in 30 year storm. If a conservative 70per cent (24.6 ha) of the site is assumed to be impermeable, the total attenuation storage required across the site to meet the 1 in 30year greenfield runoff rate is estimated at between 7,500 m3 and 11,000 m^3. This would include any run-off attenuated within ponds and below ground tanks; storage provided upstream in SuDS features; and any infiltration.

In addition, the site would need to accommodate a 1 in 100year storm event within the site boundary, without causing any negative off-site impacts. This will need to be demonstrated for each planning application and managed within the design of each drainage catchment and the design of the landscape.

The drainage design will need to address the areas of localised surface water flooding issues on the site.

Future Planning Applications
As planning applications are developed, the applicant will need to carry out further surveys and testing to validate and further develop the strategy set out here, particularly to test the infiltration viability across the site. Engagement should be undertaken with the Lead Local Flood Authority and Yorkshire Water.

Foul Water Drainage Strategy
The developers will need to confirm the capacity of the Yorkshire Water sewers adjacent to the site prior to developing the foul water drainage strategy for the site. It is anticipated that the strategy will be for gravity systems for the developments with a rising main to discharge into the Yorkshire Water sewer system. Multiple connections to the existing system will be required at different points to better service the site and to reduce the length of the rising mains due to the relatively flat topography of the site.

Plot	Assumed Approach
1	Infiltration / discharge to watercourse north of the site
2,3,4,5	Discharge to watercourse north of the site
6,12,13	Gravity system to discharge to ditch north of Lee Lane (potential pumping requirement at the downstream depending on levels) If use of the ditch is not viable, discharge to the existing Yorkshire Water sewer in Lee Lane.
7,8,11	Gravity system to discharge into existing Yorkshire Water sewers – likely to require pumping at the downstream end to discharge to the Yorkshire Water sewers.
9,10	Discharge to watercourse adjacent to Grange Road

Table 1: Assumed Drainage Strategy for each Plot

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5. MASTERPLAN FRAMEWORK

5.8 HERITAGE

The site is an area of historically agricultural land to the west of Royston. Within the site there are fragments of an historic field pattern of small, narrow strip-fields. Aerial photographs and geophysical survey indicate that there are possibly prehistoric archaeological features below the ground, alongside traces of now-lost field boundaries.

While there are no designated heritage assets within the site there are a number of listed buildings and two scheduled monuments in the wider area. The closest of these, the scheduled late prehistoric enclosed settlement located within Notton Wood Local Nature Reserve, is screened from views of the site by woodland. The other designated assets in the vicinity are within Royston and their settings, which are formed by the streetscapes around them, would not be adversely impacted.

It is likely that further archaeological investigation will be required to ensure that no archaeological remains are removed by construction without being appropriately recorded. There are also potential opportunities to retain aspects which contribute to the historic landscape character.

Heritage Asset	Potential Impact	Strategy
Evidence of possible buried archaeological remains have been identified from geophysical survey in the northern and western parts of the site. There may also be previously unrecorded archaeological remains in other parts of the site.	Construction activities could remove buried archaeological remains, leading to a loss of the significance held within them.	Further archaeological investigation should be carried out, including geophysical survey and, possibly, pre-determination trial trenching (evaluation). Should archaeological remains be identified they would need to be investigated and recorded archaeologically prior to construction.
Surviving traces of medieval strip-fields.	Construction is likely to remove these historic field boundaries.	While unlikely to pose a constraint to development, there is an opportunity to preserve the traces of strip fields within the site, retaining elements of the historic rural character.
Designated heritage assets in the vicinity of the site	Due to the existing settlement layout, and areas of woodland which screen views, it is unlikely that development within the site would adversely impact designated heritage assets.	NA

Table 2: Heritage Strategy

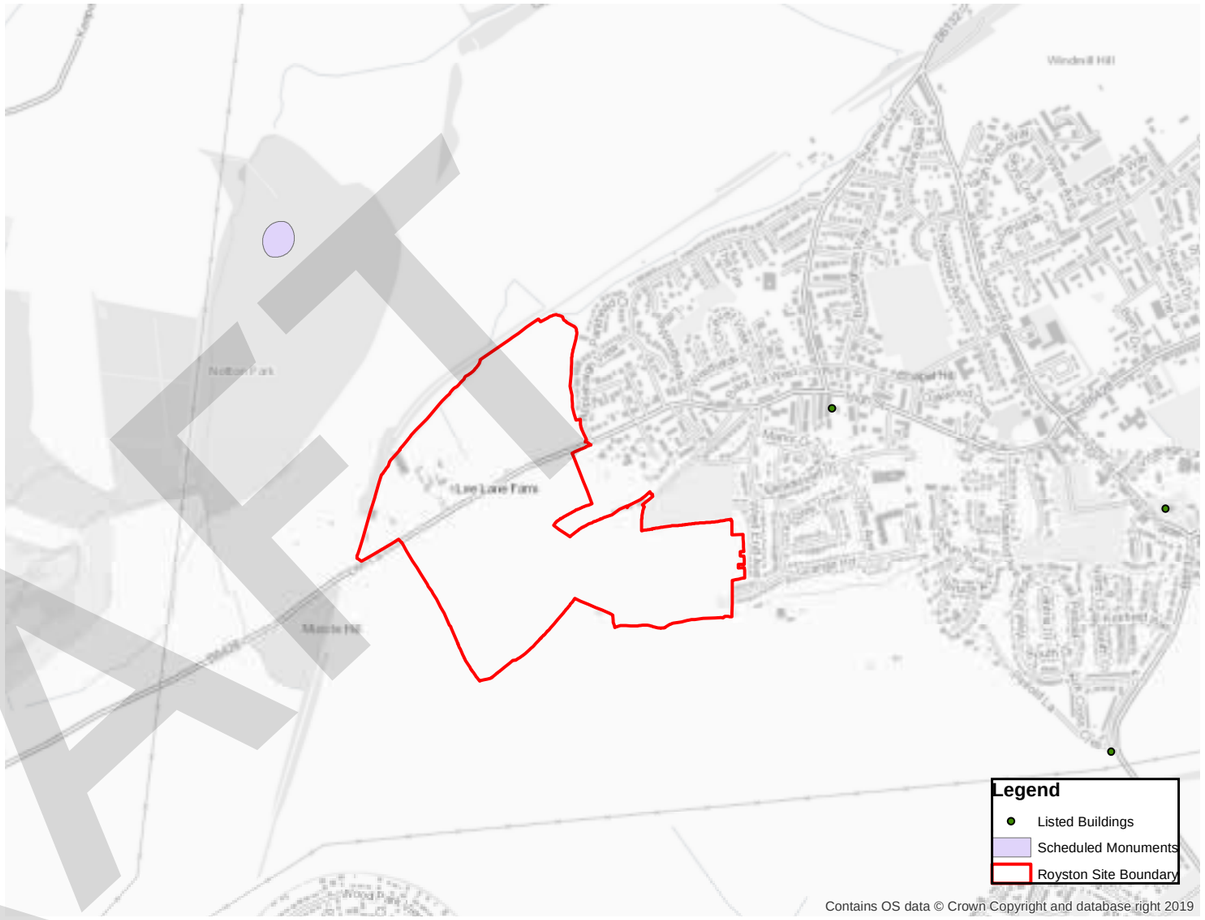

Fig. 26: Royston Heritage Plan

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5. MASTERPLAN FRAMEWORK

5.9 HEALTH AND WELLBEING

The promotion of health and wellbeing principles are considered and embedded within the Masterplan Framework. The Masterplan Framework promotes sustainable development to support the creation of strong, vibrant and healthy communities. Planning for healthy and successful communities requires the provision of homes, jobs and services that people need whilst designing these places to facilitate healthy, active lifestyles alongside minimal environmental risk.
The Health Impact Assessment has identified the key health and wellbeing challenges that the Royston site and wider ward face. The following health and wellbeing priorities have been embedded into the Masterplan Framework addressing the key challenges identified:

- Housing design and quality – providing space, screening and buffers to reduce noise and encourage peacefulness. Promotion of sustainable development and net zero carbon development.

- Access to healthcare services and social infrastructure – clear access routes and links to the existing healthcare services and shops within the Royston ward. Provision of a small local shop to cater for the local community.

- Access to open space and nature – opportunities for spaces to exercise, provision of recreational facilities for all users to have fun and de-compress. A strong landscape strategy reflecting the urban and rural boundaries of the site and allowing people to connect with nature and appreciate biodiversity encouraging mindfulness.

- Air quality, noise, and neighbourhood amenity - improving air quality both outdoors through encouraging use of sustainable transport and low emission vehicles, and indoors through use of modern building systems.

- Accessibility and active travel - encouraging people to move more with the mental and physical health benefits this brings. Access to wider Royston Ward to encourage a feeling of rootedness and belonging.

- Crime reduction and community safety – safe routes for school children that are legible and well lit. Design safe routes to key facilities within Royston.

- Access to healthy food – opportunities to link with the existing allotments adjacent to the site to encourage community food growing projects for all ages.

- Access to work and training – digital connections for people to work and learn at home, whilst also allowing them to connect with family and loved ones. Access to both local and regional employment opportunities – offering the potential for financial security, personal fulfilment and purposefulness.

- Social cohesion and lifetime neighbourhoods - defined hubs and focal points, a including school, within the Masterplan Framework that will allow the community to come together, encouraging belonging and togetherness and helping those in need while connecting with the wider ward.

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5.10 SUSTAINABILITY AND ENERGY USAGE

Recognising the climate emergency declared by BMBC in 2019, and the goal to become a net zero carbon Borough by 2045, sustainability and energy usage have been intrinsically considered in the development of this Masterplan Framework.

Sustainable Travel

In 2019, the UK transport sector was responsible for 34per cent of overall greenhouse gas emissions, whilst 19per cent came from the residential energy use. A smaller proportion, estimated to be around 3.6per cent, came from construction. Therefore, the biggest gains are to be made in the way people travel, and in the energy demand and supply to buildings. Notwithstanding this, driving down "embodied carbon" in the construction sector also has a key role to play.

As set out elsewhere in this document, the use of sustainable transport is promoted, including walking, cycling, bus services, connections to railway stations and electric vehicle charging points in every home. This, alongside proactive travel planning on the part of developers, will reduce the carbon emissions associated with transport from residents and occupiers of the scheme.

Digital Communications Infrastructure

Furthermore, provision of high-speed digital fibre connections to the site will allow people the option of working from home, reducing the need to travel.

Advanced, high-quality and reliable digital communications infrastructure is essential for economic growth and social well-being (NPPF Paragraph 112). Local Plan policy I1 confirms that developments must be supported by appropriate infrastructure, including provision for broadband. The deployment of gigabit-capable full fibre digital infrastructure from a range of providers to new developments will support this approach.

Developers should consider installing gigabit-capable full fibre infrastructure from two suppliers in order to provide choice and competition to consumers. A variety of infrastructure providers are keen to deploy gigabit-capable full-fibre infrastructure on employment and residential sites. Various incentives may be available such as payments made to the developer for the right to deploy, and deployment offered free of charge to the developer.

Developers should engage with infrastructure suppliers at an early stage to confirm that gigabit-capable full-fibre broadband can be delivered to all new development in a timely manner. Developers should consider the infrastructure requirements of the wider Masterplan Framework area in order to avoid prejudicing future infrastructure delivery and creating a need for retrospective works. Occupiers should be able to access broadband (ideally from a choice of at least two providers) upon occupation of the premises. Developers should also consider their ability to upgrade infrastructure in the future in order to minimise disruption to occupiers/users.

In developing detailed proposals, developers should consider the following design principles:

- Minimise and/or mitigate against the visual presence of infrastructure on the façade of buildings;
- Minimise physical obstructions on footpaths and cycle ways;
- Maximise the use of recessed infrastructure;
- Carefully consider the location of cabinets to minimise visual clutter in the streetscene.

Sustainable Construction

The reduction of embodied carbon is encouraged. This is achievable by, for example, far more extensive use of timber from certified sustainable sources than traditionally seen in UK housebuilding; use of modular products that reduce wastage; and greater use of both natural and recyclable materials alongside adoption of circular economy principles. It is required that developers will utilise the RICS Whole Life Carbon Assessment for the Built Environment framework to reduce the embodied carbon of housing on this site and will transparently publish details of the outcome of this assessment as part of the marketing process.

Energy Strategy

An Energy Strategy has been undertaken to develop energy pathways for Royston, as part of the Masterplan Frameworks, that aim to help Barnsley in their transition to becoming a net zero carbon emissions borough, by 2045.

Building Fabric Performance

High fabric performance of a dwelling is key to reducing the space heating demand and the associated carbon emissions.

In order to assist BMBC in becoming a net zero carbon borough by 2045, developers should meet the aspirational standards outlined below in Table 3 . Whilst the aspirational targets may seem ambitious, as technology and construction techniques improve and costs decrease, these targets will become more readily achievable.

Energy Supply and Distribution

Developers should follow the recommended pathways with regards to energy supply and distribution. These were developed through an assessment of current building energy standards, energy demand estimates, low carbon technology options and an energy options appraisal alongside engagement with BMBC officers. The preferred pathways for Royston are listed below:

- Distributed air source heat pumps (ASHPs) in all dwellings
- Roof mounted photovoltaic (PV) panels with battery storage on dwellings with south-facing roofs, and grid backup
- Grid supply to all other dwellings
- Roof mounted PV panels on the shop, and grid backup
- Roof mounted PV panels on the school, and grid backup
- Ground source heat pump (GSHP) in the school with electric boiler backup

A shown in Table 4, the equivalent carbon emissions from the preferred pathways are significantly lower compared to a counterfactual scenario, which would meet the heating and electricity demand through gas boilers and grid electricity.

However, these pathways are limited to homes and buildings operation, and they do not consider emissions from transport, street lighting or development maintenance. These sources of emissions should be explored further by both developers and BMBC as the scheme progresses.

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In 2045, it is estimated the development will emit 115 tonnes CO2e combined. This could be reduced through implementation of further emission reduction approaches, with further detail on this provided in the Energy Strategy report. For Barnsley to reach its net zero goal, the remaining emissions should be offset. Developers will need to do this through investing in offsite renewables or rewilding and tree planting schemes.

SuDS

The blue infrastructure strategy for the site follows SuDS principles to manage surface water run-off from the site, by maximising the use of source control features, slowing the flow, attenuating runoff and discharging at a restricted rate (to be agreed with Yorkshire Water and the Lead Local Flood Authority).

Future Applications

Future applicants should note that the council's local validation checklist requires the submission of an Energy Statement for residential schemes over 10 dwellings and non-residential schemes of 1,000sqm plus. The Energy Statement should clearly set out measures that will be included to deliver a net zero carbon development and the supporting evidence that underpins the proposed approach. If net zero carbon cannot be achieved, developers should demonstrate why this has not been possible and explain what steps have been taken in the provision of infrastructure and the design of individual properties to permit net zero carbon through retrofit at a future point.

Fabric performance area	Performance value			
	Recommended minimum standard	Recommended minimum standard source	Recommended aspirational standard	Recommended aspirational standard source
Air permeability	≤ 5 m^3/ ($h.m^2$) @50Pa	Building Regulations Part L1A (2013)	≤ 1 m^3/ ($h.m^2$) @50Pa	LETI Design Guide
Roof U-value	≤ 0.15 W/m^2. K	Passivhaus standards	≤ 0.11 W/m^2. K	Part L 2020
Wall U-value	≤ 0.15 W/m^2. K	Part L 2020 LETI Design Guide Passivhaus standards	≤ 0.13 W/m^2. K	LETI Design Guide (lower boundary)
Floor U-value	≤ 0.15 W/m^2. K	LETI Design Guide Passivhaus standards	≤ 0.11 W/m^2. K	Part L 2020
Window U-value	≤ 1.2 W/m^2. K	Part L 2020	≤ 0.8 W/m^2. K	Part L 2020 LETI Design Guide Passivhaus standards

Table 3: Recommended fabric performance standards for dwellings

Timeframe	CO_2e emissions (tonnes)	
	Preferred Pathway	Counterfactual Scenario
During estimated construction period (2022-2033)	4,100	12,000
Operation from estimated site completion to 2045 (2034 -2045)	2,000	14,300
Total	**6,100**	**26,300**

Table 4: Summary of equivalent CO2 emissions for preferred pathways vs. counterfactual scenarios

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