BARTON WILLMORE

LAND AT SANDFORD PARK

MASTERPLAN DOCUMENT | OCTOBER 2021

HOPKINS HOMES


ADFORD PARK
GREAT BADDOW

Contents

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HOPKINS HOMES

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HOPKINS
HOMES

HOPKINS HOMES IS A LEADING UK HOME BUILDER SPECIALISING IN PLACE MAKING AND URBAN REGENERATION.

Hopkins Homes has established an enviable reputation for developing award winning homes, whether contemporary city centre apartments, stunning riverside town houses, traditional style homes in market towns or peaceful East Anglian villages, that harmonise with their neighbours and surroundings whilst creating homes of character and individuality. From a start in 1992 Hopkins Homes, together with Hopkins & Moore, has grown from a small local company into a significant builder of quality homes, being recognised by the NHBC in their Quality Award Scheme, which is the industry's benchmark for the quality of a development in terms of build standard and overall site management.

Hopkins Homes has become the largest independent property developer in East Anglia providing homes throughout Suffolk, Norfolk, Cambridgeshire and Essex, and is immensely proud of the significant contribution that the company has made to the regional and wider economy through creating and supporting jobs, providing exceptional new homes and building sustainable communities.

Working with a number of leading regional and national architectural practices, Hopkins Homes has won a number of prestigious awards for design including The Daily Telegraph Award for Best House Design. Hopkins Homes has also appeared twice in the Sunday Times Fast Track 100 list of the UK's top 100 fastest growing companies.

The Hopkins Homes team of committed professionals, with skills which encompass planning, design, construction and after sales, use extensive research, experience and local knowledge to take a wholly fresh approach to the design and building of houses that reflect the traditional character of their setting, be it modern, contemporary or vernacular rural.

With a Hopkins Home you can be sure that your home has been designed and built to last. Architects work alongside Hopkins' in-house design team to ensure that the design and style of our final product is perfect for the chosen location.

1

Introduction

1.1 PURPOSE OF DOCUMENT

This Masterplan Document has been prepared on behalf of Hopkins Homes in support of development on land to the north of Great Baddow (Manor Farm) also known as Sandford Park.

The Chelmsford Local Plan states that Strategic Growth site 3a East Chelmsford (Manor Farm), shown in Figure 1 opposite, is allocated for a new landscape-led, high-quality comprehensively planned sustainable neighbourhood that maximises opportunities for sustainable travel as well as a new Country Park.

This location represents an opportunity for a landscape-led development that maximises opportunities for travel by sustainable modes. Furthermore, the development of the site would provide Great Baddow with a new neighbourhood contributing to the community and also a robust landscape and Green Infrastructure network that will provide local residents with an enhanced environment and public amenity benefit, positively reinforcing local character through sensitive design.

As part of the masterplanning process, and with a robust underpinning analysis of various site constraints and landscape context, the baseline characteristics of the site have been identified, analysed and appraised with the aim of providing the basis for a considered and sensitively designed, high-quality residential development.

This document includes analysis of the requirements of the Local Plan, landscape context, existing site constraints, landscape character, visual amenity and existing settlement patterns and characteristics.

It also sets out the opportunities that can be taken to creatively respond to the constraints and context of the site in an aspirational and creative way, leading to a masterplan and design framework that establishes a strong identity and sense of place for the development.

The content within this Masterplan Document is based on the following key themes:

- Site location and description.
- Site context analysis.
- Analysis of Local Plan policies and designations.
- Analysis of published landscape character.
- Historical context and character appraisals of neighbouring settlement areas.
- Analysis of site constraints.
- Development of strategic design opportunities.
- Establishment of masterplan framework.
- Creation of a design framework.
- Definition of key development parameters.

This document has been developed through an iterative process in close collaboration with Chelmsford City Council and informed by extensive discussions with its officers, as required by the Masterplan Procedure for Local Plan Development Allocations to 2036 (October 2019 Update).

This is the final version of the Masterplan Document, and includes updates and revisions following feedback received through the Stage 1 and 2 Consultations..

Figure 1: Site Location

1.2 MASTERPLAN DOCUMENT STRUCTURE

The structure of the Masterplan Document has been based on the requirements of the Masterplan Procedure for Local Plan Development Allocations to 2036 document. Appendix 1: Masterplan Procedure of the above document sets out the required stages and protocol for the preparation of masterplan documents to guide the design and development of Strategic Growth Sites.

The Masterplan Document is required to include the following key information:

- A vision for the new place.
- Site and context analysis, including surrounding landscape, heritage, contamination, flood risk, important views, etc.
- Movement structure, including walking, cycling, public transport, vehicle circulation.
- Infrastructure strategy.
- Sustainable Drainage Strategy (SuDS).
- A framework for landscape, spaces and public realm.
- Land use and developable areas.
- Building heights.
- Layout principles.
- Delivery and phasing.

This Masterplan Document is set out in a structure that focuses first on an analysis of the wider context in which the site is located in terms of landscape, townscape, infrastructure and facilities, landscape character and planning policy.

The document subsequently hones in on the site and its immediate surroundings with a focus on the constraints arising from a range of different existing features, designations and characteristics. Each subject area is explored as a layer through detailed plans, description and analysis.

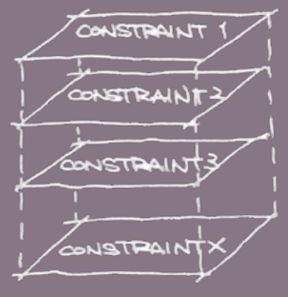
For every layer of the site and context analysis the constraints and opportunities are set out with respect to how the design of the proposed development should respond to the characteristics identified.

The overall constraints arising from the layer based study are summarised together with the resulting opportunities at the end of Section 3. Section 4 subsequently explores spatially how these opportunities can be realised through a series of design vignettes resulting in the Masterplan Framework. Finally, Section 5 sets out the design principles in further detail, including a site wide character zone strategy.

This approach has enabled a robust understanding of the unique features of the site, and allowed a sensitive and considered design rationale to take form.

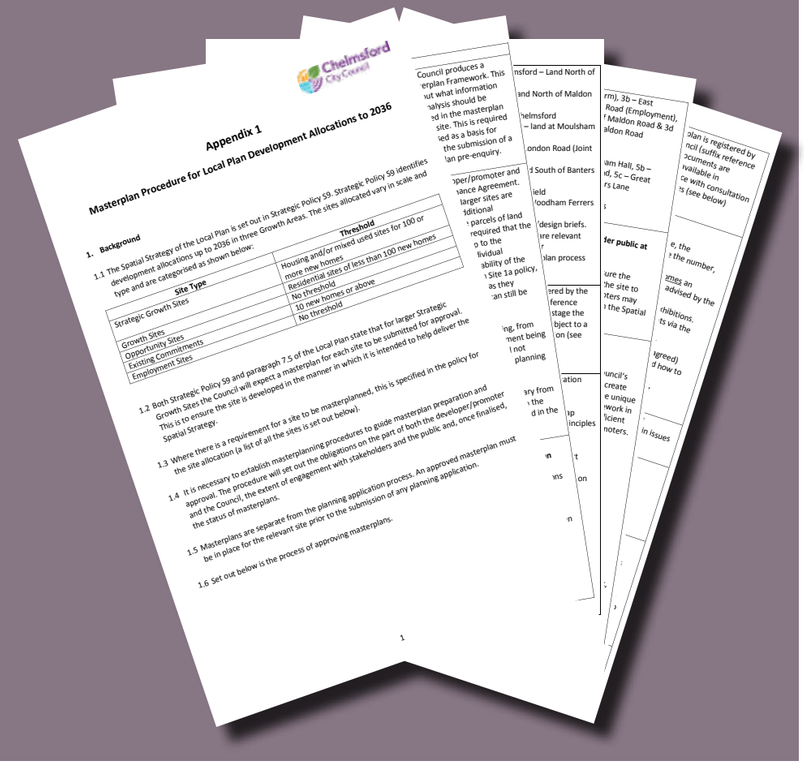
Step 1: Considering site context

Step 2: Identifying site constraints and its surroundings



Step 3: Layering of site constraints

Step 4: Identifying opportunities



1.3 SANDFORD PARK VISION

Our vision for Sandford Park is to create a place that offers residents a strong sense of belonging, a place they can be proud of and a positive sense of community.

We will deliver a sustainable community serving the needs of all ages, positively integrated into the existing townscape and landscape fabric of Great Baddow and the wider conurbation of Chelmsford, and with strong connections to the natural assets surrounding it.

The characteristics of the local landscape, the pattern of existing settlement and attractive green spaces, and the special history of the community of Great Baddow, combine to provide the context by which the character of Sandford Park will be strongly influenced, providing continuity with the key design traits and historic rural patterns of development found locally.

The Vision is based on the following key objectives:

- Deliver a landscape-led development with a diverse sequence of attractive multi-functional spaces integrating retained and enhanced landscape features with a new framework of locally characteristic, high quality landscape elements.
- Create a new Country Park focused on the river valley and its flood plain, protecting and enhancing the open landscape of the green wedge, and providing recreational open space for existing and future residents.
- Provide new housing at the right scale and of the right type to meet the existing and future needs of the community.
- Create an accessible and well-connected new neighbourhood where families can choose more sustainable ways to get to key facilities including schools, shops, the leisure centre and employment facilities and with a focus on providing safe and direct sustainable transport links.
- Provide attractive, safe and direct pedestrian and cycle ways utilising green corridor routes and public spaces to create improved connections to the Country Park.
- Protect and enhance existing habitats through strong multi-functional Green Infrastructure principles including a focus on sustainable drainage measures and sensitively considered habitat creation proposals.
- Promote healthy lifestyles through sustainable transport measures, high quality placemaking, and access to green space, designed with the community in mind.
- Create a new and attractive neighbourhood guided by robustly considered landscape and masterplanning principles.

SANDFORD PARK
GREAT BADDOW

Site Context

2.1 SITE LOCATION & LANDSCAPE CONTEXT

The site is located within the administrative area of Chelmsford City Council in the county of Essex. It lies on the eastern edge of Chelmsford between the settlements of Great Baddow to the south and Chelmer Village to the north.

It sits approximately 4km to the south-east of the city centre, railway station and the city's main employment area. Existing bus routes run along Maldon Road which forms the southern boundary of the site. Essex Yeomanry Way and Sandford Mill Lane make up the south-western and eastern boundaries respectively. The Chelmer and Blackwater Navigation and the River Chelmer form the northern site boundary.

The site encompasses an area of approximately 90ha primarily comprising a mixture of arable and pastoral agricultural land, a network of hedgerows and tree belts, various watercourses and waterbodies, and is crossed by a network of Public Rights of Way and agricultural tracks.

Residential development adjoins the site immediately to the south and west, with open landscape to the north and north-west, and subsequently further settlement beyond. The landscape to the east is occupied by Manor Farm and a series of cottages with the wider open agricultural landscape beyond between the settlements of Chelmsford and Danbury. To the west, the open landscape of the Chelmer Valley extends towards the city centre.

Figure 2 demonstrates how the site is placed within the existing urban and landscape context and illustrates how the site relates to existing infrastructure and settlement patterns.

The masterplan area is in close proximity to the city centre while still benefiting from a relatively peaceful, natural environment as a result of the strong corridor of existing Green Infrastructure following the Chelmer Valley.

The Great Eastern Main Line Railway extends through Chelmsford from the north-east, creating a direct link with London Liverpool Street Station, while the A1114 trunk road provides a convenient link to the wider motorway network.

National Cycle Route 1 extends through the Chelmer Valley on a broadly east-west alignment, passing along the eastern boundary of the site on its route towards the city centre.

Vegetation within the river valley comprises small blocks of woodland and lines of trees that follow the watercourses and the major roads. Field boundaries, where they occur, comprise hedgerows with trees. Settlement, particularly on the edge of Chelmsford and Great Baddow, is frequently accompanied by canopy trees and hedgerows visible above and between intervening built form. However, the level of tree cover in the immediate vicinity of the site is relatively sparse, with more substantial areas of woodland typical to the east in the locality of Danbury.

FIGURE 2: LANDSCAPE CONTEXT

2.2 HISTORICAL CONTEXT

This section comprises a narrative of the history of the wider settlement of Chelmsford, of which Sandford Park will be an extension, providing context to the proposed development. A site specific historic analysis is set out in Section 3.1.

The origins of Chelmsford go back to Roman times, when it was a fortified market town. The settlement has expanded steadily since the start of the 19th century, stimulated by the arrival of the railway in 1843 with many of the city's landmarks dating from the mid-late 19th century.

Improved connections encouraged industrial activity during the 19th century, notably in engineering and electronics. In 1899 the world's first radio factory was opened in Chelmsford by the Marconi Company.

At the turn of the 20th century, the population stood at almost 22,000, continuing to grow steadily to 2011, when the population stood at over 168,000.

The rich heritage of the city, which positively contributes to its townscape character, is illustrated with photographs of the following landmarks:

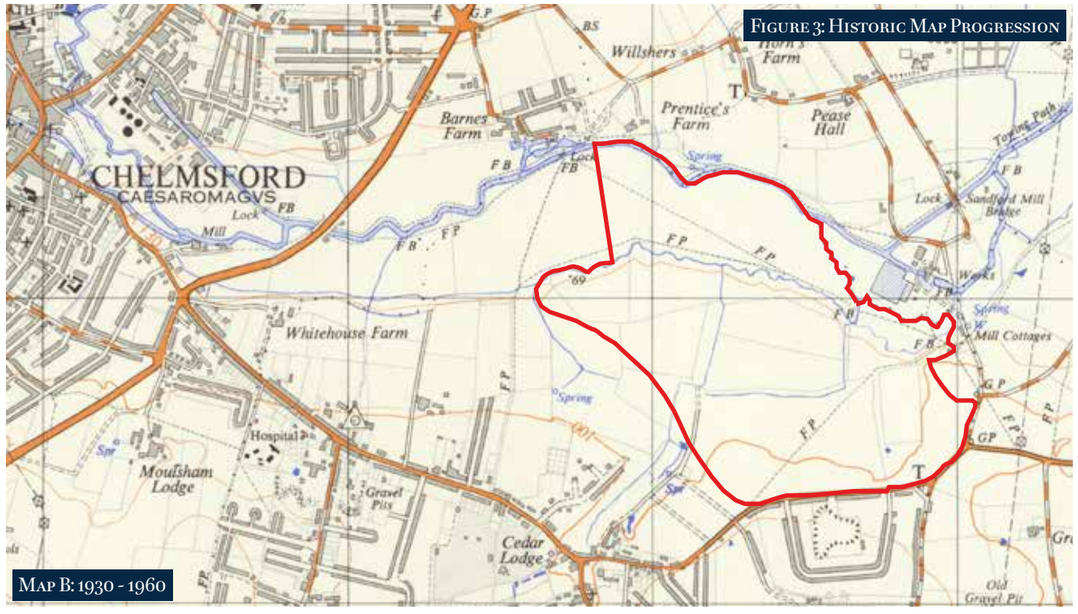
1. Marconi Tower.
2. Anne Knight Building built in 1824 (formally known as Quaker Meeting House).
3. Hylands House.
4. Chelmsford Police Station in 1910.
5. Marconi Factory.
6. Paper Mill Lock.
7. Chelmsford Central Baptist Church.
8. Chelmsford Cathedral Church of St. Mary.
9. Shire Hall.
10. Sandford Mill Science & Education Centre.
11. Chelmsford Museum.
12. High Street Stone Bridge

Map A: 1888 - 1913

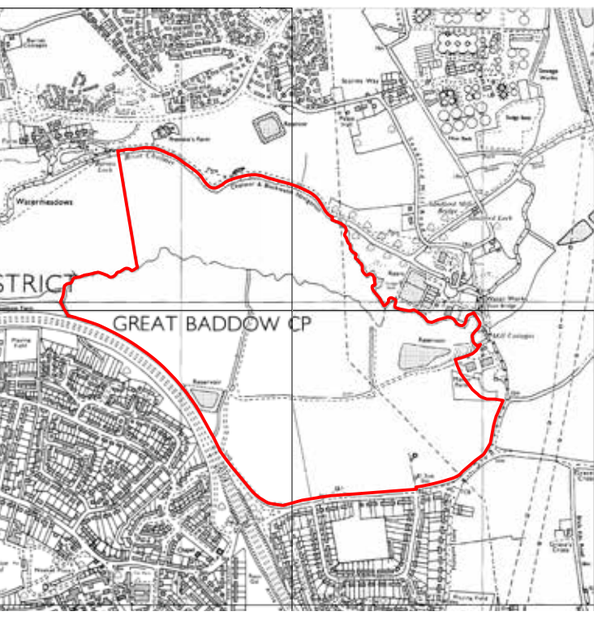
Map C: 1990

2.3 HISTORIC SETTLEMENT ANALYSIS

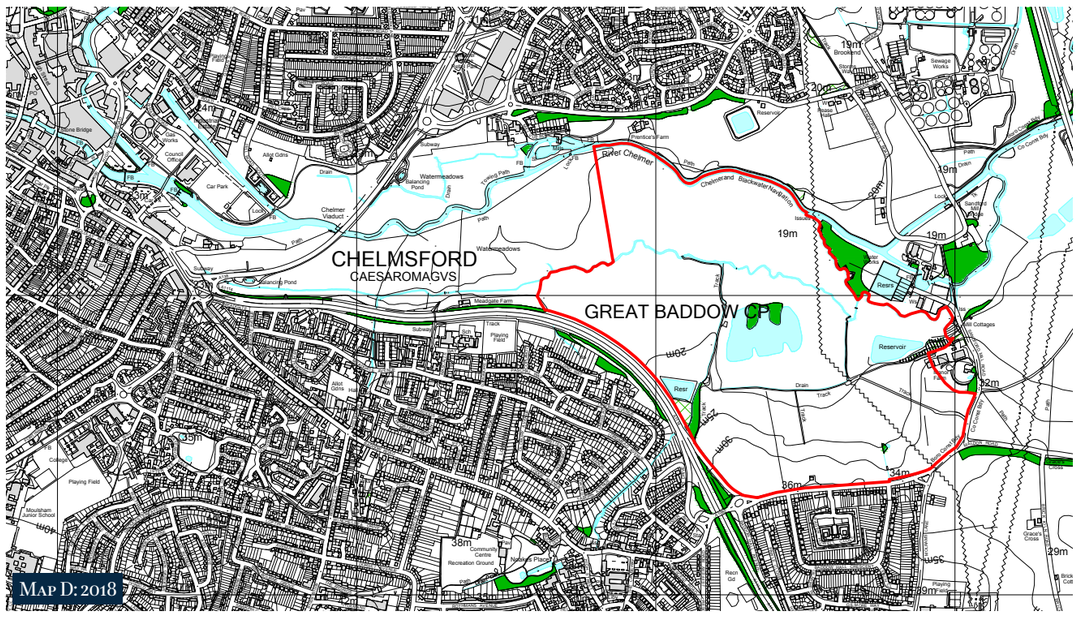
Map A: 1870 - 1900



Map B: 1930 - 1960



Map C: 1990



Map D: 2018

Figure 3: Historic Map Progression

Historic mapping can be used to understand the evolution of the wider landscape and its relationship to the city of Chelmsford and neighbouring settlements.

Figure 3 - Map A shows the site as it was in the late 19th / early 20th centuries. It comprised small-to-medium sized irregular agricultural fields with an unnamed river tributary flowing west-to-east into the River Chelmer. The Chelmer and Blackwater Navigation had been constructed by this time.

Map A shows the site being approximately 1.7km south-east of the centre Chelmsford at its closest point. There is clear separation between Chelmsford and Great Baddow, which at this time was a small nucleated settlement south-west of the site. Ribbon development on Baddow Road was established by this time, including workers' cottages.

Chelmsford's early-to-mid 20th century expansion to the south-east is captured in Map B. Princes Road had been constructed with associated new housing.

Development was already under construction to the south of the site by 1960; the 'horseshoe' shaped Baddow Hall Crescent is visible in Map B.

The parkland associated with Baddow Hall has been removed and the first stages of residential development around Baddow Hall Avenue and Pawle Close are identifiable to the south-west of the site. The first stages of development to the north side of Great Baddow High Street and Tabors Hill is also visible.

Land to the north of the site and River Chelmer remained open agricultural land at this time.

By 1990 (Map C) Chelmsford had expanded further to the east and south-east. The four-lane carriageway of Essex Yeomanry Way had been constructed, cutting across the agricultural landscape west of the site. Residential development was built adjacent to Essex Yeomanry Way around Tabors Hill. Residential development further enveloped the site to the south. By the 1990s houses on Baddow Hall Crescent have been completed,

Further residential development was also implemented to the north of River Chelmer by the 1990s, approximately 100m north of the Site at its closest point.

A small structure is also visible on the site of the Bronze Age ringwork enclosure, near the site's south boundary.

In most recent mapping (Map D): there is a further waterbody in the centre of the site. This is most likely the result of gravel extraction. Historic aerial images show the site as active in 2005, and by 2006 the gravel operation was closed and resultant depression filled with water. Further residential development was in place, north of Chelmer Village Way.

Key:

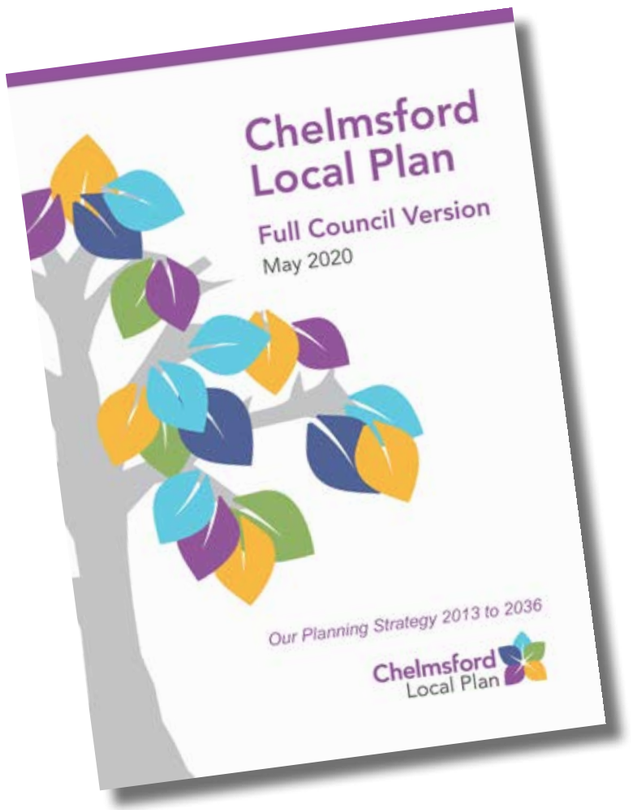
Masterplan Boundary

2.4 POLICY & DESIGNATIONS

The Chelmsford Local Plan, adopted in May 2020, has allocated the site for residential development. Strategic Growth Site Policy 3A of the local plan provides detail on principles and requirements for the development of the site. Strategic Policy S9 Infrastructure requires that infrastructure necessary to support new development must provide or contribute towards ensuring a range of green and natural infrastructure, net gain in biodiversity and public realm improvements. These include but are not limited to:

- Provision of a wide range of open space within development sites to meet amenity, recreational and functional needs.
- To contribute towards a multifunctional network of green infrastructure and to enhance biodiversity.
- Provision of new public realm and enhancements at key centres of activity.
- Contributions towards recreation disturbance avoidance and mitigation measures for European designated sites as identified in the Essex Recreational disturbance Avoidance and Mitigation Strategy.

The supporting text for Policy 3a of the Chelmsford Local Plan explains that in identifying a figure of around 250 new homes for the site, the Council took a precautionary approach. The text also explains that the number of new homes to be provided on this site will be determined through the masterplan process, and that this may exceed 250, provided the overall objectives of the policy are not compromised.



STRATEGIC GROWTH SITE POLICY 3a – EAST CHELMSFORD – MANOR FARM

Land to the north of Great Baddow (Manor Farm) adjacent to Chelmsford's Urban Area as shown on the Policies Map, is allocated for a landscape-led, high-quality comprehensively-planned new sustainable neighbourhood that maximises opportunities for sustainable travel as well as a new Country Park. Development proposals will accord with a masterplan approved by the Council to provide:

Amount and type of development:

- Around 250 new homes of mixed size and type to include affordable housing.

Supporting on-site development:

- A new Country Park.
- New vehicular access road from Maldon Road into Sandford Mill.

Site masterplanning principles:

Movement and Access

- Main vehicular access to the site will be from a new junction at Maldon Road/Sandford Mill Lane.
- Provide pedestrian and cycle connections.
- Provide a well connected internal road layout.

Historic and Natural Environment

- Preserve or enhance the character or appearance of the Chelmer and Blackwater Conservation Area.
- Protect and where appropriate enhance the nationally significant Bronze Age monument and its setting.
- Protect important views into and through the site from across the Chelmer Valley.
- Create a network of green infrastructure.
- Provide suitable SuDs and flood risk management.
- Ensure appropriate habitat mitigation and creation is provided.
- Retain the WWII pillbox in the eastern part of the site and provide interpretation boards.
- Undertake a Minerals Resource Assessment.
- Undertake an Archaeological Assessment.

Design and Layout

- Provide a coherent network of public open space, formal and informal sport, recreation and community space within the site
- Remove low voltage electricity lines from the site allocation and install electricity cables underground.

Site infrastructure requirements:

- Provision of a new Country Park and Visitor Centre at Sandford Mill with a landscape strategy and a delivery mechanism to provide for their long-term management and maintenance.
- Heritage interpretation, including information boards and public art.
- Provide appropriate improvements, as necessary, to the local and strategic road network as required by the Local Highways Authority.
- Appropriate measures to promote and sustain travel through sustainable modes of transport.
- Provide new and enhanced cycle routes, footpaths, Public Rights of Way and where appropriate bridleways within and between the sites and the surrounding area to enable the development to integrate with existing development areas and to provide links into City Centre, and the wider countryside beyond.
- Financial contributions to early years, primary and secondary education provision as required by the Local Education Authority.
- Financial contributions towards other community facilities such as healthcare provision as required by the NHS/CCG.
- Provide, or make financial contributions to, new or enhanced sport, leisure and recreation facilities.
- Where appropriate, contributions from developments will be secured towards mitigation measures identified in the Essex Recreational disturbance Avoidance and Mitigation Strategy (RAMS) which will be completed by the time the Local Plan is adopted. Prior to RAMS completion, the authority will seek contributions, where appropriate, from proposed residential development to deliver all measures identified (including strategic measures) through project level HRAs, or otherwise, to mitigate any recreational disturbance impacts in compliance with the Habitats Regulations and Habitats Directive.

The site also forms part of the River Chelmer East and Chelmer and Blackwater Navigation Green Wedge. As part of the Chelmsford Local Plan evidence base, the Council carried out a review of Green Wedge parcels in the Green Wedges and Green Corridors: Defining Chelmsford's River Valleys document, 2017.

The review recommends that the southern section of the site should be removed from the Green Wedge designation. Furthermore, the review states:

> *"particular care would need to be paid to the type and quality of any development proposed such that the character of the river valley in this location is not compromised."*

The northern part of the site remains within the green wedge allocation, and the proposed development will need to respond positively sensitively to this, particularly in respect of the interface between the green wedge and the housing allocation.

The following constraints and opportunities have been derived from local planning policy:

Constraints

- Conserve and enhance the character and appearance of the Chelmer and Blackwater Conservation Area.
- Protect and enhance the Green Wedge.
- Protect the Bronze Age ringwork enclosure and its setting.
- Protect important views into and through the site from across the Chelmer Valley.
- Retain the WWII pillbox in the eastern part of the site and provide interpretation boards.

Opportunities

- Provide a well-connected internal road layout.
- Provide pedestrian and cycle connections.
- Enhance the historic and natural environment.
- Create a network of multifunctional green infrastructure.
- Provide suitable SuDS and flood risk management.
- Ensure appropriate habitat mitigation and creation is provided that promotes biodiversity net gain and connects to a wider landscape scale Green Infrastructure network.
- Provide a coherent network of public open space, formal and informal sport, recreation and community space within the site.
- Remove electricity lines and pylons from the site and install electricity cables underground.
- Ensure sensitive approach to the green wedge/housing allocation boundary.

Legend

- Masterplan Boundary
- Green Wedge
- Conservation Areas
- Local Nature Reserve
- Local Wildlife Site
- Housing Allocation Site
- Employment Allocation Site
- Country Park Allocation Site

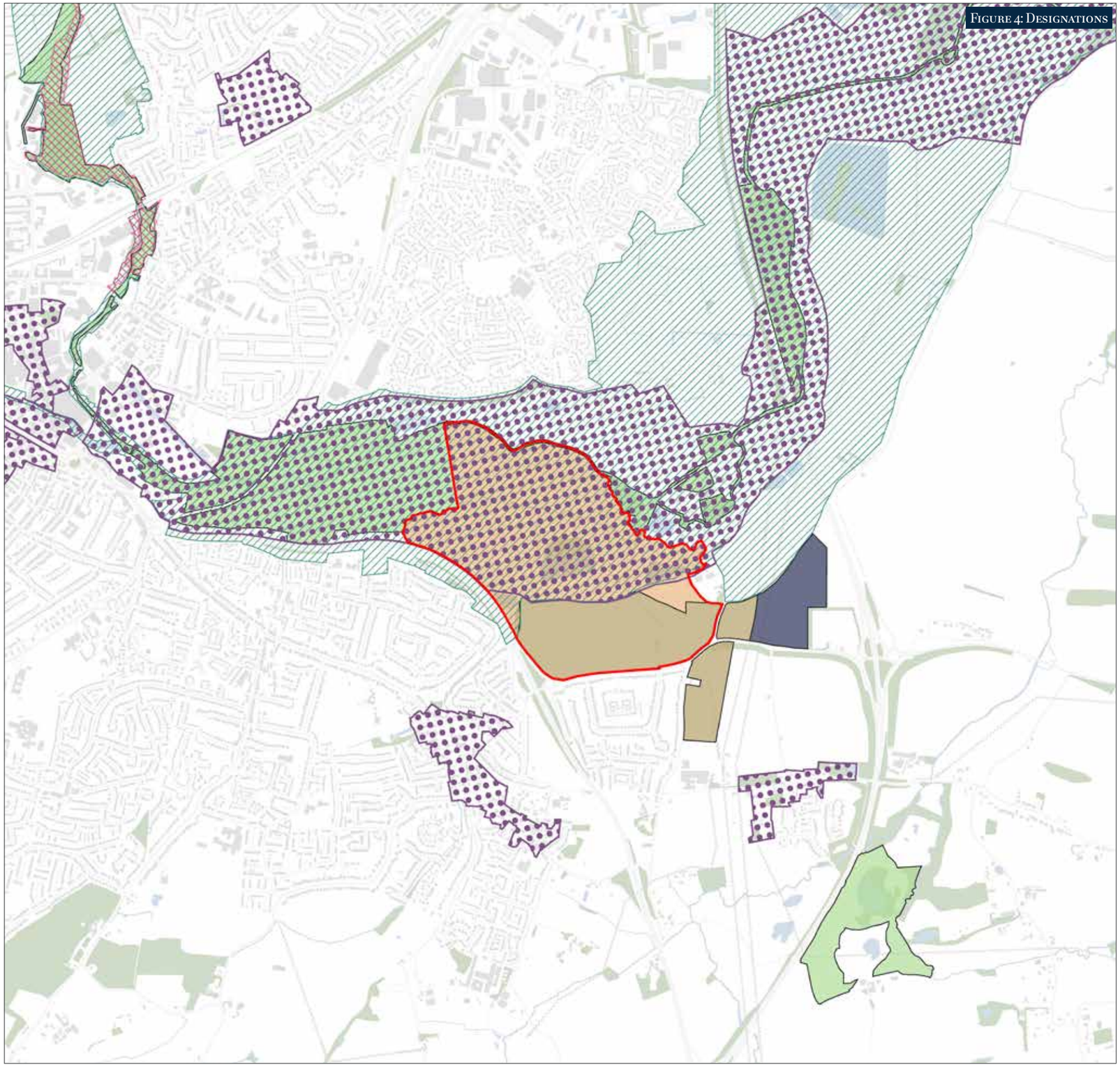


Figure 4: Designations

2.5 LANDSCAPE CHARACTER

A study of published landscape character assessments at national, county and local level has identified a series of landscape characteristics and guidelines to inform the design of the proposed development, the management of existing landscape features and the introduction of new, locally characteristic landscape features.

The site is located within the local Landscape Character Area A7a: Lower Chelmer River Valley Floor, with the following key characteristics identified:

- *"Mixture of arable and pastoral fields on the valley floor.*
- *The Lower Chelmer where it meets the River Blackwater has a wide flat valley floor.*
- *Extensive linear poplar and willow plantations are a distinctive feature in close proximity to the river."*

The constraints and opportunities arising from the guidelines of the local published landscape character guidance specific to Area A7a include the following:

Constraints

- Protect open character of river valley.
- Preserve long distance views across the valley.

Opportunities

- Increase in woodland and hedgerow planting including tree planting alongside rivers.
- Create areas of grazing meadow.
- Increase public access whilst protecting landscape character.
- Enhance the rivers and ditches.
- Introduction of willow pollarding and planting of native rare black poplar.
- Incorporate multi-functional Green Infrastructure into new development.
- Improve perimeter of reservoirs.

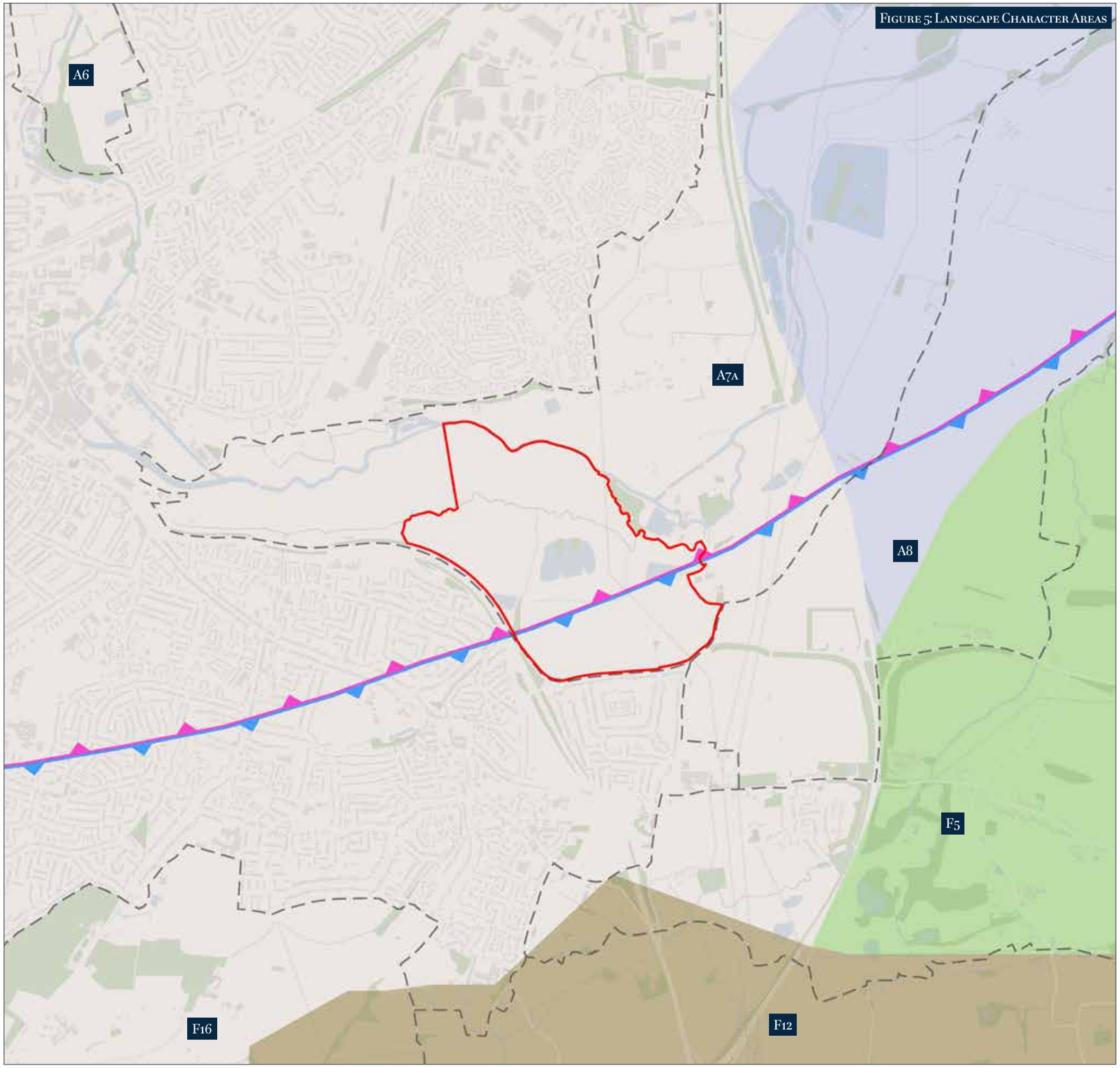


FIGURE 5: LANDSCAPE CHARACTER AREAS

Legend

Masterplan Boundary

National Character Area (NCA) Profiles

NCA 86: South Suffolk and North Essex Clayland

NCA 111: Northern Thames Basin

Essex Landscape Character Areas

C - River Valley Landscapes, C6: Blackwater/ Brain/Lower Chelmer Valleys

D - Wooded Hill and Ridge Landscapes, D3: Danbury Hills

E - London Clay Landscapes, E1: South Essex Farmlands

G - Urban Landscapes, G2: Chelmsford and Environs

Chelmsford Landscape Character Areas

A6 A - River Valley Landscapes

A6: Upper Chelmer River Valley

A7: Lower Chelmer River Valley, A7a: Lower Chelmer River Valley Floor

A8: Can and Wid River Valley

F - Wooded Farmland Landscapes

F5: Little Baddow and Danbury Wooded Farmland

F12: East Hanningfield Wooded Farmland

F16: Galleywood Wooded Farmland

2.6 GREAT BADDOW VILLAGE DESIGN STATEMENT

The Great Baddow Village Design Statement (VDS) was adopted in 2011. It sets out a description of the Parish of Great Baddow, an area of 647 hectares with a population of 13,000 at the time of preparation. As a Supplementary Planning Document the VDS is a material consideration in the determination of local planning applications.

The VDS describes Great Baddow as being situated on a ridge of high ground rising from the flood plain on the south side of the Chelmer Valley to the immediate east of Chelmsford, with the northern limit of development noted as being limited by the Chelmer flood plain.

The VDS identifies and describes a series of character areas within the parish and provides guidance for existing and proposed development. The site is identified within a Rural Area (section 8) as Baddow Meads and Manor Farm. These are described as follows:

"The flood plain (between the Baddow bypass and the River Chelmer) gives beautiful views from Maldon Road and is a haven for wildlife. It attracts many walkers. It is largely devoted to the grazing of cattle. It forms an essential part of the Chelmsford flood protection scheme, providing catchment for excess rain that has been passed through the centre of the town

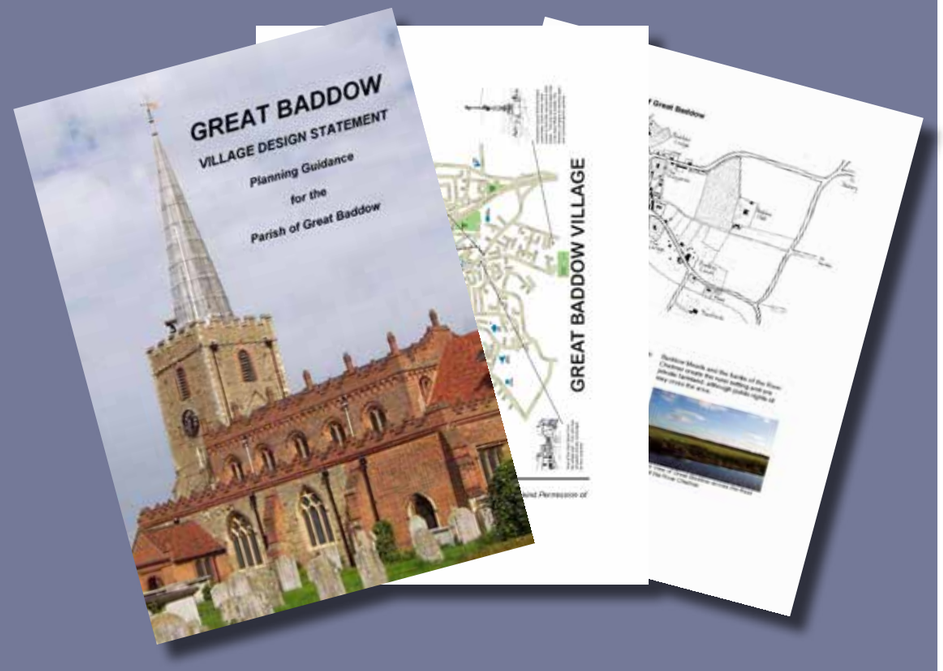
This is an arable farm. Its fields come into view along Maldon Road after the turning to Molrams Lane. A new reservoir sits central to the landscape creating a new attractive feature overlooking the valley. The farmhouse itself was replaced in the 1960s."

Opportunities

- Design the development with an emphasis on sustainable transport.
- Avoid dominance of vehicles in streets.
- Provide native tree planting, and ensure new landscapes are well maintained.
- Retain existing hedgerows wherever possible.
- Develop a sensitive approach to lighting and street furniture.
- Explore opportunities to underground existing overhead cables.

The Great Baddow Village Design Statement includes the following guidance relevant to the proposed development:

- Consideration should be given to improve the planting on the two roundabouts linking the Baddow bypass with Maldon Road.
- The retention of traditional style bus shelters along Maldon Road is supported.
- Streets should be designed for pedestrians as a priority, followed by cycles.
- Cars should not dominate streetscapes.
- Where shared surfaces are provided, it should be made clearer to drivers that they are entering them.
- Parking to serve dwellings should be provided within each plot and adequate access be provided to avoid obstruction.
- It is important to maintain planned open areas properly to ensure planting survives to enhance developments in years to come.
- The planting of suitable native species within parkland and elsewhere in the parish will be encouraged.
- Hedging around the Manor Farm site should be retained.
- Large areas of uniform hard standing in front of homes should be minimised and interspersed with plants.
- When designing new streets, parking places need to be carefully designed to ensure inconsiderate parking and obstruction does not take place .
- Where space permits cycle tracks should be kept separate from footpaths and pathways.
- Cycle tracks to Chelmsford avoiding main roads are needed, to encourage commuting by cycle and reducing road congestion at the Army and Navy.
- Road signs and street furniture to be kept to a minimum.
- Any street lighting should maintain light levels that will reduce the fear of crime but not add to light pollution.
- New and renewed cabling should be underground, wherever possible.
- More consideration of the effect of street furniture on the visual environment should be taken at the planning stage.
- Natural materials should be used wherever possible.



2.7 LOCAL FACILITIES & AMENITIES

The site is located within a local and wider area well-served by existing facilities and amenities including retail, employment, health, education and leisure, as demonstrated by Figure 6. This includes the Sandford Mill Science and Education Centre to the north of the site and the Vineyards shopping centre within 15 minutes walk of the site.

The area also has a number of schools for all ages including Baddow Hall Infant/Junior School, Sandon School, Meadgate School and Chelmsford College; all within walking or cycling distance of the site.

Chelmsford city centre is a 45 minute walking distance, reachable by car or bicycle and access to The Vineyards local shopping centre around 15 minutes walk away from the centre of the site. The site also benefits from the presence of existing recreational facilities within the local area including Hamptons Sports and Leisure Centre, Great Baddow Lawn Tennis Club, and Chelmsford Rugby Football Club.

As a result of this existing local provision of services and amenities, there is a sense of a vibrant existing community, with an ideal environment for families and children.

Future residents of the site would be well catered for in terms of shops, employment areas, leisure and sport opportunities, cultural destinations and transport nodes. This existing provision enhances the appeal of the site and creates the opportunity to provide a long-term healthy community, well integrated into the existing community.

The nearest facilities will become important resources for future residents of the site, particularly the Manor Farm Shop, the Sandford Mill Science & Education Centre, The Vineyards Shopping Centre, Baddow Hall, Meadgate and Sandon Schools and the Great Baddow Millennium Community Centre. These facilities will be considered as part of the design of the development and its connections with the wider area, promoting enhanced wayfinding, pedestrian access and legibility.

Future residents will also benefit from proximity to the Sandon Park and Ride and local bus routes, providing an opportunity for car free travel to the city centre and the railway station.

The proposed development will also benefit local facilities through greater footfall.

Constraints

- Retain the Manor Farm Shop, the only retail facility within the site.

Opportunities

- Provide improved access to the Sandford Mill Science and Education Centre.
- Provide enhanced wayfinding and legibility to local facilities and transport routes.
- Enhance access to the Manor Farm shop from the proposed development.
- Ensure safe and convenient walking and cycling routes are provided to link the site with the wider area, including safe routes for school children.

The Manor Farm Shop

The Sandon School

Sandon Village Hall

Great Baddow Lawn Tennis Club

Great Baddow Millennium Community Centre


Chelmer High Street

Hamptons Sport & Leisure

Baddow Hospital

Chelmsford Rugby Football Club

Meadows Shopping Centre

Moulsham Junior School

Chelmsford Train Station

Legend:

- Masterplan Boundary
- Amenities
- 1 The Manor Farm Shop
- 2 Sandford Mill Science & Education Centre
- 3 Baddow Village Surgery
- 4 Baddow Dental Practice
- 5 The Vineyards Shopping Centre
- 6 Baddow Hall Infant/Junior School
- 7 The Sandon School
- 8 Sandon Park & Ride
- 9 Sandon Village Hall
- 10 Great Baddow Lawn Tennis Club
- 11 Great Baddow Millennium Community Centre
- 12 Meadgate Nursery/Primary School
- 13 Baddow Road Dental Surgery
- 14 Chancellor Park Primary School
- 15 Brook End Gardens
- 16 Asda Supermarket
- 17 Chelmer Village Dental Practice
- 18 Chelmer Village Surgery
- 19 Chelmer Village Retail Park
- 20 Fox & Raven, Miller & Carter Steakhouse
- 21 Medicspot Clinic Great Baddow
- 22 Hamptons Sport & Leisure
- 23 Larkrise Primary School
- 24 Baddow Hospital
- 25 Great Baddow High School
- 26 Lidl Supermarket
- 27 Chelmsford College
- 28 Sunderland Lodge Surgery
- 29 Chelmsford Rugby Football Club
- 30 Aldi Supermarket
- 31 Meadows Shopping Centre
- 32 Moulsham Infants / Junior School
- 33 Moulsham High School
- 34 Moulsham Lodge Community Trust
- 35 Gloucester Avenue Shops
- 36 Baddow Park Industrial Estate

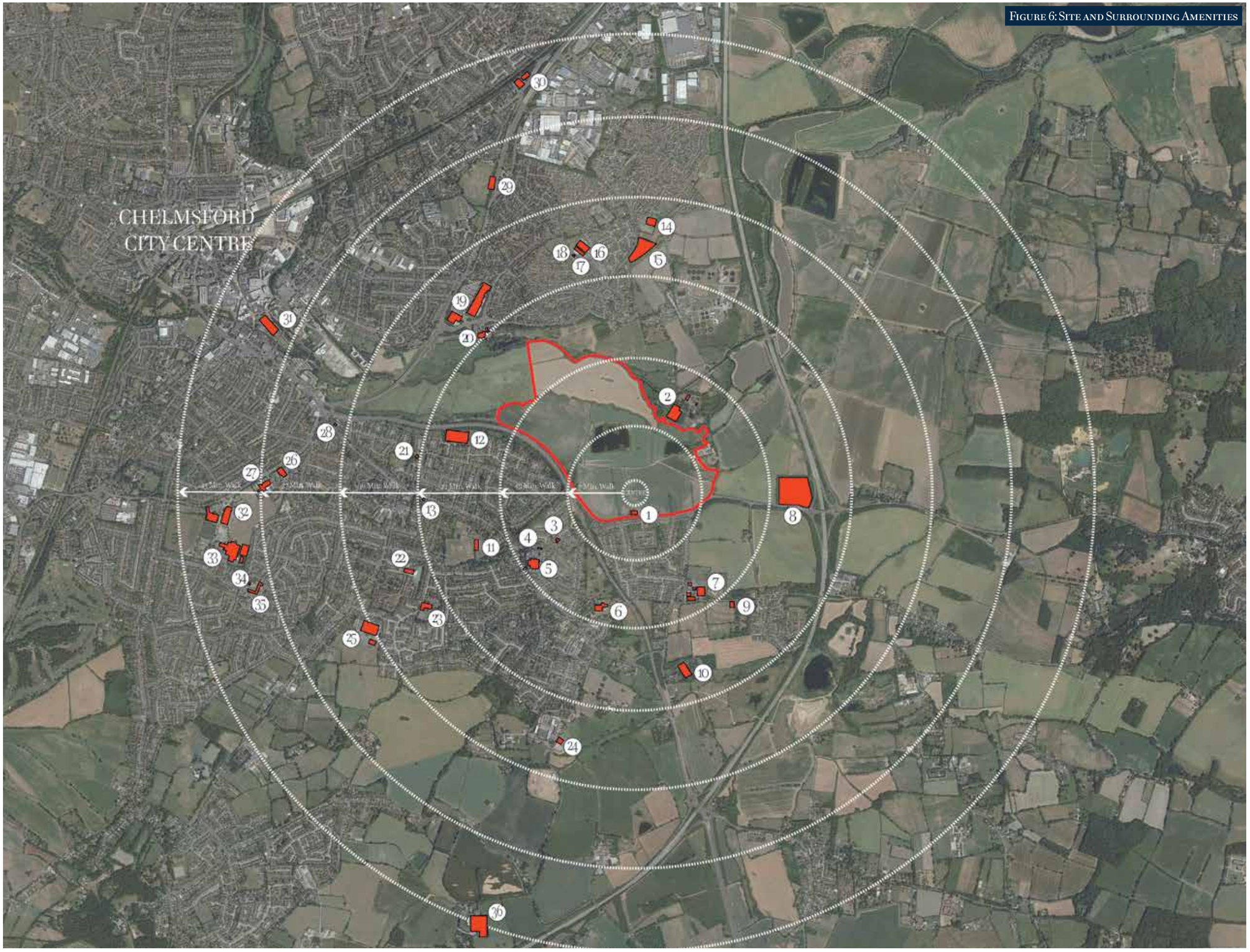


Figure 6: Site and Surrounding Amenities

2.8 LOCAL BUILT CHARACTER STUDY

Local character and distinctiveness creates a sense of place, community identity and community ownership. To create proposals that strengthen and enhance the local distinctiveness of Chelmsford, the historic development, character and context of Chelmsford and the surrounding settlements must be explored and understood. By examining the basic design principles in the area, references for the design and layout of the development can be established. This will enable the creation of an integrated and responsive development, appropriate to the site's immediate context.

The general characteristics and influences of Chelmer Village, Great Baddow Character Zone 1 and Great Baddow Character Zone 2 have been studied and site visits carried out, the location of each is illustrated in Figure 7. While each area is physically distinct from the other as a result of different urban and landscape structures that surround them, the areas do provide important references to inform the masterplan approach.

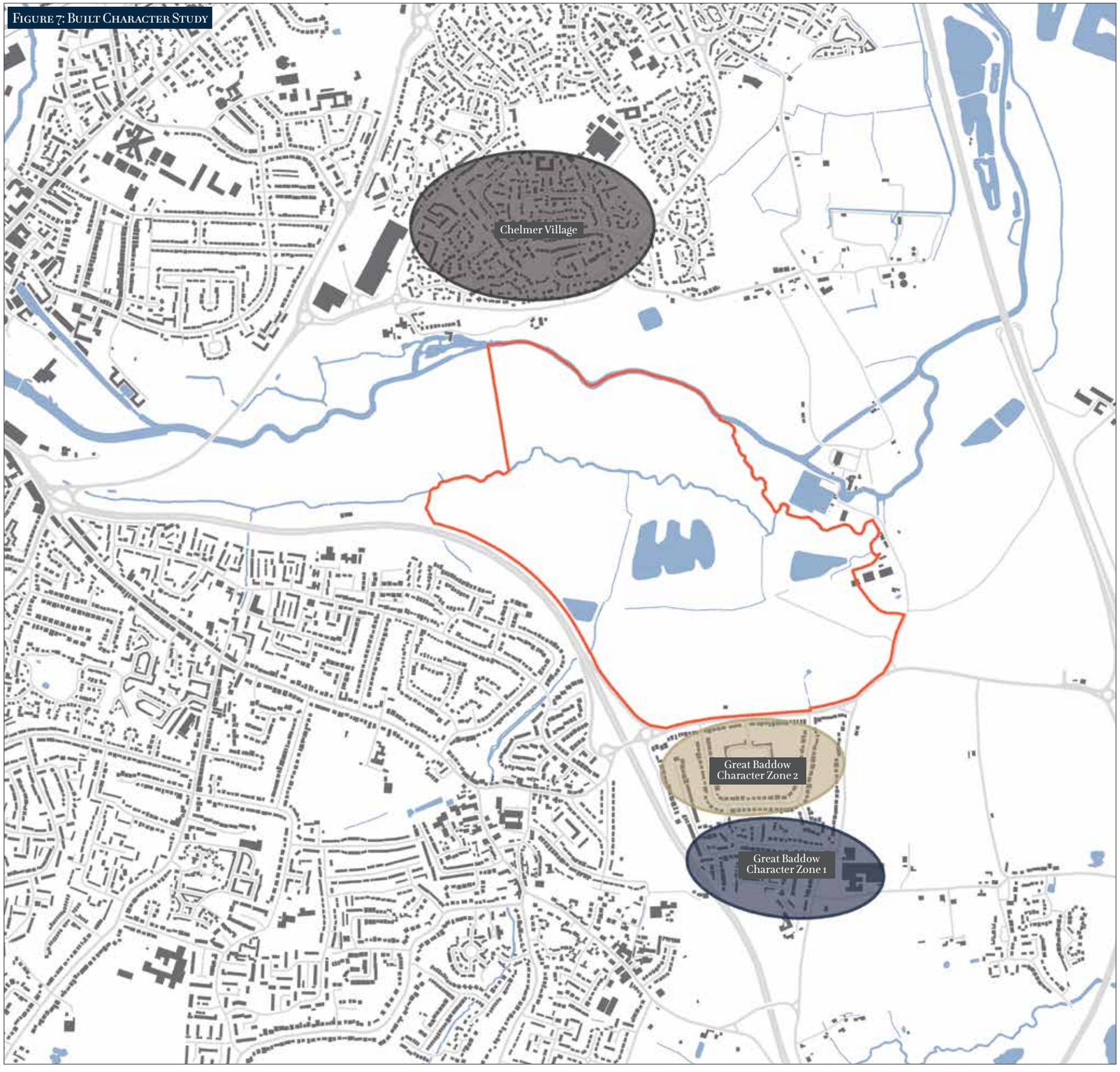
The character summary focuses on the general characteristics informed by the origins of evolution of the settlements and the resulting urban form and block form. The study focuses on the following categories:

- **Urban form and character.**
- **Building form.**
- **Public realm.**
- **Materials and details.**

This approach aids legibility and integration of the development with the landscape, while maintaining distinctiveness and enhancing the character of Chelmsford.

While these are by no means the only areas of character in the surrounding townscape, they are appropriate references in terms of scale, character and quality to inform the development going forward.

Figure 7: Built Character Study



Chelmer Village

Chelmer Village is a relatively new development, having been constructed in the 1990s. Predominantly residential this area consists of detached and semi detached houses with incidental green space. The site is bounded by two main roads (Chelmer Village Way/A138) with secondary roads leading into the site. Almost all roads feeding off the main road form cul-de-sacs leading to limited connectivity and legibility, or visual connections to wider context, however this can also provide a sense of enclosure and security. Green open spaces are well distributed through the area, and there are good pedestrian and cycle networks through the site. Travelling through the site, strong residential frontages are presented, with public spaces defined and overlooked by houses, low rise (two storey) homes with a mix between terraced, semi-detached and detached units that create a clearly defined place.

Urban Form and Character	
Character Description	Semi-rural/village edge
Urban Form	1990s loose road structure
Building Form	
Building Types	Mix of detached, semi-detached, occasional terrace
Building Heights	2 to 2.5 storeys
Frontage	Set back with off street parking
Public Realm	
Landscape	Enclosed private frontage with soft landscape boundary treatments
Boundary Treatments	Soft landscaping/low level hedge to semi private frontage
Materials & Details	
Building Materials	Brick - red multi, buff brick, render/Tudor board details
Roofs	Red & brown interlocking tiles, slate
Details	Traditional porches, pitched and flat roof dormers, occasional brick chimneys. Plain casement windows, occasional mock sash

Block Structure:

Great Baddow Character Zone 1

Great Baddow Character Zone 1 is to the south of the site. It has a less clearly defined street character that contains a mix of housing constructed at different times during the course of the 20th century. The area includes mostly detached and semi-detached units with a proportion of bungalows varying the overall roof levels and adding to the sense of openness. Close by the local high street the uniform linear road structure for this area has good access to the primary road leading into it and also forms a loop allowing users a good level of permeability. Public open space is located to the south of the site with a strong emphasis on pedestrian access that promotes a positive and car free environment.

It appears that there has been later development in-filled into the original plot structures. There is a clearly defined frontage with an offset from the road with front gardens that positively contribute to the sense of safety and community and clear separation of back gardens concealed from public routes. Car parking is often located at the fronts of houses, creating a car dominated environment mitigated by reasonable ownership taken by residents of the fronts of their houses. The public realm consists of streets and grass verges with little distinctiveness.

Urban Form and Character	
Character Description	Urban, established
Urban Form	20th Century mixed form. Areas of modern infill. Uniform road structure
Building Form	
Building Types	Mix of detached, semi-detached, occasional bungalows
Building Heights	1 to 2 storeys
Frontage	Set back with off street parking
Public Realm	
Landscape	Enclosed private frontage with soft & hard landscape boundary treatments
Boundary Treatments	Low level fence/brick wall
Materials & Details	
Building Materials	Brick - red multi, render, occasional boarding/tile hanging
Roofs	Red plain tiles, grey concrete tiles
Details	Plain casement windows, box flat roof dormers, chimney as ridge

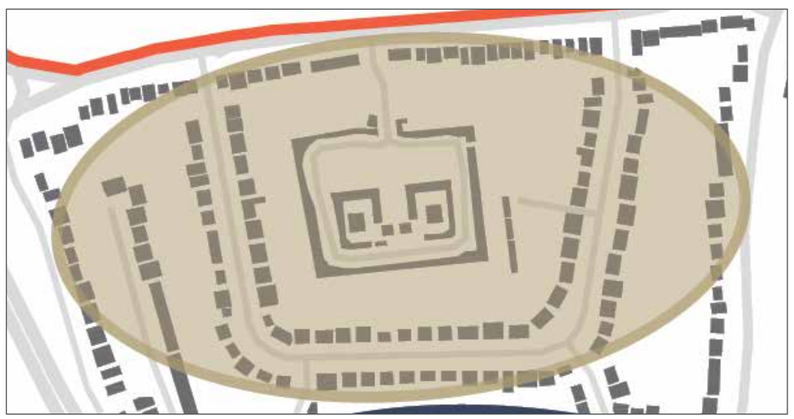
Block Structure:

Great Baddow Character Zone 2:

To the centre of the previous location there is a new development constructed in the 2000's with a more formal arrangement centralised around public open space and a children's playground. Located near Great Baddow high street, it is in close proximity to some amenities but more focused around its green space. One point of entry and a shared surface loop road around the site combines both car usage and pedestrian and cycle usage. There is also a strong pedestrian route through the centre of the site with green space either side and a central piece that defines the character of the area being green and contained. Strong frontage primarily from the two large apartment blocks gives the sense of security overlooking the green space and the detached and semi-detached units along the site give clear definition between the front and back with an increased emphasis on privacy.

Urban Form and Character	
Character Description	Modern infill development
Urban Form	2000s development. Pedestrianised/shared surface
Building Form	
Building Types	Mix of semi-detached, terraces and detached apartment blocks
Building Heights	2 to 3 storeys
Frontage	Minimal step back from road. Access direct onto shared surface
Public Realm	
Landscape	Minimal private frontage. Development based around large public open space
Boundary Treatments	Low level railings to apartments, brick walls to rear gardens. Occasional soft landscaping
Materials & Details	
Building Materials	Brick - red multi, buff brick, render, occasional boarding
Roofs	Slate
Details	Splayed flat roof bays, flat roof porches, pitched dormers. Occasional brick chimneys, plain casement windows

Block Structure:



2.9 DENSITY STUDY

An analysis of the density of existing housing in the surrounding area has been conducted to strengthen the understanding of the settlement pattern in Chelmsford, and to inform the density distribution within the site.

The Essex Design Guide states there is no upper density limit, and that ***"by undertaking an appropriate context analysis, designers and Local Authorities will be able to determine the appropriate target density"***. On this basis, this study will assist in informing a sustainable, well integrated and responsive development, appropriate to the site's context.

Figure 8 shows the six chosen areas, which are similar developments in nature (residential) and have diverse settlement patterns.

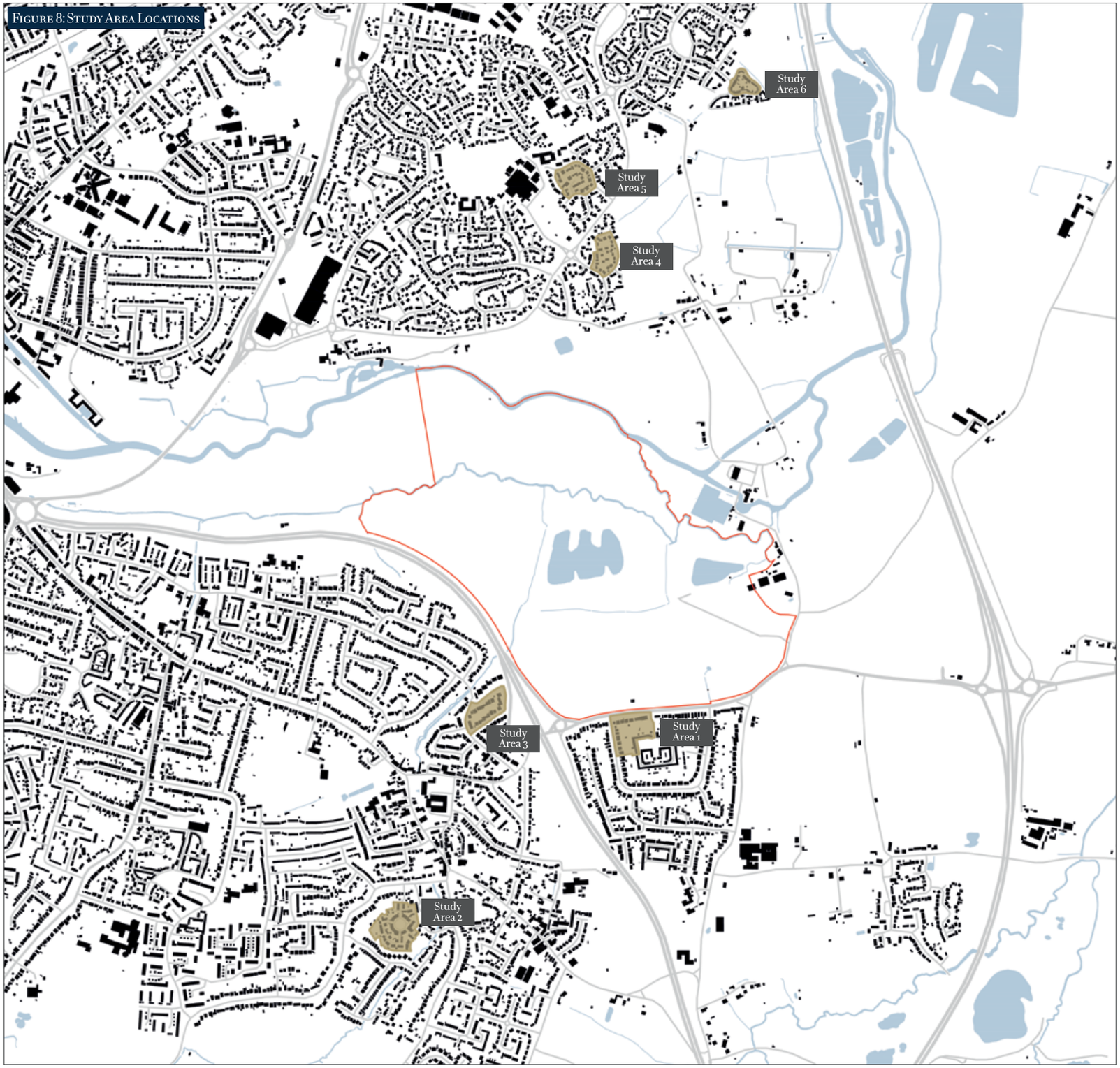
The densities (DPH - Dwellings per Hectare) were calculated based on housing units divided by a net site area. The housing units numbers were identified through OS mapping and comprehensive desk studies, and include apartments. The net site area was calculated according to the Essex Design Guide, which include private/communal open space, internal streets and multi-functional public space; and exclude public open space, streets along the boundary of the site.

Typical Density

Analysis of the local area shows that the existing settlement pattern includes a density range typically between 20 and 40 DPH.

This study shows a range of densities derived from local areas that the masterplan can be informed by to provide an appropriate range of built form character.

FIGURE 8: STUDY AREA LOCATIONS



Study Area 1:

- Area - 3.93 acres / 1.59 hectares
- Units - 32

Density - 20.13 dph

Study Area 2:

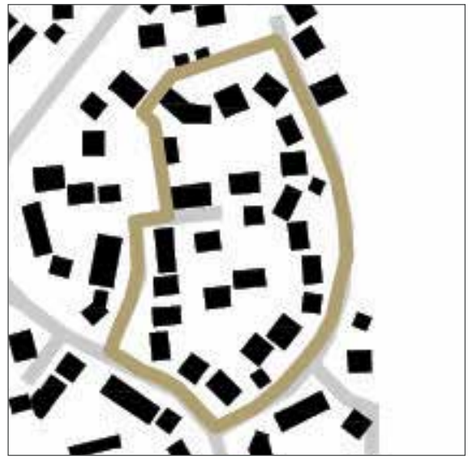
- Area - 4.59 acres / 1.84 hectares
- Units - 58 + 26 flats = 84

Density - 45.65 dph

Study Area 3:

- Area - 2.89 acres / 1.17 hectares
- Units - 31

Density- 26.50 dph



Study Area 4:

- Area - 2.32 acres / 0.94 hectares
- Units - 28

Density - 29.79 dph

Study Area 5:

- Area - 2.81 acres / 1.14 hectares
- Units - 40

Density - 35.09 dph

Study Area 6:

- Area - 1.1 acres / 0.42 hectares
- Units - 14

Density - 33.33 dph


3

Constraints & Opportunities

3.1 HERITAGE & ARCHAEOLOGY

The site sits within a rich historical context that strongly influences the character of the area and provides considerable opportunities to create a strong sense of place within the proposed development.

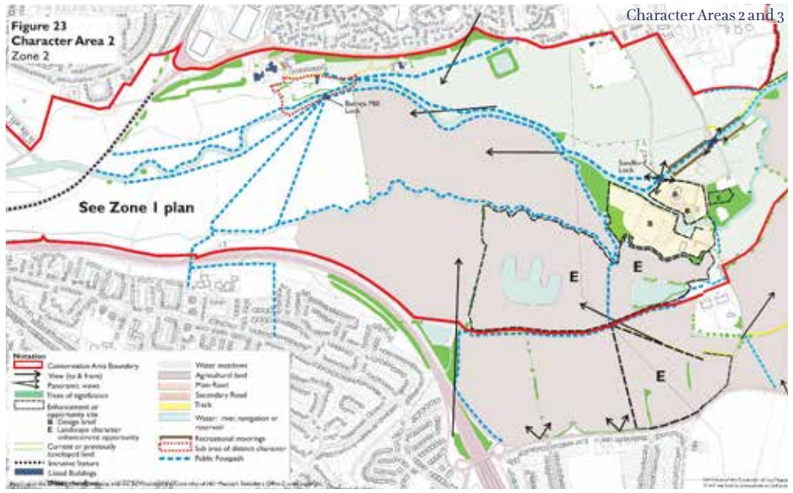
The following section gives an overview of heritage and archaeological constraints and opportunities relating to the proposed development. Key views, including a number of heritage features, are identified in Section 3.2.

CONSERVATION AREA

The Chelmer and Blackwater Navigation Conservation Area (CA) broadly follows the line of the River Chelmer and includes the northern part of the site. The navigation's "special interest" is summarised in the CA Character Appraisal (2009) as:

- *"Its economic significance as part of the late eighteenth century canal network ...;*
- *...a legacy of ... pre-railway industrial transport;*
- *Its contribution to the growth of Chelmsford in the nineteenth century;*
- *The architectural and historic interest of Springfield Basin...historic buildings,*
- *The technological interest of the navigation's locks and bridges;*
- *The topography of the surrounding landscape, including the flood plain water meadows and agricultural land;*
- *Views of surrounding churches...;*
- *Views to the navigation-related structures...;*
- *Trees and hedgerows;*
- *The changing setting of the navigation from urban to rural ...; and*
- *Its present use for pleasure boats, walkers, cyclists and anglers."*

The navigation's character is, in part, defined by its "open setting" outside the urban area. The site is within Character Areas 2 and 3



Character Areas 2 and 3

(Chelmer Road to Barnes Mill and Sandford Mill) of the CA, which are defined as "rural, river valley". Notable features include:

- *"Views eastward to Danbury Hill and Danbury church;*
- *Views westwards terminated by the tree planted edge of the Chelmsford town centre and its skyline;*
- *Views to the south-west, ...the primary focal point being the radio mast;*
- *Views into and across the river valley from the A138; and*
- *The overall quality of the valley landscape is high... The key feature of the landscape is rough pasture, which is grazed on the south bank of the river".*

The CA appraisal notes that agricultural fields encroach on the water meadow from the south whilst residential development encroaches from the north.

The Sandford Mill water mill and its setting (eastward), Barnes Lock and Mills (north-westward), Pease Hall and associated buildings (north-eastward) all make a positive contribution to the CA.

Sandford Mill's setting comprises dense tree planting, which is a defining characteristic of this part of the CA.

With the exception of the navigation itself, and a pillbox, there are no built features that form part of the site. Therefore, the site's principal contribution to the significance of the CA is its openness.

The site positively contributes to the setting of the CA, through its rising topography that provides enclosure in the south east.

BUILT HERITAGE

The Built Heritage Statement informs the proposed development through identifying built heritage assets within the vicinity of the Site, and the likely effects of development on their significance. Key findings are summarised below:

Cathedral Church of St Mary

Although development may adversely impact part of the setting of this asset, it is considered to be less than substantial harm. Proposed mitigation would aim to reduce any harm through the incorporation of a site line through the development towards this asset along with the potential for heritage interpretation boards.

Church of St Mary, Great Baddow

Development would make a neutral contribution to the significance of this asset.

Sandford Mill

Barnes Mill

Although development may adversely impact part of this asset, the significance amounts to less than substantial harm.

Chelmer and Blackwater Navigation Conservation Area

While development may adversely impact part of this asset in the Conservation Area, the significance amounts to less than substantial harm.

FW3/Type-24 Pillbox

Development may result in a minor impact to the significance of this non-designated asset. Residual harm will be reduced by the implementation of heritage boards and/or conversion to a bat roost.

Great Baddow Mast

The upper-part of the recently Grade II listed mast is visible in a number of views in and around Great Baddow, including the site.

St John the Baptist, Danbury

Distant views accommodate this church spire, however, at such a distance the architecture of this building cannot be appreciated and there is no discernible relationship between this asset and the site.

View north from the River Chelmer

NON-DESIGNATED HERITAGE ASSETS

A prominent recurring heritage feature, both on and in proximity to the site, are pillboxes that pay tribute to Chelmer Valley's role in WWII as a line of defence.

The majority of pillboxes are located east of the site, another is located adjacent to the southern site boundary (Figure 8). The following are located on site:

- "Pillbox at Manor Farm, Sandford" including "Premonitory behind building near yard Manor Farm" (UID MEX 31657).

ARCHAEOLOGY

A 2018 survey was commissioned to assess any archaeological potential and an already identified area of potential archaeological activity, including a small ring ditch on site, most likely from the Neolithic to Bronze Age period.

In addition, remnants of a Bronze Age ringwork enclosure are located near the site's southern boundary, partially covered by the Manor Farm shop.

Archaeological investigations carried out in 2019 found that much of the enclosure ditch is likely to be under the existing wooded hedge around the farm shop (north, east and west), no additional settlement activity was detected.

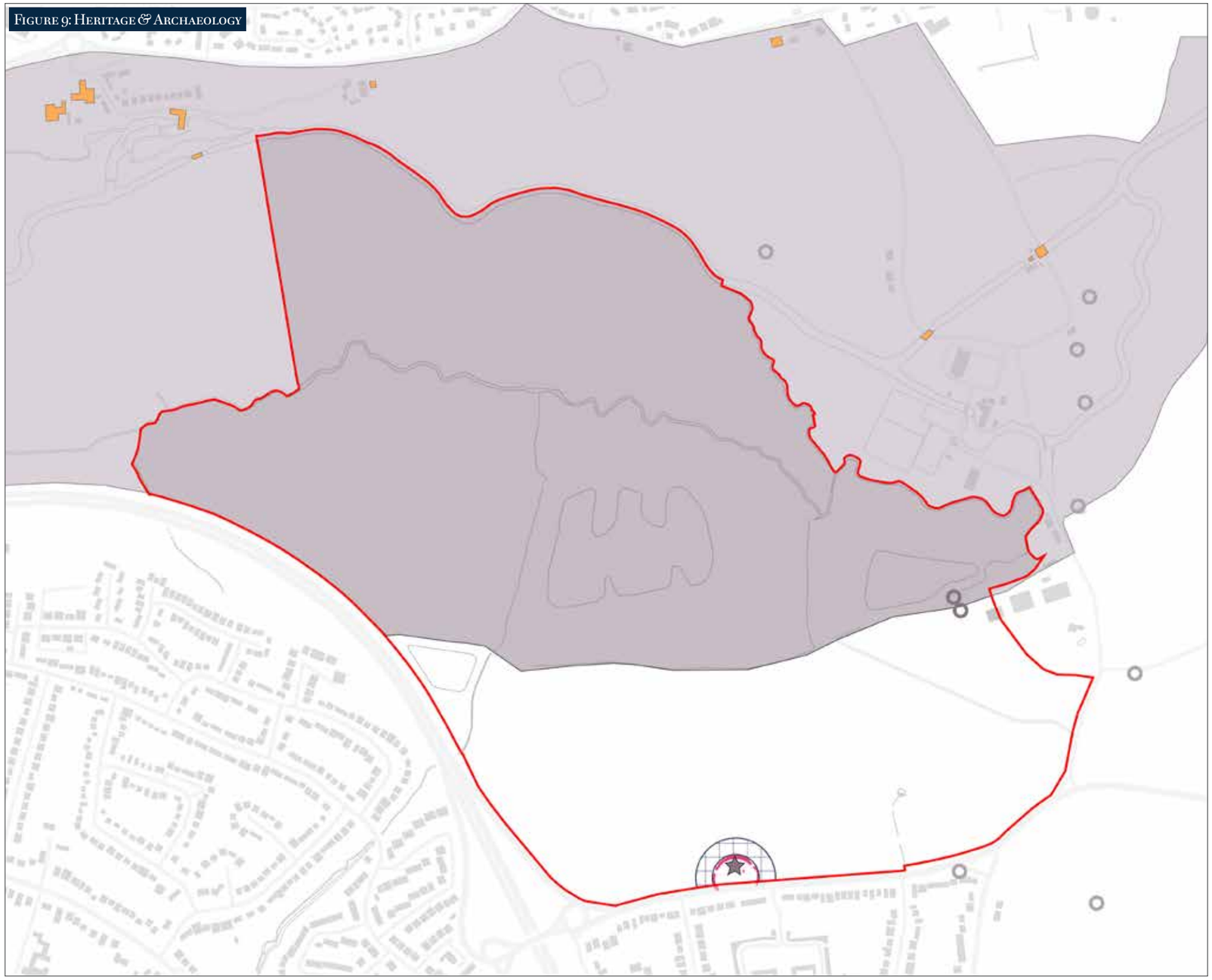
All other archaeological finds outside the enclosure were therefore considered to be of "low significance." The Local Plan sets out that the enclosure should be treated "as if it were a scheduled monument" requiring an "appropriate buffer" with "green link to the river valley maintained", which informs the siting of the enclosure.

The archaeological work demonstrates that a landscape buffer of 20m around the exterior of the enclosure ditch would be appropriate. This can be confidently implemented demonstrating no impacts on any archaeology of medium to high significance, furthermore, preserving and enhancing the setting.

A more substantial buffer of 25m has subsequently been agreed through consultation with Chelmsford City and Essex County Council, with inclusion of a 25m wide landscape link to the valley floor.

This presents opportunities to conserve the setting of the enclosure by implementing an appropriate landscape buffer around it where creative design proposals can be employed to respectfully celebrate this historical feature.

Figure 9: Heritage & Archaeology



Legend

- Masterplan Boundary
- Chelmer and Blackwater Navigation Conservation Area
- Grade II Listed Building
- Bronze Age Ringwork Enclosure
- Bronze Age Ringwork Enclosure Ditches
- 25m Buffer for the Bronze Age Ring Work Enclosure
- WWII Pillbox

MASTERPLAN RESPONSE

Any harm to the heritage assets and their surroundings will be avoided through sensitively designed proposals. These heritage assets will be utilised to strengthen the 'sense of place' derived from the development. The following constraints and opportunities have been identified in order to achieve this.

Constraints

- Protect the setting of the CA.
- Protect the setting of the Bronze Age ringwork enclosure, Barnes Mill and WWII pillbox.
- Protect views eastward towards Danbury Hill and Danbury church.
- Protect views of St Mary's Cathedral and St Mary's Great Baddow.
- Protect views of the radio mast at Great Baddow and along the river valley from the A138.
- Prevent agricultural encroachment on the navigation and prevent further loss of grazing on the valley floor meadows.
- Prevent further urban encroachment into the valley floor.

Opportunities

- Restore the navigation's water meadow and rough pasture habitat setting and increase grazing opportunities.
- Plant native trees within the river valley and enhance views towards existing areas of settlement.
- Protect and integrate the pillbox near Manor Farm within the proposed development.
- Enhance the setting of the pillbox near Manor Farm and introduce interpretation opportunities.
- Enhance the setting of the Bronze Age ringwork enclosure with a minimum 25m buffer and introduce interpretation opportunities.
- Provide a minimum 25m wide landscape link between the Bronze Age enclosure and the valley floor.
- Protect views of heritage assets to add character and legibility to the development.
- Include sight line from the site towards the Cathedral Church of St Mary.

3.2 IMPORTANT VIEWS

A visual appraisal of the site and the wider area has identified a number of views that are key considerations in the design of the proposed development. These views demonstrate the visual characteristics of the landscape both in terms of its openness, the influence of landform and the availability of views towards prominent landmarks in Chelmsford and Great Baddow.

These views include:

- Open, long distance panoramic views from the elevated slopes in the south-east of the site over the River Chelmer valley towards Chelmsford, including views of Chelmsford Cathedral.
- Open views from the southern boundary of the site, adjacent to the farm shop towards the River Chelmer and the Sandford Mill Science & Education Centre.
- Views south from the Conservation Area boundary at the foot of slope towards Maldon Lane, where existing built form and vegetation can be seen on the ridgeline.
- Views south towards Great Baddow from the flood plain where the parish church and Marconi Tower can be seen amongst other built forms from a wide area in and outside of the site, with other church steeples on the horizon.

Constraints

- Protect open elevated views towards Chelmsford from the south-eastern part of the site.
- Maintain openness of views of the northern part of the site as experienced from the flood plain.
- Retain visual influence Great Baddow Parish Church and the Marconi Tower as experienced from the northern part of the site.

Opportunities

- Provide sensitively designed built form on the southern part of the site to reduce visual impact and create variation in roof patterns.
- Provide sympathetic landscape interfaces to sensitive edges such as the southern Conservation Area boundary.
- Create visual links through the development to provide a sense of connectivity with the flood plain from the elevated slopes.

Viewpoint Location Plan

Viewpoint 1: View north-west towards Chelmsford from the elevated slope

Viewpoint 2: View north-east from the farm shop/bronze age ringwork enclosure

Viewpoint 3: View south-west from PRoW 220_2

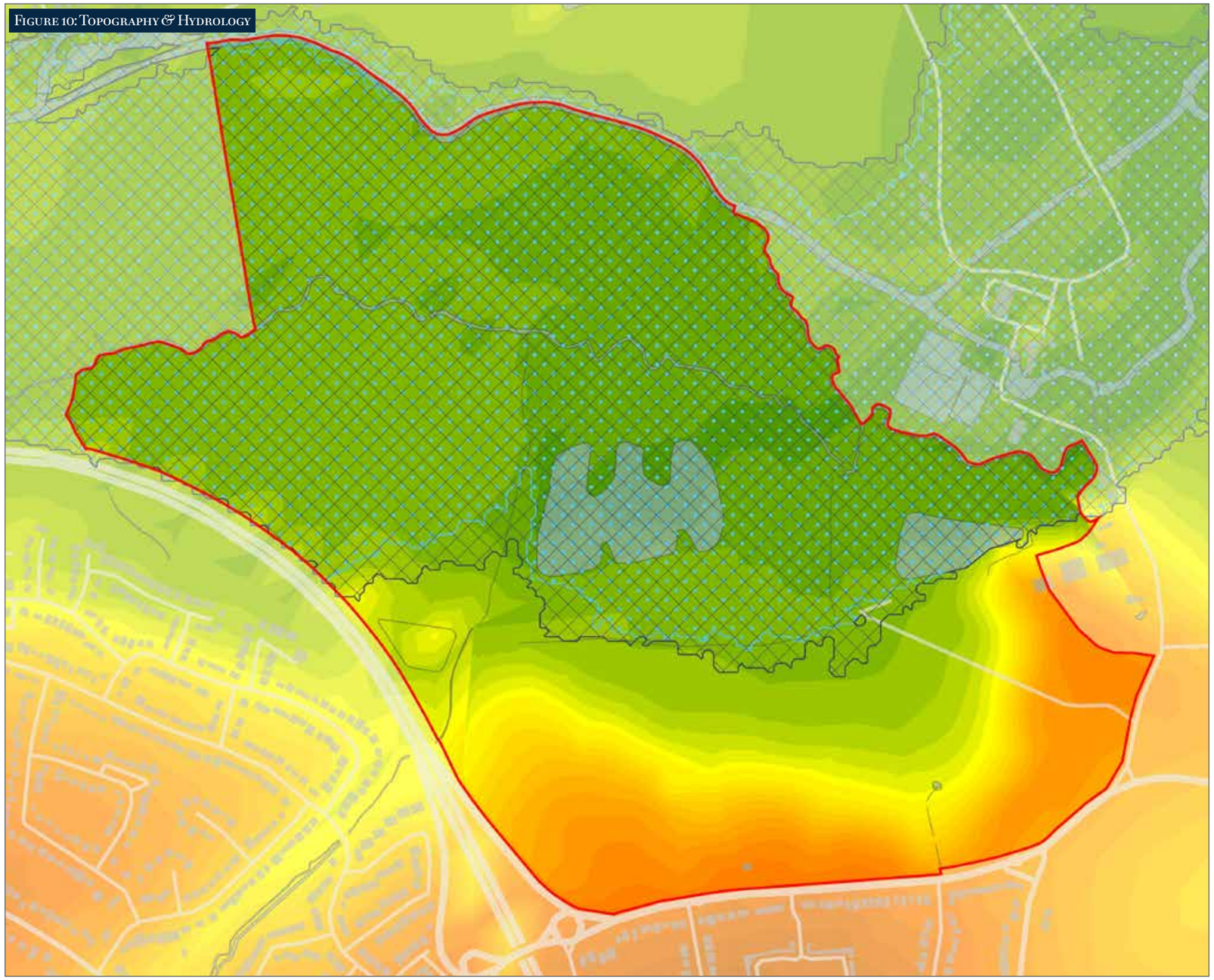
Viewpoint 4: View south from PRoW 220_5 towards Great Baddow

Viewpoint 5: View south-east from the PRoW network to the west of the site

Viewpoint 6: View south from the River Chelmer towpath

3.3 TOPOGRAPHY & HYDROLOGY

Figure 10: Topography & Hydrology



Legend

- Masterplan Boundary
- Existing Water Courses and Features
- Flood Zone 2
- Flood Zone 3
- Elevation (metre AOD)
- Maximum 36m
- Minimum 18m

At a regional scale, the site is located in the valley of the River Chelmer, which in part coincides with the Chelmer and Blackwater Navigation. This wider landscape is characterised by gently undulating land and wide river valleys that feature extensive flood plains.

The site lies to the south of the River Chelmer. Generally at a height of between 20 and 25m AOD, the northern part of the site occupies the valley floor and is therefore markedly flat and low lying. A small area of this part of the site lies below 20m AOD in its north-eastern corner in the vicinity of the water works.

In contrast, the southern part of the site encompasses the sloping valley sides, consistently rising up from the flood plain to a height of around 40m AOD at the existing settlement edge along Maldon Road. As a result, there is a distinct and conspicuous change in character between the northern part of the site, relating to the river valley, and the southern part of the site, reflecting the nature of the settled valley sides.

The Chelmer and Blackwater Navigation and sections of the River Chelmer run east-west through the river valley and define the northern boundary of the site, while a series of ditches and small watercourses run south to north and east-west through the lower lying part of the site and draining into the River Chelmer.

Due to the low lying nature of the area along the River Chelmer; the northern section of the site resides within a large flood plain. This section is classified as Flood Zone 2/3 according to the Environment Agency, meaning it is at risk of flooding. As such, most forms of development – including new homes – should avoid this area. Development will therefore be focused within the southern section of the site.

As shown on Figure 10, the site also features in its northern part prominent existing waterbodies which are remnants of historic mineral extraction activities. They are currently fenced off and used as private and day pass fishing lakes. This part of the site is also encompassed by the River Chelmer flood risk zone, as shown.

Constraints

- Built form on rising land will require careful design to reduce impact on views to the south from the river valley.
- Sloping underlying landform will necessitate intelligent approach to road layouts and building types to excessive cut and fill.
- The lower lying parts of the site within the River Chelmer floodplain should remain devoid of built form as this area coincides with a flood zone and the wider flood plain is typically free of built form.

Opportunities

- Existing characteristic of settled valley sides lends itself to new development being introduced within the north facing slopes of the site.
- Potential to utilise existing field drains and natural watercourse features as part of a well-integrated SuDS network, providing recreation, amenity and habitat opportunities as well as mitigating flood risk.
- Integrate existing waterbodies into Country Park for greater public amenity and biodiversity benefit.
- Overall site levels create opportunity to concentrate SuDS features at northern edge of developable area.

3.4 UTILITIES

The existing network of buried and overhead services, together with parts of the site prone to flooding, is presented on Figure 11. There a number of utility services and infrastructure located within the site despite it largely being undeveloped, with many utility services crossing through the site boundary. Many of these existing features have easements which are key constraints informing the layout of the proposed development.

Significant constraining features include the easements of two HP gas mains, a foul sewer and a water main; all of which run through the southern area of the site marked for residential development. While diversions have been explored for these services, it would be undesirable in most circumstances due to the high costs that occur.

Instead, the masterplan will be designed to avoid these service easements where possible. Efforts will be made to reduce the linearity of the urban form that can result from these easements running through developable areas.

Overhead power lines and the foul sewer will be diverted through the site to reduce their impact on the layout of the proposed development, whilst the gas and water main will be retained in situ and incorporated into the highway design or be located in open space.

On-going correspondence with local utility providers confirms there is capacity to serve the proposed development. Points of connection have been advised along any required reinforcement works to the existing infrastructure, unlocking the site from any potential supply issues which would inhibit development to this scale. Details of any connection and reinforcement works will be expanded further as the design of the development progresses.

Constraints

- Diversion of significant constraining utilities will incur high costs and are therefore best avoided. The masterplan will be instead incorporated these constraints into its design.
- Existing utility infrastructure may constrain the masterplan road layout.
- Diversion works may be required to enable delivery of off site highway works to form the site access.
- To supply the development, some services will require reinforcement works to the existing infrastructure.

Opportunities

- Diversion of overhead power lines and the foul sewer to reduce impact on masterplan is likely to be feasible.
- Residential development can be well supplied by utilities, as close points of connections and capacity can be made available.

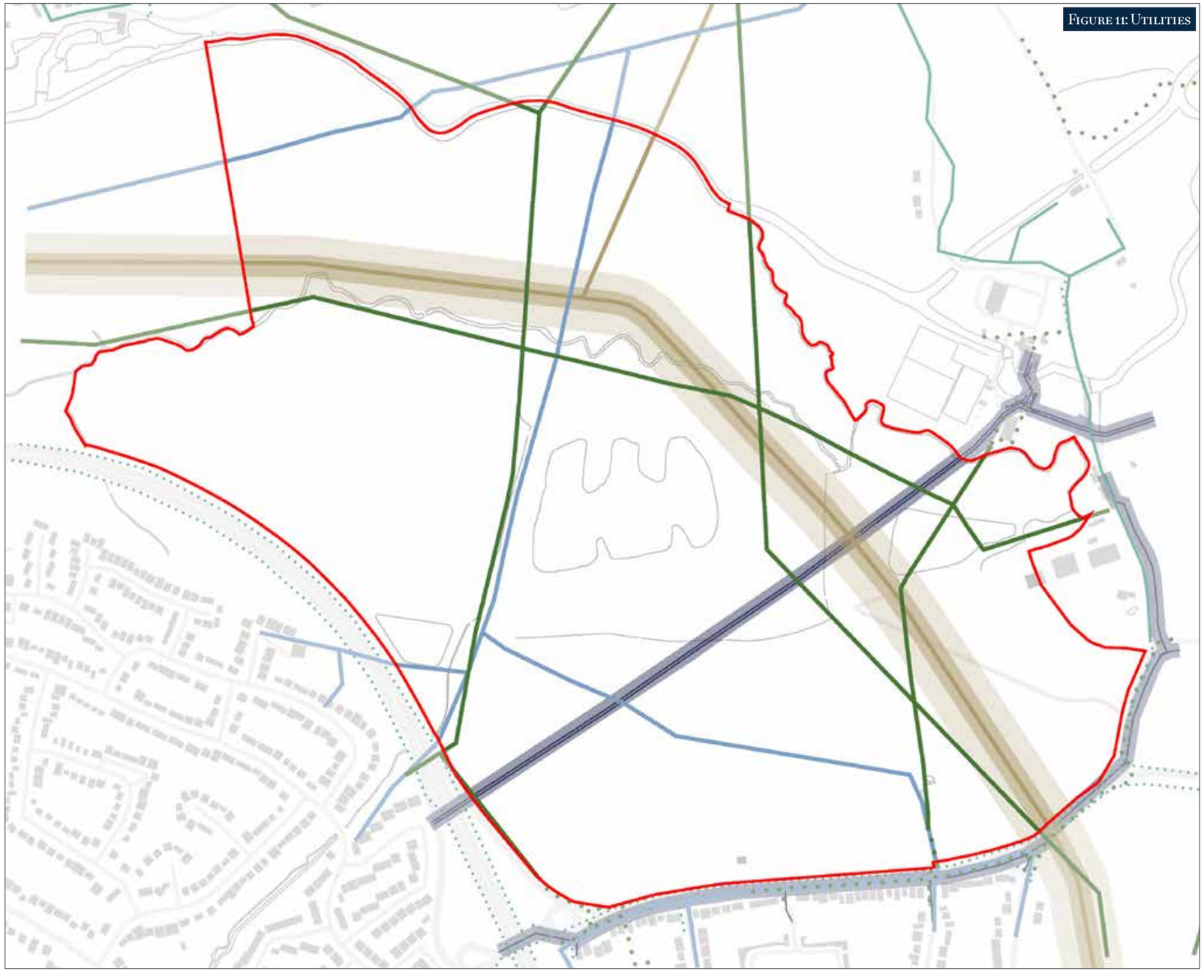
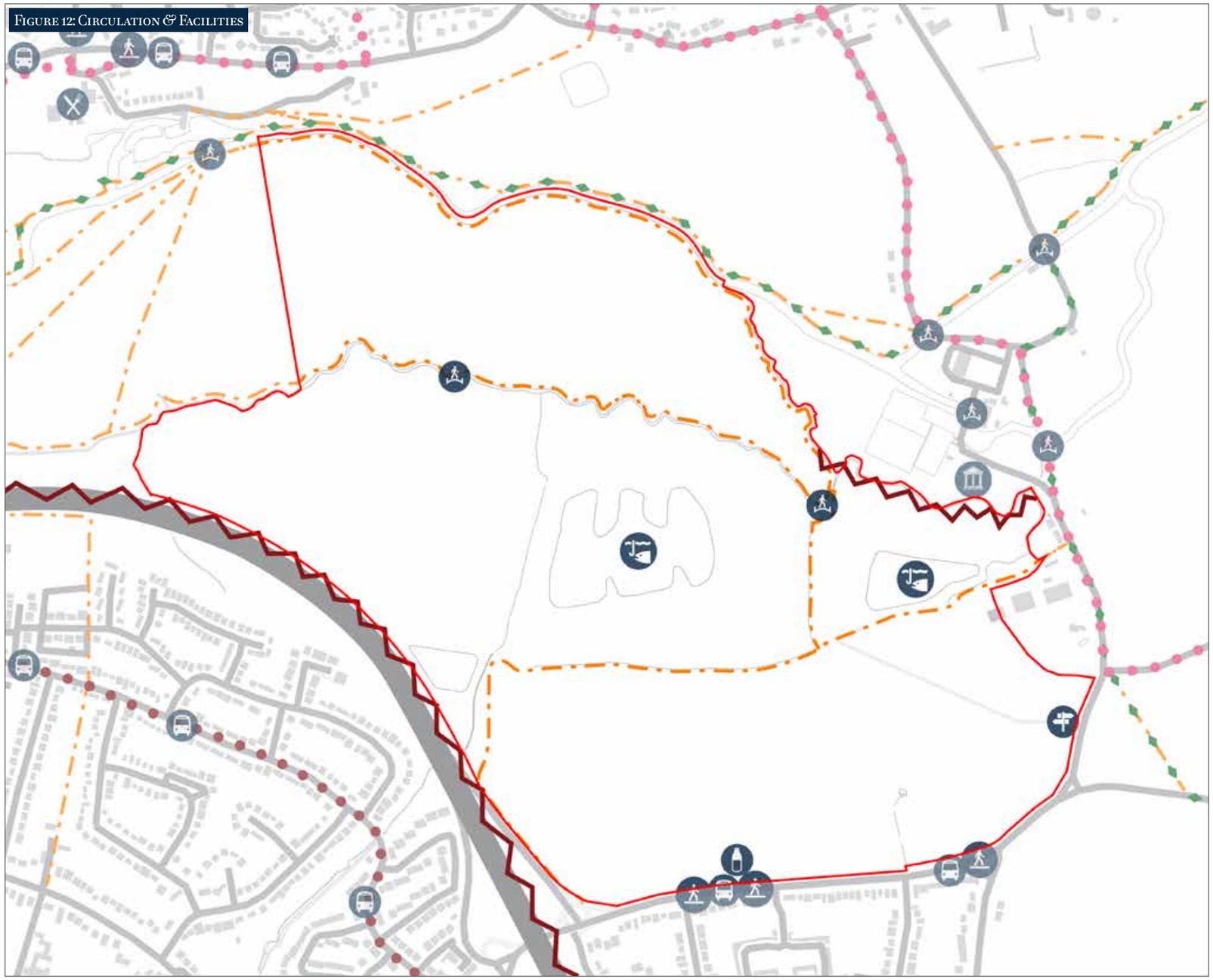


FIGURE 11: UTILITIES

3.5 CIRCULATION, FACILITIES & NOISE

Figure 12: Circulation & Facilities



Legend

- Masterplan Boundary
- A-Road
- Other Roads
- Barrier to Movement
- Public Footpath
- Sustrans Cycle Route NCN 1 and Cycle Route
- Great Baddow to City Centre Cycle Route
- Saffron Trail Long Distance Walk
- Bus Stop
- Uncontrolled Maldon Road Crossing
- Existing Bridge
- Manor Farm Shop
- Fishing Club
- Sandford Mill Science & Education Centre
- Restaurant
- Current Site Access

Circulation:

A network of Public Rights of Way extends along the valley of the River Chelmer. The Saffron Trail runs along the northern side of the river, with an additional path extending along the southern side of the watercourse. A parallel footpath extends along the north-eastern boundary from the A1114 and passes east to west through the northern part of the site. A third footpath extends along the foot of the sloping southern section of the site between the A1114 and Sandford Mill Road. There are two footbridges crossing the watercourse within the site and another footbridge crossing the River Chelmer to the north-west of the site.

The site is well served by an established road network, including the A1114 Essex Yeomanry Way, Maldon Road and Sandford Mill Lane, which form the western, southern and eastern boundaries respectively. There is currently only vehicle access to the site via Sandford Mill Lane.

The A1114 is a substantial barrier to movement to the south-west of the site creating severance between it and existing settlement. A tributary of the River Chelmer also creates a barrier to movement to Sandford Mill Science & Education Centre to the north-east of the site.

A sustrans cycle route (NCN1) is present along Sandford Mill Lane, which connects Chelmsford city centre to the wider landscape to the east, while the Great Baddow to City Centre cycle route passes nearby to the west of the site.

Facilities:

Various facilities are present as shown on Figure 12, such as the Manor Farm Shop and fishing clubs within the site, bus stops along the Maldon Road and Sandford Mill Science & Education Centre.

Noise:

Vehicular movements on the adjoining transportation links, including A1114, Maldon Road and A12 (located to the east of the site) are identified as the main source of baseline environmental noise at the site.

An assessment of the site's suitability and appropriate acoustic mitigation will be submitted as part of the planning application, including a review of internal noise levels within habitable rooms and in private external amenity areas based on industry standard guidance.

The mitigation measures are likely to include considerate design of the site for dwellings with a view onto Maldon Road, A12 and Essex Yeomen Way and the provision of appropriate building façade mitigation.

Constraints

- Protect and enhance the PRoW network.
- Retain site access via Sandford Mill Lane junction.

Opportunities

- Provide enhanced vehicle entrance to the proposed development at the Sandford Mill Lane / Maldon Road junction.
- Provide enhanced pedestrian connectivity between Maldon Road and the River Chelmer.
- Provide a connection through the site between the Sustrans Cycle Route NCN1 and the Great Baddow to City Centre Cycle Route.
- Potential to provide enhanced pedestrian and cycle connectivity to Sandford Mill Science & Education Centre.
- Develop a coordinated approach to movement, including vehicular and non vehicular modes across the site and adjacent allocations.

3.6 LANDSCAPE APPRAISAL

The site comprises two main areas of differing character: the low lying and generally flat land associated with the river valley in the north, and the sloping land from the river valley to the existing settlement edge in the south.

The northern area of the site has little vegetation, creating an open and expansive character. Current land use in this area is a mix of predominantly pastoral (i.e. improved grassland) to the north, between two watercourses - the River Chelmer and the minor watercourse running parallel to the river further south; and predominantly arable farmland to the south of the tributary.

In addition to the two watercourses, three substantial waterbodies are present within the site, the largest of which is the central pond. Several ephemeral ponds and a ditch are also present in the area. Blocks of trees occur around the three large ponds, most notably including a block of mature woodland to the south of the reservoir adjacent to the south-western site boundary.

More vegetation occurs within the western and eastern extents of this part of the site, creating an intimate character that contrasts with the more open character of the central area. The south-western site boundary adjoining the A1114 Essex Yeomanry Way is marked by tree and shrub planting with large gaps at the western end offering views across the site and the land beyond.

The southern part of the site is a rising and undulating area of arable farmland, fringed to the south and sub-divided by native hedgerows. These well-established hedgerows extend around the south-western to south-eastern boundary, from which three north-south hedgerows extend into the southern part of the site, partially breaking up this area into separate parcels of land.

The undulating landform on the southern area of the site creates a variation in character, from enclosed in the west to open with expansive views in the east.

Constraints

- Protect open and expansive character of the site in the northern area.
- Protect any trees subject to Tree Preservation Orders.
- Protect vegetation, including trees and hedgerows.
- Protect existing watercourses and waterbodies.
- Openness of views in the centre of the site with long distance views towards the countryside to the east and medium distance views to landmarks within Great Baddow and Chelmsford.

Opportunities

- Manage open and expansive character of the site.
- Enhance management of existing vegetations and waterbodies.
- Provide new woodlands and hedgerow planting, where appropriate.
- Provide additional ponds and scrapes to encourage wetland habitats.
- Potential to form part of a wider green infrastructure network.
- Protection of long-distance views across the valley.

FIGURE 13: LANDSCAPE APPRAISAL

Improved grassland

Eastern fishing pond

Undulating arable farmland

River Chelmer

Central hedgerow within the site

Tributary of the River Chelmer

Hedgerow along Maldon Road

Woodland along A114

Ephemeral pond

3.7 ECOLOGY & BIODIVERSITY

This section includes a summary of the key information provided in the Ecological Appraisal prepared by Aspect Ecology, illustrated in Figure 14. It also includes an analysis of the level of importance identified for the landscape features on the site, as shown on Figure 15..

The site is not subject to any nature conservation designations, although two Local Wildlife Sites are located adjacent to the site's north-western and north-eastern boundaries.

The site provides opportunities for a range of faunal species, and a number of species have been recorded during surveys:

- Otter – evidence has been recorded from the River Chelmer to the north;
- Water Vole – watercourses and ditches within the site offer potential for this species, although no evidence has been recorded;
- Birds – a relatively diverse assemblage of birds has been recorded at the site, largely associated with the watercourses and ponds, including the declining farmland bird species Skylark, Linnet and Reed Bunting; and
- Reptiles and amphibians – the ponds support potential habitat for amphibians, although Great Crested Newt is absent from the site. The arable fields and improved grassland which dominate the site are unsuitable for reptile species, although some potential habitat occurs in association with the watercourse corridors, pond margins and other semi-natural habitat areas.

On this basis, the arable fields within the southern part of the site are considered to be relatively unconstrained in terms of ecology, although consideration should be given to retention and enhancement of the boundary hedgerows.

There are opportunities for ecological enhancements, and a significant net gain for biodiversity could be provided by linking to the Local Wildlife Sites to the north.

Constraints

- Protect the environment of the River Chelmer for otters.
- Protect the environment for birds.

Opportunities

- Manage existing ditches and watercourses for marginal and emergent vegetation and control non-native species.
- Provide species-rich wildflower grassland for invertebrates.
- Manage existing hedgerows and provide new hedgerows for declining farmland bird species.
- Provide faunal habitat features such as Otter Holts, bat/bird boxes and swift bricks.
- The scheme will seek to achieve a minimum of 10% in biodiversity net gain.

FIGURE 14: ECOLOGY & BIODIVERSITY

Legend

- Masterplan Boundary
- Arable
- Semi-Improved Grassland
- Improved Grassland
- Tall Ruderal Vegetation
- Woodland
- Scrub
- Scattered Scrub
- Hedgerow
- Pond
- Ephemeral Pond
- Ditch
- Otter Spraint
- Potential Sensitive Ecological Area
- Tree

FEATURE	LEVEL OF IMPORTANCE	DESCRIPTION
Arable	Minor	n/a
Improved Grassland	Minor	n/a
Semi-Improved Grassland and Tall Ruderal Vegetation	Minor	n/a
Woodland	Site Importance	n/a
Hedgerows	Local Importance	H1: Box-cut
		H2: Treeline, somewhat gappy towards western end
		H3: Loose, scrubby
		H4: Gappy hedgerow
		H5: Line of young trees
		H6: Gappy
		H7: Box-cut
		H8: Box-cut
		H9: Line of young trees
		H10: Associated with c.6m wide grass strip. At the western end a 30-40m section has been replanted, approximately 5 years old
		H11: Extension of wooded strip at eastern end
		H12: Line of young trees
		H13: Relatively dense
		H14: Loose line of scrub and trees
		H15: Gappy
Tree and Scrub	Minor	n/a
Watercourses and Ditches	Local Importance	WC1: Minor ditch running behind residential properties.
	District Importance	WC2: Forms northern site boundary and main river channel with slow flow rate.
	District Importance	WC3: Tributary to main river with silty base, moderate flow rate and steep banks, approx. 60 degree angle. Stony/gravelly bed in parts.
	Local Importance	WC4: Along woodland edge, largely drying out, silted with debris. Does not connect to WC5, with main flow diverted along WC3.
	District Importance	WC5: Main river channel (River Chelmer), moderate flow.
	Local Importance	WC6: Runs adjacent to wooded strip, more of an engineered channel in the southern portion. Approx. 1.5m wide at base with steeply sloping 1m high banks.
	Local Importance	WC7: Formed at a junction of WC3, more of a ditch running south with a narrow V-shaped channel with 45-60 degree banks.
	Minor	D1: Engineered earth channel with shallow flow over stony base.
Ponds	Local Importance	P1: Fishing lake
	Local Importance	P2: Fishing lake
	Minor	P3: Small pond/hollow
	Minor	P4: Small pond
	Minor	EP1: Shallow scrapes within field
	Minor	EP2: Shallow scrapes within field
	Minor	EP3: Flooded area of field adjacent to P2

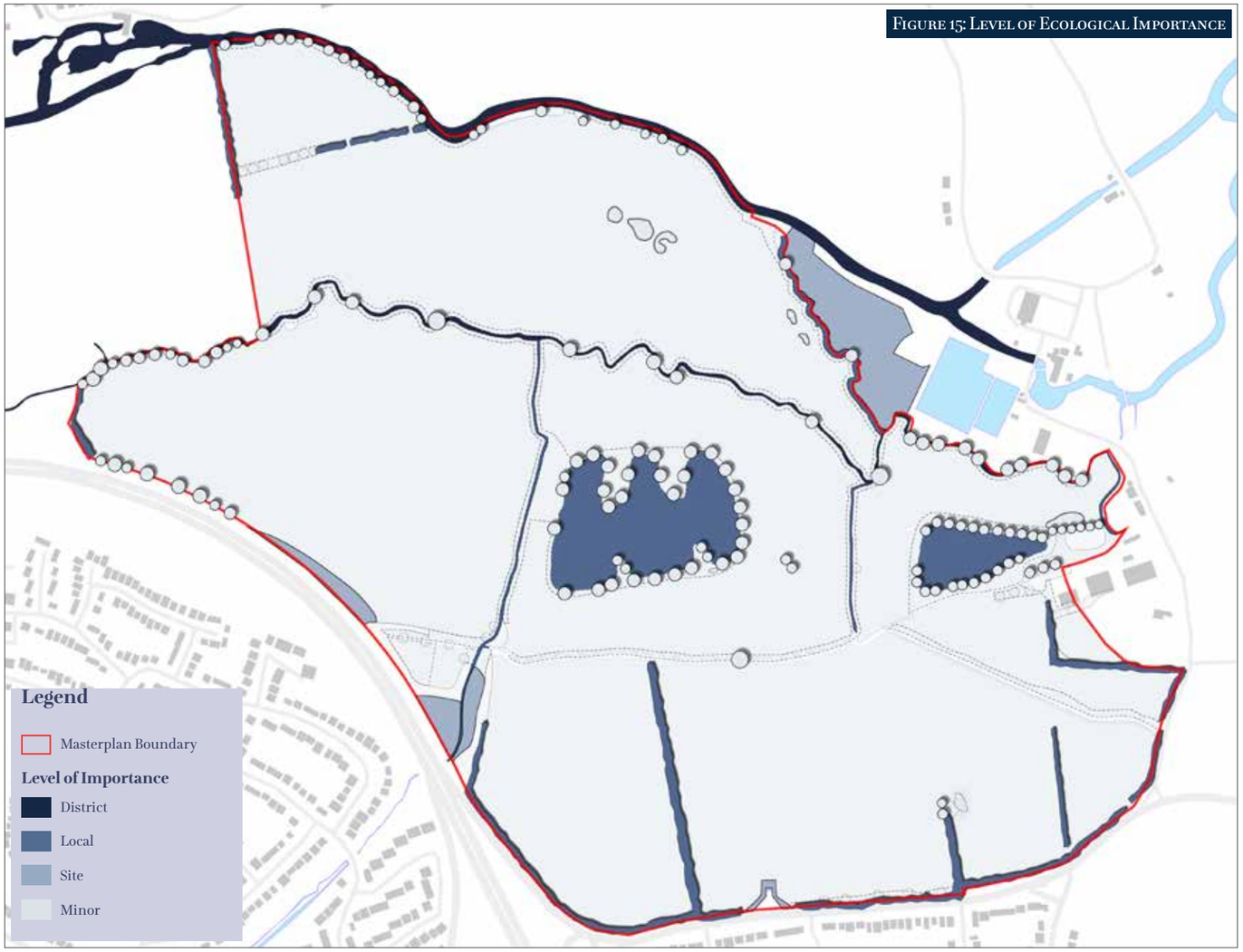


Figure 15: Level of Ecological Importance

Key Information

- The Ecological Appraisal notes that "none of the hedgerows are considered likely to qualify as 'important' under the Hedgerows Regulations 1997".
- All features with district and local importance will be retained, except limited sections of hedgerows to accommodate access to the site, and its internal road layout.
- Features with significant value to fauna, such as trees with bat roosting potentials, will be retained.
- The hedgerows to be removed to accommodate the access and internal layout to the site will be those identified with less desirable characteristics, for example hedgerows that are gappy (H6) and hedgerows formed of lines of young trees (H5, H9, H12)
- Any loss of hedgerows will be compensated for through the reinforcement of retained hedgerows and introduction of new hedgerows with an appropriate and diverse mix of native species.

3.8 ARBORICULTURE

An Arboricultural Survey was carried out by Sharon Hosegood Associates on the allocated land on the southern part of the site, with the quality and distribution of existing trees illustrated on Figure 16, together with the bat roosting potential of trees identified in the Ecological Appraisal prepared by Aspect Ecology.

The majority of the trees within the study area were categorised as Category B, having moderate quality and value. The only Category A tree within the site, located adjacent to the south-east boundary is protected by Tree Preservation Order (TPO) 2000/8.

A number of trees within the site were identified as Category U, and therefore categorised as unsuitable for retention.

All the hedgerows running north-south were identified as Category C, having low quality and value. In contrast, the majority of hedgerows bounding the site to the south along Maldon Road are classified as Category B.

As set out in the Aspect Ecology Ecological Appraisal, a number of trees providing bat roosting potential are present, whilst the site supports a moderate assemblage of foraging and commuting bats, with activity dominated by Common Pipistrelle.

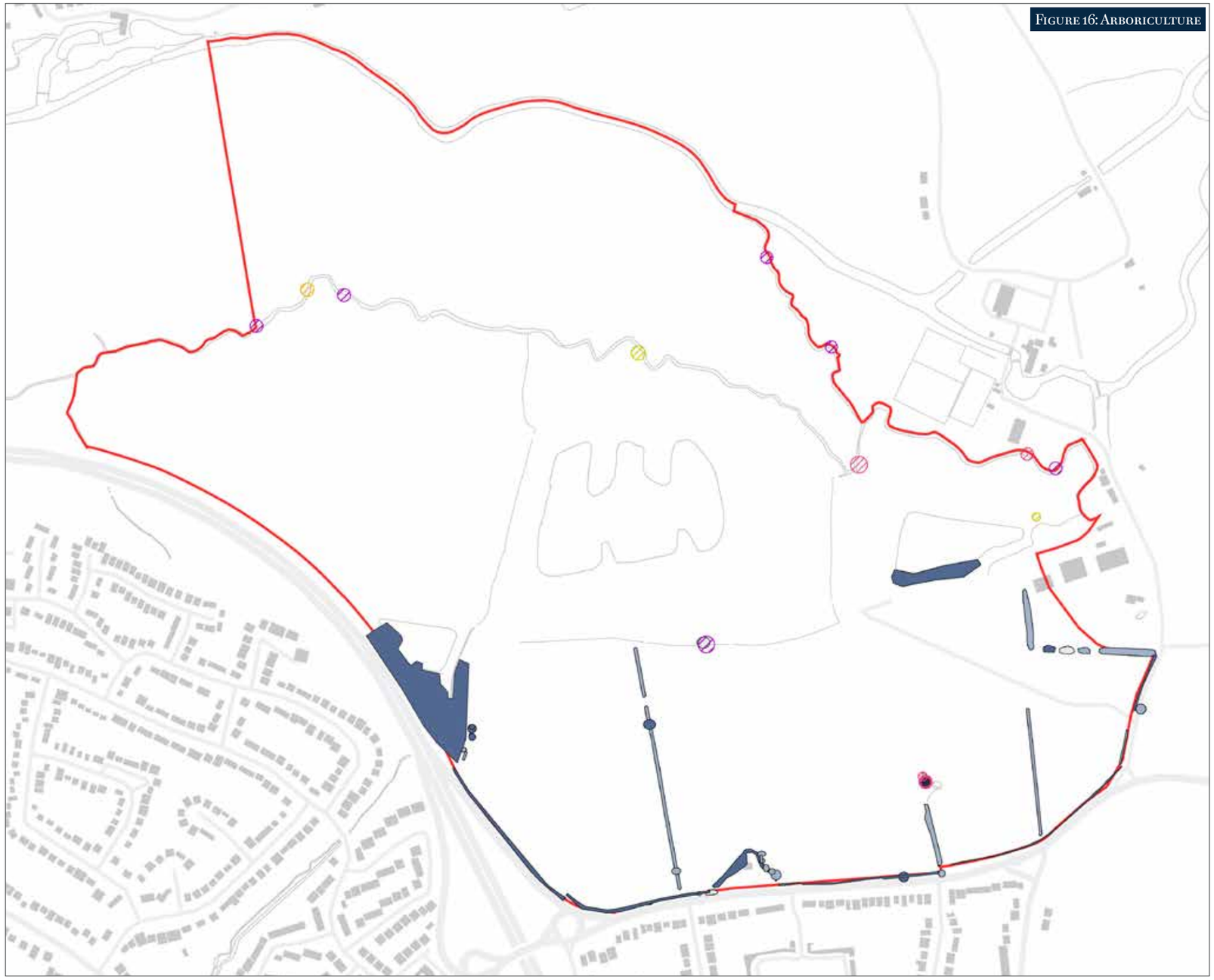
Constraints

- Protect the TPO tree located on the south-east of the Site.
- Protect moderate - high quality and value trees (Category A and B).
- Retain where possible Category U trees that have been identified as having Moderate - High Bat roosting potential.
- Ensure development respects Root Protection Areas (RPAs) for retained trees and hedgerows.

Opportunities

- Manage existing trees appropriately to enhance their quality and value.
- Strengthen groups of trees by providing additional tree planting buffers.
- Plant new trees and hedgerows to strengthen the overall structure of vegetation.
- Provide a diverse palette of new tree planting as part of a holistic strategy of multi-functional Green Infrastructure and habitat enhancement.
- Provide new tree planting in the proposed Country Park in accordance with landscape character guidance.
- Positively integrate existing vegetation into proposed development.
- Potential to integrate street tree planting within proposed housing areas.

FIGURE 16: ARBORICULTURE



Legend

- Masterplan Boundary
- Category A - high quality and value
- Category B - moderate quality and value
- Category C - low quality and value
- Category U - unsuitable for retention
- Tree Preservation Order 2000/8
- Tree with High Bat Roosting Potential
- Tree with Moderate Bat Roosting Potential
- Tree with Low-Moderate Bat Roosting Potential
- Tree with Low Bat Roosting Potential

A1114 Essex Yeomanry Way

Pylon and electricity overhead lines

Pond within the site

Vehicle access gate to the site

Local Wildlife Site (LoWS)

Category U tree with High Bat Rooting Potential

Bus Stop on Maldon Road

River Chelmer and area of Chelmer and Blackwater Navigation Conservation Area

A ditch within the site

Rising topography in the southern part of the site

3.9 COMBINED CONSTRAINTS

Chapter 3 of the Masterplan Document has explored and analysed the various existing features, designations and characteristics of the site and its immediate surroundings. This has enabled the identification of key constraints and opportunities relevant to each aspect.

Each layer of constraints information has been explored in full detail in previous sections of this chapter, with the resulting combined constraints plan (Figure 17) illustrating the overall effect on the site.

This constraints plan has strongly influenced the emerging design of the proposed development.

Figure 17 demonstrates the complexity of the site in terms of constraints and existing notable features that have a strong influence on the character of the site and that must be addressed positively in order to prepare a successful design for the proposed development.

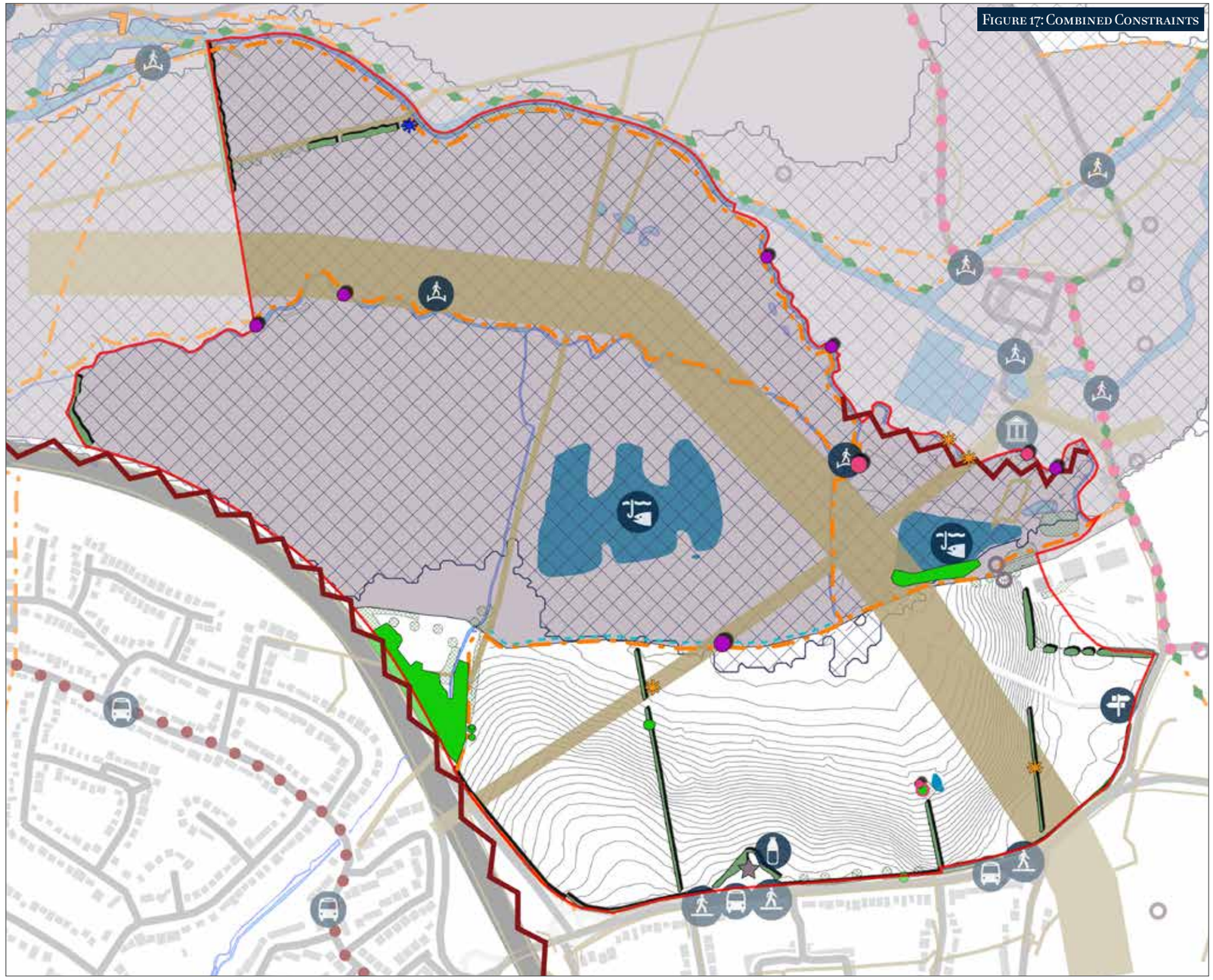


FIGURE 17: COMBINED CONSTRAINTS

Overall Constraints Summary

- Conserve and enhance the character, appearance and setting of the Chelmer and Blackwater Conservation Area.
- Protect existing heritage assets such as the Bronze Age ringwork enclosure and the WWII pillbox.
- Protect important views into and through the site from across the Chelmer Valley including long distance views and the visual influence of notable landmarks.
- Protect open character of river valley and northern part of the site.
- Protect and enhance the PRoW network.
- Retain site access via Sandford Mill Lane junction.
- Protect existing vegetation, including trees and hedgerows that are to be retained.
- Protect existing watercourses and waterbodies.
- Protect the landscape features that provide habitat potential for wildlife.
- Provide a sensitively designed development that respects the underlying landform.
- Maintain the valley floor free of development.
- Prevent agricultural encroachment on the navigation and prevent further loss of grazing on the valley floor meadows.
- Avoid diversion of significant constraining utilities that incur high costs and incorporate them to the masterplan design.

Overall Opportunities Summary

- Provide a well-connected internal road layout with good pedestrian and cycle permeability linking with areas outside of the site, including a connection through the site between the Sustrans Cycle Route NCN1 and the Great Baddow to City Centre Cycle Route.
- Provide enhanced vehicle entrance to the proposed development at the Sandford Mill Lane / Maldon Road junction.
- Provide good opportunities for use of sustainable forms of transport including public transport.
- Enhance the historic and natural environment.
- Create a network of multi-functional Green Infrastructure strongly linked with existing networks outside of the site.
- Provide suitable SuDS and flood risk management and enhance existing waterbodies, including reservoirs.
- Ensure appropriate habitat mitigation and creation is provided, including ponds and scrapes to encourage wetland habitats. The scheme will seek to achieve a minimum of 10% in biodiversity net gain.
- Provide a coherent network of public open space, formal and informal sport, recreation and community space within the site.
- Remove overhead electricity lines and pylons from the site and install electricity cables underground.
- Increase in woodland and hedgerow planting including tree planting alongside rivers comprising willow pollarding and native black poplar.
- Create areas of grazing meadow.
- Increase public access whilst protecting landscape character.
- Manage open and expansive character of the site.
- Maintain long-distance views across the valley.
- Provide species-rich wildflower grassland for invertebrates.
- Manage existing hedgerows and provide new hedgerows for declining farmland bird species.
- Allow landform to strongly influence the proposed development.
- Integrate existing waterbodies into Country Park for greater public amenity and biodiversity benefit.
- Provide SuDS features at northern edge of developable area.
- Protect and integrate the pillbox near Manor Farm within the proposed development and introduce interpretation opportunities.
- Protect and enhance the setting of the Bronze Age ringwork enclosure through a 25m buffer, a 25m landscape link to the valley floor and the introduction of interpretation opportunities.
- Provide sensitively designed built form on the southern part of the site to reduce visual impact and create variation in roof patterns.
- Provide sympathetic landscape interfaces to sensitive edges such as the southern Conservation Area boundary.
- Create visual links through the development to provide a sense of connectivity with the flood plain from the elevated slopes.
- Residential development can be well supplied by utilities, as close points of connections and capacity can be made available.

4

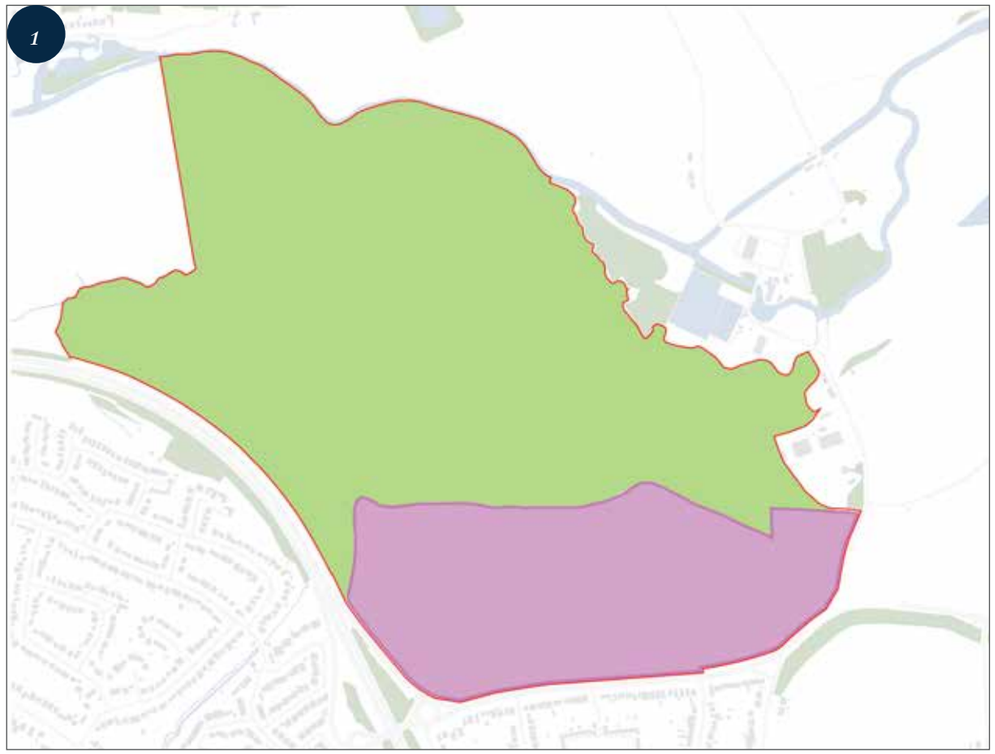
Masterplan Framework

4.1 DEVELOPMENT OPPORTUNITIES

The identification of a series of constraints and opportunities has enabled a detailed understanding of the site, its landscape context and the key considerations that must be addressed by the proposed development at Sandford Park.

Following on from the layer based constraints exercise, a series of development principles, responding to the most pertinent constraints have been prepared, culminating in the Masterplan Framework drawing.

These principles, illustrated graphically in the following Opportunities Plans, demonstrate how the basic design parameters of the proposed development have been set out with respect to the following key constraints:



1. Housing Allocation and Country Park

The southern part of the site is allocated as Strategic Growth site 3A of the Chelmsford Local Plan.

The northern part of the site is within the green wedge allocation, therefore it will be dedicated to a Country Park to respond positively to the policy and provide access to high quality green space for existing and future residents of the area.

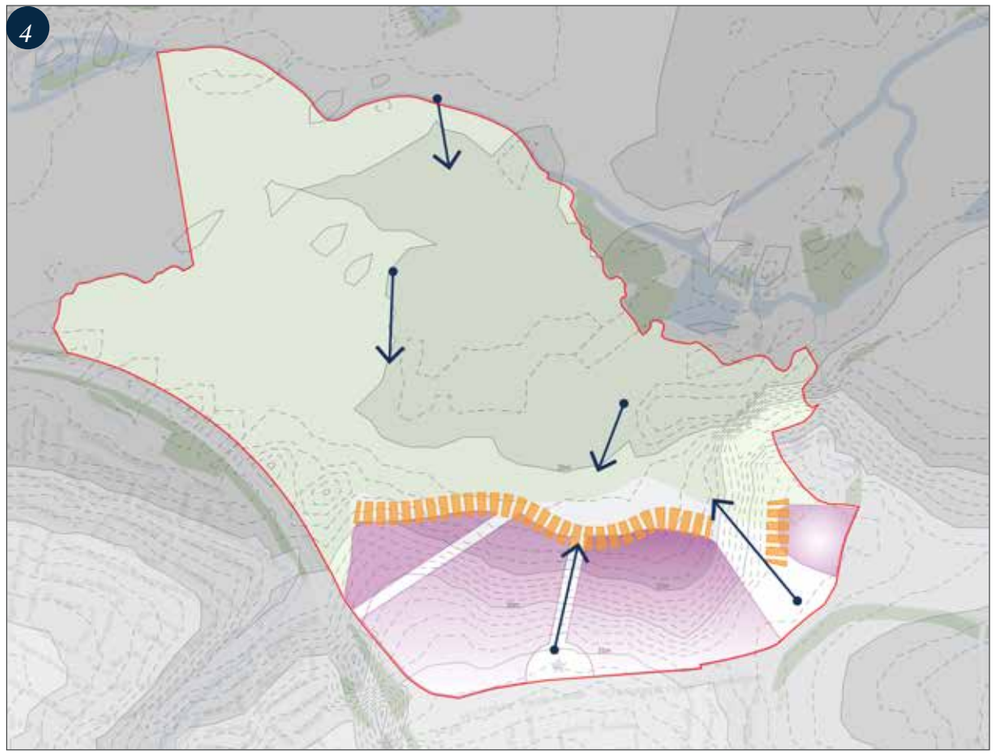
2. Heritage Constraints

A 25m wide buffer for the Bronze Age ringwork enclosure is secured to protect the monument and its setting. An open landscape link will also be provided to maintain a connection between this feature and the valley floor.

As the Chelmer and Blackwater Conservation Area does not overlap with the allocation, there will be no housing within its boundary. However, the proposed development will need to respond positively to the Conservation Area as it will be part of its setting.

3. Utilities Constraints

Where possible, existing utilities will be rerouted, however the site layout must function successfully in the context of the existing gas and water main.



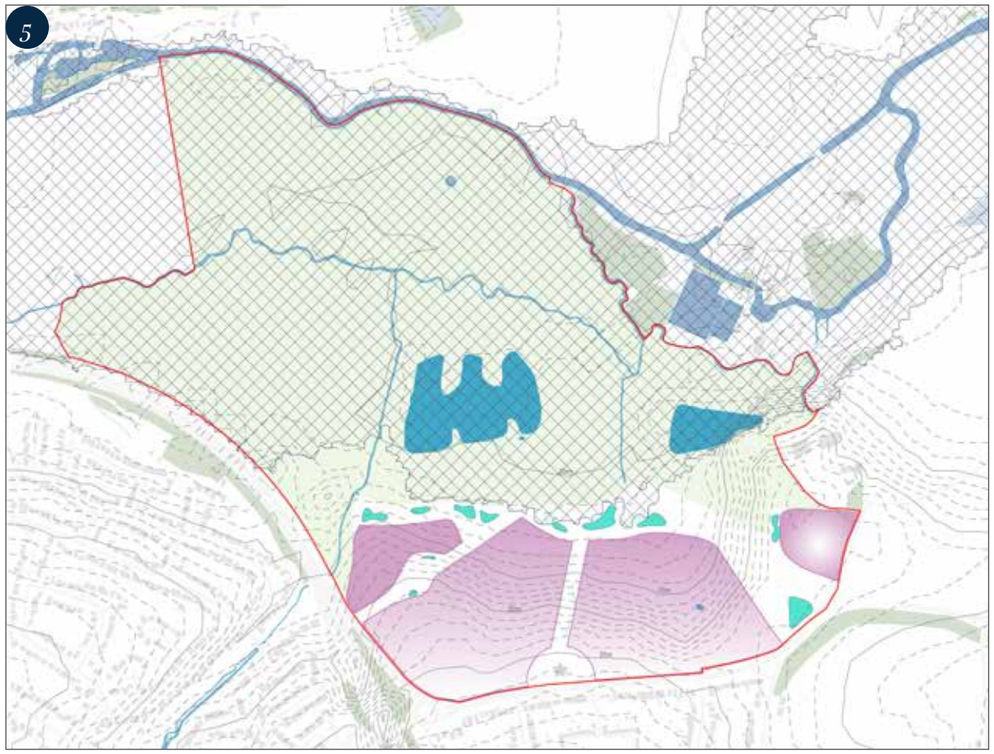
4. Key Views and Sensitive Edges

Existing open panoramic views towards Chelmsford city centre from elevated ground will be retained through the retention of a large swathe of open space in the south-east of the site, effectively subdividing the eastern parcel.

The edges of the parcels that front the Country Park will become the most sensitive edges of the development.

The design of the development will need to respond to these sensitive views and edges through architectural treatments as well as the creative use of green and blue infrastructure.

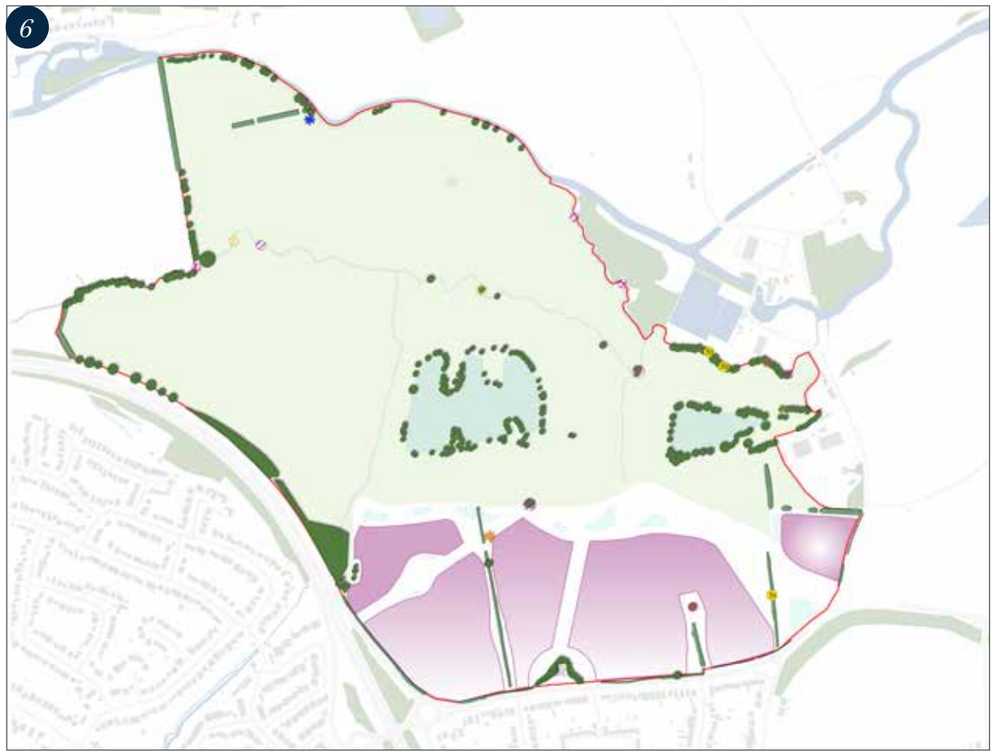
The southern site boundary is not considered to be highly sensitive due to the presence of existing residential built form on the skyline, together with Maldon Road. However, the proposed development will need to establish a strong and sensitive relationship with existing settlement patterns and allow adequate space for movement and green infrastructure along the southern edge.



5. Blue Infrastructure and Landform

No housing development will occur in the flood plain and the proposal will include a strong emphasis on blue infrastructure, including retaining and enhancing existing water features within the site in addition to providing new features as part of a sustainable drainage strategy.

These features will be most effective in the lowest part of the site, which also provides an opportunity to use blue infrastructure to create a sensitive transition zone between the proposed housing and the Country Park.



6. Existing Vegetation and Ecology

The majority of existing ecological and arboricultural features will be conserved and enhanced, including all category A and B trees and trees with moderate to high bat roosting potential.

The existing hedgerows on site will be largely retained, and will be reinforced with appropriate native species. Any hedgerow loss to facilitate access will be mitigated with extensive new native hedgerow planting.

7. Push & Pull

The proposed development will establish the strongest possible relationship with Great Baddow through a sensitive treatment of the southern development edges. In places, such as the Bronze Age enclosure or the A1114 edge, the parcel edges are set further back to provide a generous buffer and sense of space. In others, the buffer is reduced to allow the scheme to function as an extension to the existing settlement.

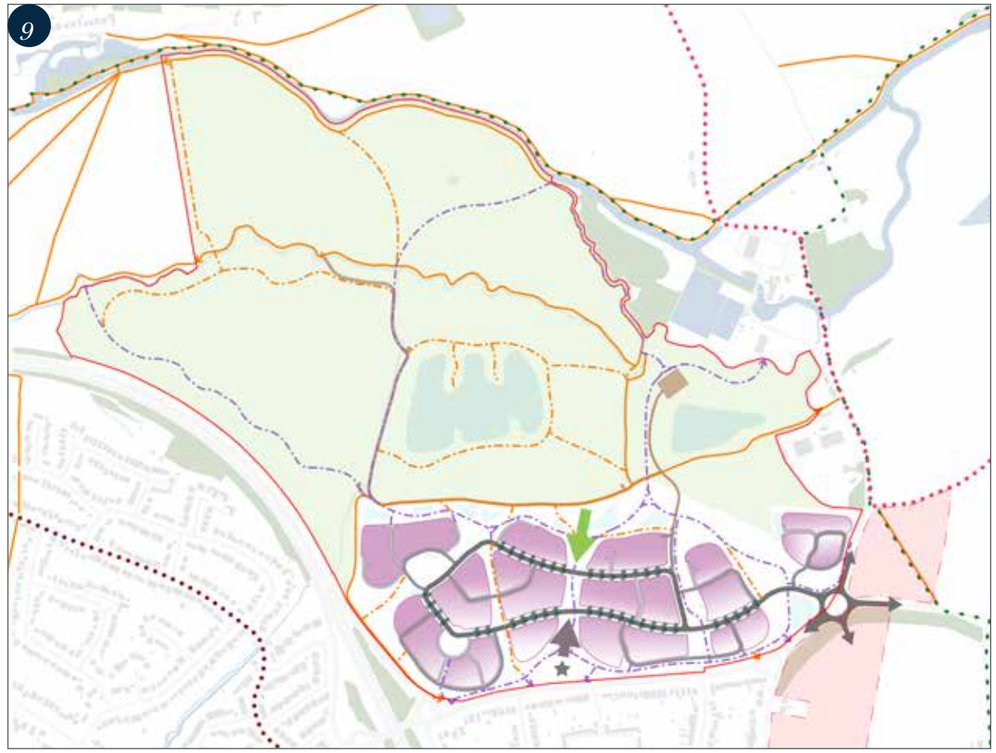
The buffer will be consistently wide enough to provide space for movement and green infrastructure, and would widen at junctions with existing landscape features such as hedgerows to give a sense of the development fitting sinuously within the landscape.

8. Green Fingers

A series of 'Green Fingers' are proposed extending into the housing allocation from the Country Park, following existing landscape features, the link to the Bronze Age ringwork enclosure and the route of existing utilities. These extensions of open space permeate the development from the north, creating a neighbourhood that is strongly influenced by landscape.

In addition to the strong north-south 'Green Fingers', the east-west connections through the development are proposed using avenue trees and verges.

These fingers of open space would include activity 'hot spots' such as play areas to meet the amenity needs of new residents and provide high quality landscape spaces for people.



9. Access & Permeability

A clear hierarchy of internal access routes is proposed, with primary, secondary and tertiary access roads complimented by cycle paths and formal and informal footpaths, all with a strong relationship with the existing PRoW network.

The proposed road layout has been designed sensitively and efficiently work within topographical constraints, as well as respecting the setting of the Bronze Age ringwork and Conservation Area by 'pinching' inwards to the centre of the site. Tertiary roads are typically arranged in cul-de-sacs to avoid excessive cut and fill exercises.

Linkages to wider rights of way, cycle routes, and existing facilities would also be provided for pedestrians and cyclists will be provided as part of a sustainable transport strategy.

Masterplan Framework Legend

- Masterplan Boundary
- Housing Allocation
- Bronze Age Ring Work Enclosure
- 25m Buffer for the Bronze Age Ringwork Enclosure
- Proposed Developable Areas
- Proposed Primary Road with Shared Footway/ Cycleway
- Proposed Secondary Road
- Proposed Tertiary Road
- Formal Public Open Space with Higher Levels of Containment
- Proposed Car Park (up to 42 spaces) and Vehicular Access for the Country Park
- Proposed NEAP
- Proposed LEAP
- Proposed Informal Kick-about Area
- Proposed Green Spaces
- Existing and Retained Trees
- Potential Areas for New Tree Planting
- Existing and Retained Hedgerows
- Proposed Hedgerows
- Proposed SuDS Features
- Existing/Proposed Pedestrian Routes
- Proposed Pedestrian/Cycle Routes
- Proposed Grazing Area Access Route
- Sustrans Cycle Route NCN1 and Cycle Route
- Great Baddow to City Centre Cycle Route
- Saffron Trail and Centenary Circle Long Distance Walks
- Proposed Pedestrian/Cycle Bridges

4.2 MASTERPLAN FRAMEWORK

Figure 18: Masterplan Framework

A. Site entrance and proposed five arm roundabout.

B. Development pulled back so that existing views towards Chelmsford from elevated land are maintained creating a stunning backdrop to the site entrance.

C. Development pushes closer to Maldon Road, positively addressing the existing settlement edge and ensuring that the new development is perceived as a part of the wider settlement.

D. A looser development edge is proposed around the Bronze Age ringwork enclosure such that new built form sensitively addresses the heritage feature and its setting.

E. Principal pedestrian and cyclist entrance to the site from Great Baddow, forming a key secondary gateway.

F. Parcel edges fronting onto the potable water easement are also formed in a softer geometry with groups of trees and proposed hedgerow running down towards the Country Park to help reduce the perceived impact of the existing utility on the housing layout.

G. SuDS features located within the allocation boundary and dispersed along the Country Park frontage creating a network of green and blue features that provide a transition zone and help articulate this sensitive edge.

H. Car parking provided at the eastern edge of the Country Park to provide vehicle access to the Country Park and Sandford Mill.

I. Play spaces dispersed through the neighbourhood but with the larger provision co-located in this location so that it acts as an anchor to the Country Park.

J. An undulating edge of development maximises the number of property frontages that positively address the park, making the most of that asset and the unique landscape setting of the development whilst avoiding a 'hard' linear built form edge to the park

K. Movement route conceived as a loop road that works with the contours without following them exactly. This route would be a tree lined avenue which changes to a less formal character as it crosses the 'Green Fingers'.

L. A more urban typology of open space at the heart of the western development parcel which forms a destination along the loop road and provides the opportunity for different housing typologies and landscape character.

M. Eastern cycle gateways, providing sustainable onward links to the National Cycle Network, Site 3D and Sandon Village, School and Park & Ride.


5

Design Framework

5.1 ACCESS & PARKING

The layout of the proposed development at Sandford Park has been designed through an iterative process with the aim of providing a permeable access hierarchy, a logical and legible structure and a sensitive approach to plot access and frontages.

Access Strategy

The starting point for the access strategy is the primary loop with its associated dedicated cycle-path. The alignment of this key route has been developed through iterative design to respond to:

- Topography: by gently deviating from the landform to help create a varied roofline and a dynamic streetscape.
- Existing vegetation structure: by limiting the number of points at which the road crosses existing hedgerows.
- The existing settlement pattern and the bronze age ringwork enclosure: by pinching and pulling the alignment to establish strong relationships to the former and appropriate set backs from the latter.

The alignment of secondary and tertiary roads has been set out with the aim of creating a series of suitable sized perimeter block sub-parcels. Wherever possible, loop road arrangements have been included, with the only cul-de-sacs being tertiary roads that front onto the Country Park interface.

The proposed development will be designed to accord with local standards for waste collection.

Parking Strategy

A considered approach to plot access and parking has been developed, where the central finger - a key sensitive landscape space - will be designed with no vehicle access to plot frontages, and a direct relationship between landscape and built form.

The Country Park frontages are set out with a hybrid approach, where the parcels are defined to the north by a mixture of landscape and sensitively designed tertiary roads and private drives. The remainder of the development would be laid out with vehicle access to frontages.

Parking provision will be designed in accordance with local standards as part of the planning application.

Pedestrian Permeability

A network of pedestrian pathways has been set out to provide a high degree of permeability to complement footways on proposed primary, secondary and tertiary/ shared surface roads.

This network positively incorporates existing Public Rights of Way, and provides a mixture of direct desire lines and attractive recreational routes. Pedestrians will have easy access to the Country Park as well as a key east-west route along Maldon Road.

A series of new, improved and retained crossings as shown on Figure 19 provide connectivity to existing settlement, the adjacent allocations, and the existing farm shop.

Buses

Bus operators are unlikely to divert services to enter the site given the accessibility of existing bus stops to future residents, and the delays to journey times that such re-routing would cause. Nonetheless, as demonstrated by Figure 19, future residents will have easy access to existing bus stops along Maldon Road, aided by a series of existing and proposed crossings.

Country Park Access

A controlled access car park with access track is provided linked to the primary loop. It is expected to provide capacity for up to 42 spaces with permeable surfacing suitable to its flood zone and Conservation Area location.

The route through the development will be accompanied by a dedicated cycle and pedestrian path with a bespoke landscape treatment to aid legibility. This route will include a bridge providing access to the Sandford Mill, and any visitor facilities that may be provided in this location.

Consideration will be given to non-vehicular access to equestrians within the Country Park. This will be explored further in consultation with Chelmsford City Council during the planning application stage.

FIGURE 19: ACCESS AND PARKING STRATEGY

Legend

- Masterplan Boundary
- Existing Uncontrolled Road Crossings
- Existing Bus Stops
- Existing Farm Shop
- Adjacent Allocations
- Proposed Signal Controlled Crossings
- Proposed Grazing Area Access Route (for agricultural vehicles)
- Proposed Pedestrian/Cycle Bridge
- Proposed Primary Road
- Proposed Secondary Road
- Proposed Tertiary Road
- Proposed Car Park (up to 42 spaces) and Vehicular Access for the Country Park
- Proposed Pedestrian Only Routes
- Proposed Shared Pedestrian/Cycle Routes
- Key Wider Pedestrian Links
- 400m Buffer to Bus Stops

5.2 CYCLING

Figure 20: Proposed On Site Cycling

Legend

- Masterplan Boundary
- Existing Farm Shop
- Adjacent Allocations
- Great Baddow to City Centre Cycle Route
- Sustrans National Cycle Network Route 1
- East-West Link - 3+2m Segregated Cycleway/Footway
- 3.5m Shared Cycleway/Footway
- Secondary & Tertiary Roads - On Road Cycling
- Country Park - Informal Cycle Tracks
- Key Wider Cycle Links
- Proposed Signal Controlled Crossings
- Proposed Pedestrian/Cycle Bridge

Cycling is at the heart of a sustainable housing development, and particularly so for Sandford Park given the site's location and opportunities it presents.

The design of the development includes a highly permeable and well-connected network of cycle routes, with a clear hierarchy and a design underpinned by the latest technical guidance.

At the top of the hierarchy, the East-West Link provides a safe, segregated alternative to cycling on Maldon Road and provides access to Great Baddow from the site and the wider allocated sites to the east.

The primary road and key linkages through the green fingers will be provided with shared cycle/footways, while informal recreational routes will be provided within the Country Park.

There will also be cyclable connections with the wider area, with a link to Sandford Mill in the north-east, adjacent allocations, the National Cycle Network Route and local facilities in the south-east, a connection to Great Baddow in the south-west, and a potential link to Chelmsford through the Country Park. There is also the potential for the Sandford Mill route to connect directly to the National Cycle Network route.

Finally, a loop with a recreational, leisure focus will be provided within the Country Park itself. This hierarchy will determine the dimensioning and materiality of the various routes, from 5m wide tarmac surfaced segregated cycle-paths to 3m wide crushed stone informal tracks.

A series of signal controlled crossings provide safe crossing points to Maldon Road as well as access to neighbouring allocated sites. The scheme is also anticipated to have direct cycle access to the farm shop, as shown on Figure 20.

The proposed development will also be delivered with appropriate cycle parking infrastructure including bike stands in key locations within the layout to encourage sustainable transport within the site.

All off-site routes are shown indicatively and may be subject to third party land consents. Contributions to off-site improvements will be provided subject to the relevant tests set out in the NPPF.

Figures 19 & 20 demonstrate the anticipated site wide cycle and pedestrian permeability and hierarchy provided by a mixture of formal and informal cycle and walking routes and the secondary and tertiary road layout. It also shows how the development will fit within a wider context of pedestrian and cycle permeability. All proposals are indicative and subject to detailed design as part of the planning application.

5.3 WIDER CYCLING CONNECTIONS

The proposed development at Sandford Park is guided by a movement strategy that includes an emphasis on sustainable transport modes and aims to establish strong pedestrian and cycling linkages with wider existing networks, thereby taking advantage of the site's strategic location in cycling and walking distance from the centre of Chelmsford and local facilities and amenities. The following sections explain the various aspects of the sustainable transport proposals.

A fundamental part of the emerging sustainable transport strategy for the proposed development is the ability for future residents of the development to commute to the city centre by bicycle.

The purpose of this section is to provide an analysis of the potential options for cycle routes between the proposed development and the city centre, objectively setting out the benefits and constraints affecting each route and allowing the creation of a practical and evidence based sustainable movement strategy.

Methodology

The five routes that have been assessed are illustrated in Figure 21.
The five options have been chosen based on a combination of existing established cycle routes (Sustrans National Cycle Network Route 1 (NCN1) and the Great Baddow to City Centre Cycle Route (GBCCR)), and the potential establishment of new routes as discussed with Chelmsford City Council in March 2020, and subsequently in March 2021.
The start and end point for all routes is the approximate centre of the residential part of the proposed development and the public square at the junction of High Street and Tindall Street in Chelmsford city centre.

Each route has been analysed in four key areas:

- Key statistics (e.g. distance, elevation gain).
- Existing status (e.g. National Cycle Network Route, footpath, towpath, etc.), and whether cycling is currently permitted.
- Current form (e.g. on road, off road, rough track, etc.).
- Current usage by cyclists (based on the Strava Global Heat Map).

This document also identifies any infrastructure needed to achieve full cyclability along each route, and any potential implications or constraints likely to affect their delivery.

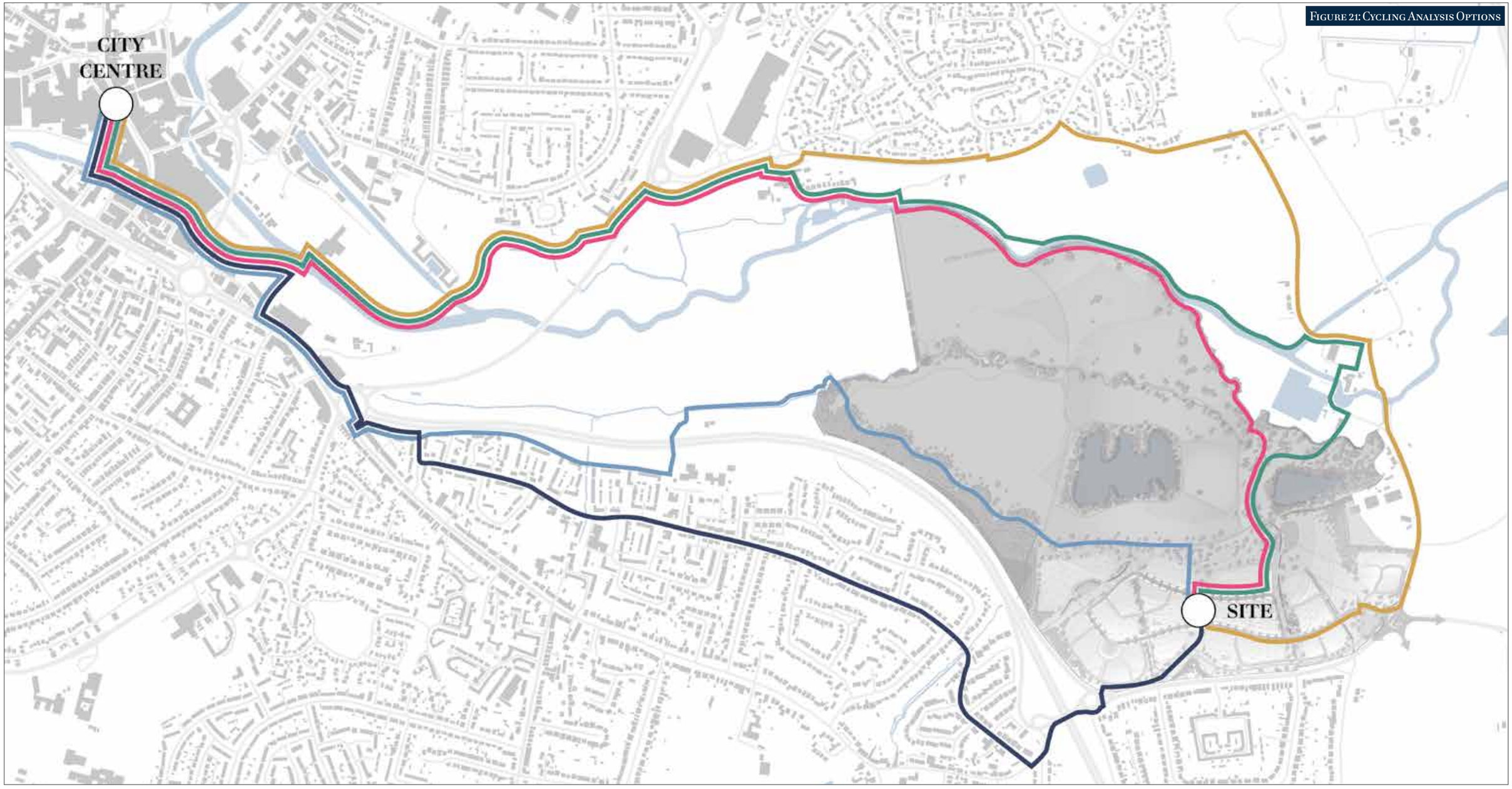


FIGURE 21: CYCLING ANALYSIS OPTIONS

Legend

- Cycling Route Option 1
- Cycling Route Option 2
- Cycling Route Option 3
- Cycling Route Option 4
- Cycling Route Option 5

CYCLE ROUTE OPTION 1

Route Length: 3.9km **Elevation Gain:** 58m

Route Description: This route would extend through the site in a south-westerly direction to Maldon Road and across the A1114 at the existing road bridge before joining the GBCCR at Longmead Avenue. This newly established cycle link runs along quieter residential streets before passing through subways under the Army and Navy roundabout and subsequently principally on segregated cycle paths to the city centre. There are current proposals to reconfigure the Army and Navy Roundabout, which are likely to include the provision of 'at-grade' crossings instead of an underpass.

Strengths

- Second shortest distance amongst the five cycling options.
- Minimum infrastructure increases the ability for quicker / efficient delivery and limits the number of stakeholders involved.
- Cycling permitted along majority of the route.
- Lighting already provided along the route.
- Makes efficient use of existing cycle infrastructure.
- Negligible impact on Heritage, Ecology & Landscape.
- High levels of existing usage.
- Not in the flood plain.

Weaknesses

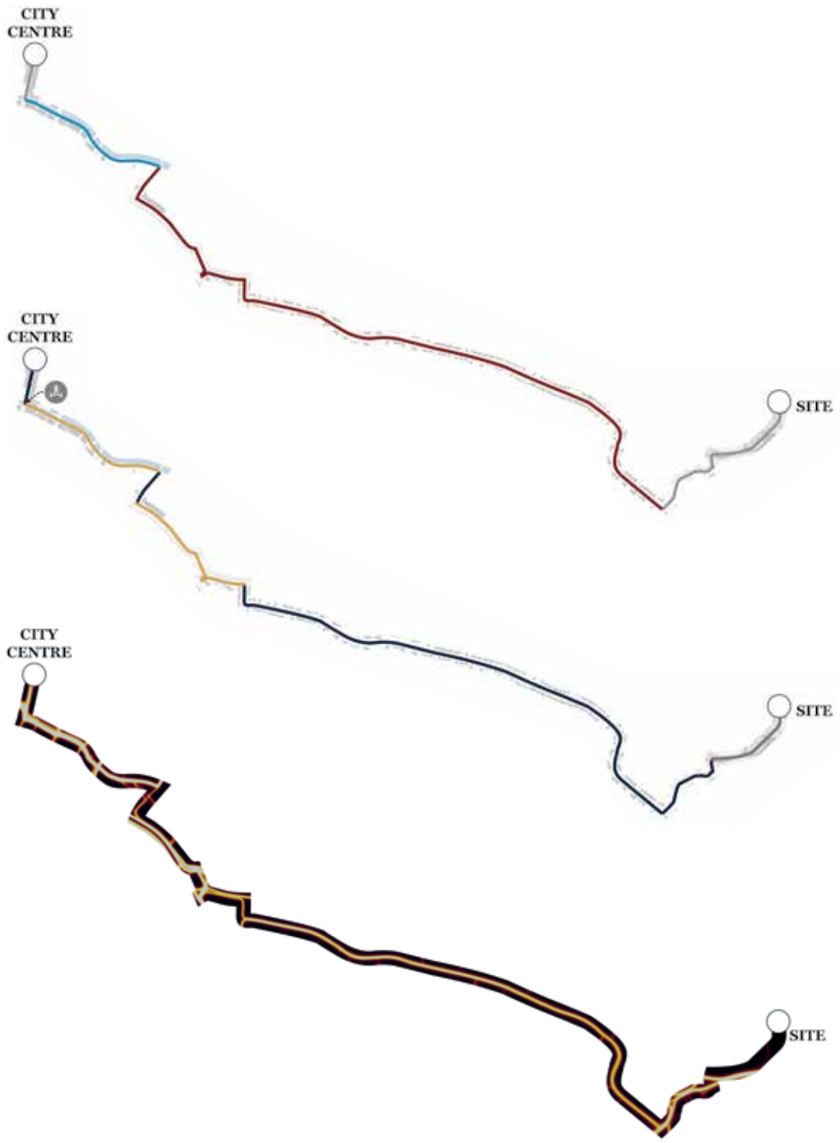
- Second highest elevation gain amongst the five cycling options.
- Substantial section of route is on roads.
- Not likely to be seen as a scenic route.

Infrastructure Required

- Toucan crossing of Maldon Road.
- Footway widening to Baddow Hall Avenue.
- Potential for a Copenhagen style crossing of Baddow Hall Avenue.
- Toucan crossing and or junctions works around Jeffrey Road, Maldon Road and Longmeadow Avenue to provide cycle connectivity onto Longmeadow Avenue.

Constraints

- Technical feasibility of cycle path upgrade over A1114.
- Changes to Army and Navy roundabout to be factored in.



Existing Status

Cycling Permitted

- Great Baddow to City Centre Cycle Route
- Sustrans NCN 1 and Great Baddow to City Centre Cycle Route

Cycling not Permitted

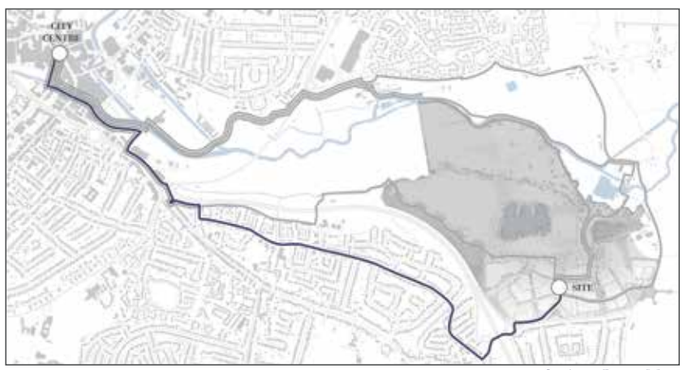
- No Status

Existing Condition

- On Road Cycle Route
- All Weather Cycle Track
- No Existing Route
- Existing Bridge

Existing Cycling Usage

- Frequently Used
- Rarely Used



Option 1 Route Map

Existing Status

Cycling Permitted

- Sustrans Cycle Route NCN 1
- Sustrans NCN 1 and Great Baddow to City Centre Cycle Route

Cycling not Permitted

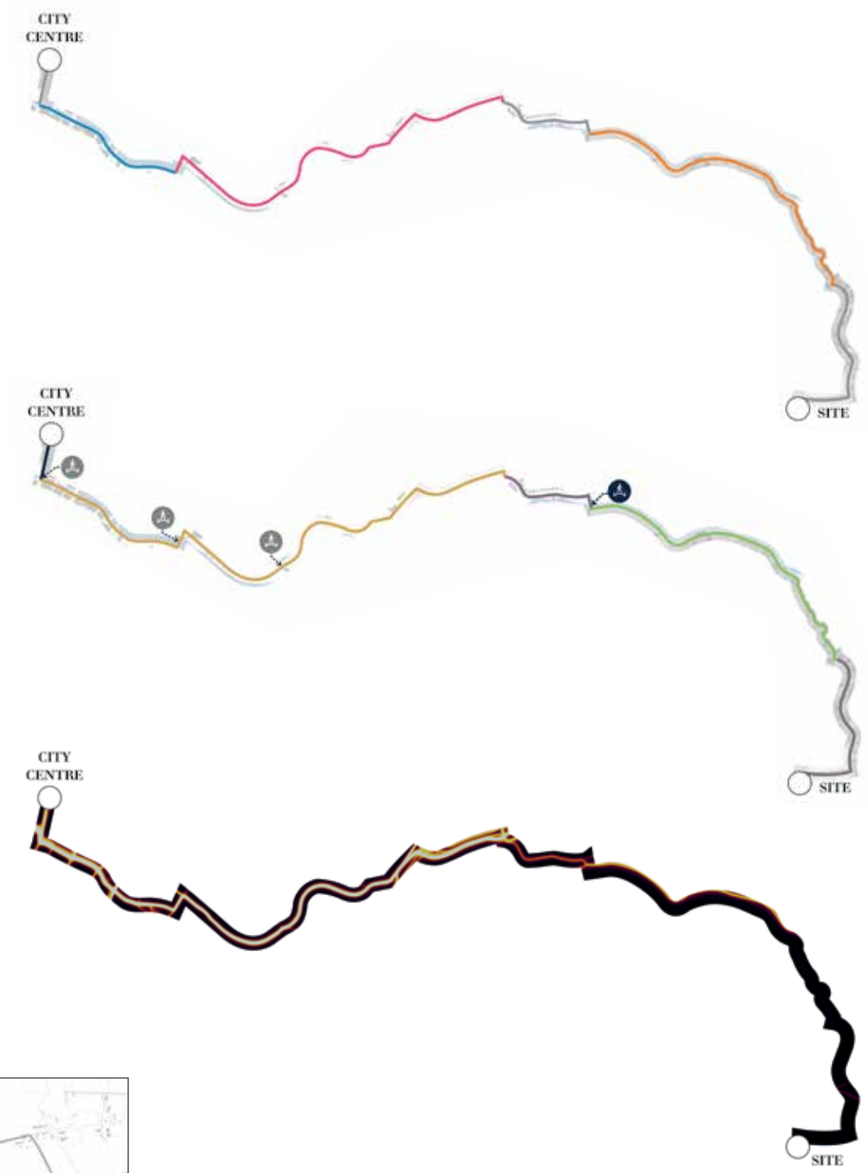
- Public Footpath (within the site)
- No Status

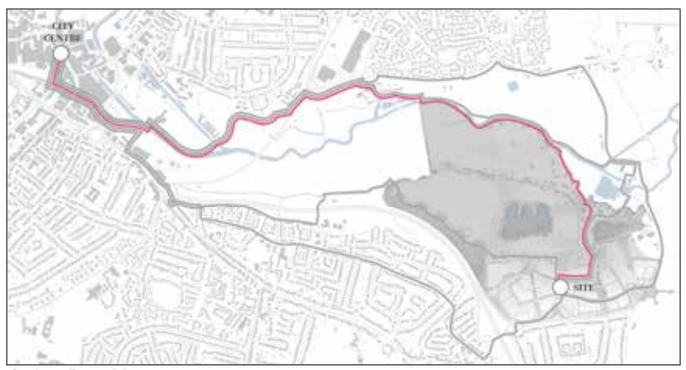
Existing Condition

- On Road Cycle Route
- All Weather Cycle Track
- Rough Track
- No Existing Route
- New Bridge Required
- Existing Bridge

Existing Cycling Usage

- Frequently Used
- Rarely Used





Option 2 Route Map

CYCLE ROUTE OPTION 2

Route Length: 4.3km **Elevation Gain:** 54m

Route Description: This route follows the River Chelmer as closely as possible with the first section running through the proposed Country Park via an existing Public Footpath on the southern side of the Chelmer and Blackwater Navigation. The route would then cross the navigation in the north-west corner of the site where a new bridge would be required. The middle section would run along Mill Vue Road before joining NCN1.

Strengths

- Third shortest route.
- Route with minimal elevation gain.
- Highly scenic route.
- One of the most segregated from motor traffic.

Weaknesses

- Does not make use of existing crossing of the navigation.
- Cycling not currently permitted along Chelmer Navigation towpath.
- Approximately half of route not surfaced to a safe cyclable standard.
- Approximately half of route not currently used for cycling.
- Potential safety issues associated with cycling next to a watercourse at night with low levels of surveillance.
- Much of route is within the floodplain.

Infrastructure Required

- A new cycle compliant bridge over the navigation.
- Extensive sections of new cycle path would need to be constructed including lighting along the Chelmer Navigation.

Constraints

- New bridge over navigation is likely to be a large structure to allow cycling and continued passage along navigation.
- Heritage and Landscape & Visual impacts of new infrastructure in the Conservation Area.
- Ecological impacts as a result of construction activities and new paths/lighting along the river.
- Likely to be resistance from stakeholders based on previous cycling projects along the Chelmer and Blackwater Navigation.
- Relies on substantial upgrades outside of land controlled by Hopkins Homes.
- Likely to be the most expensive and difficult to deliver of the four options due to infrastructure required.

CYCLE ROUTE OPTION 3

Route Length: 4.8km **Elevation Gain:** 57m

Route Description: Route 3 extends northwards through the proposed Country Park via the Sandford Mill Science and Education Centre where a new bridge would be required over a non-navigable section of watercourse. From there, it would turn westwards and follow the Chelmer Navigation towpath to the vicinity of Barnes Lock, where it would connect to Mill Vue Road and subsequently to NCN1. This route could potentially remain on the towpath for a longer section as shown in Option 2.

Strengths

- Highly scenic route.
- Makes use of existing crossing of navigation.
- Approximately half of route is on an existing cycle way.
- Relatively high levels of existing usage.
- Provides a direct link to the Sandford Mill Science and Education Centre.

Weaknesses

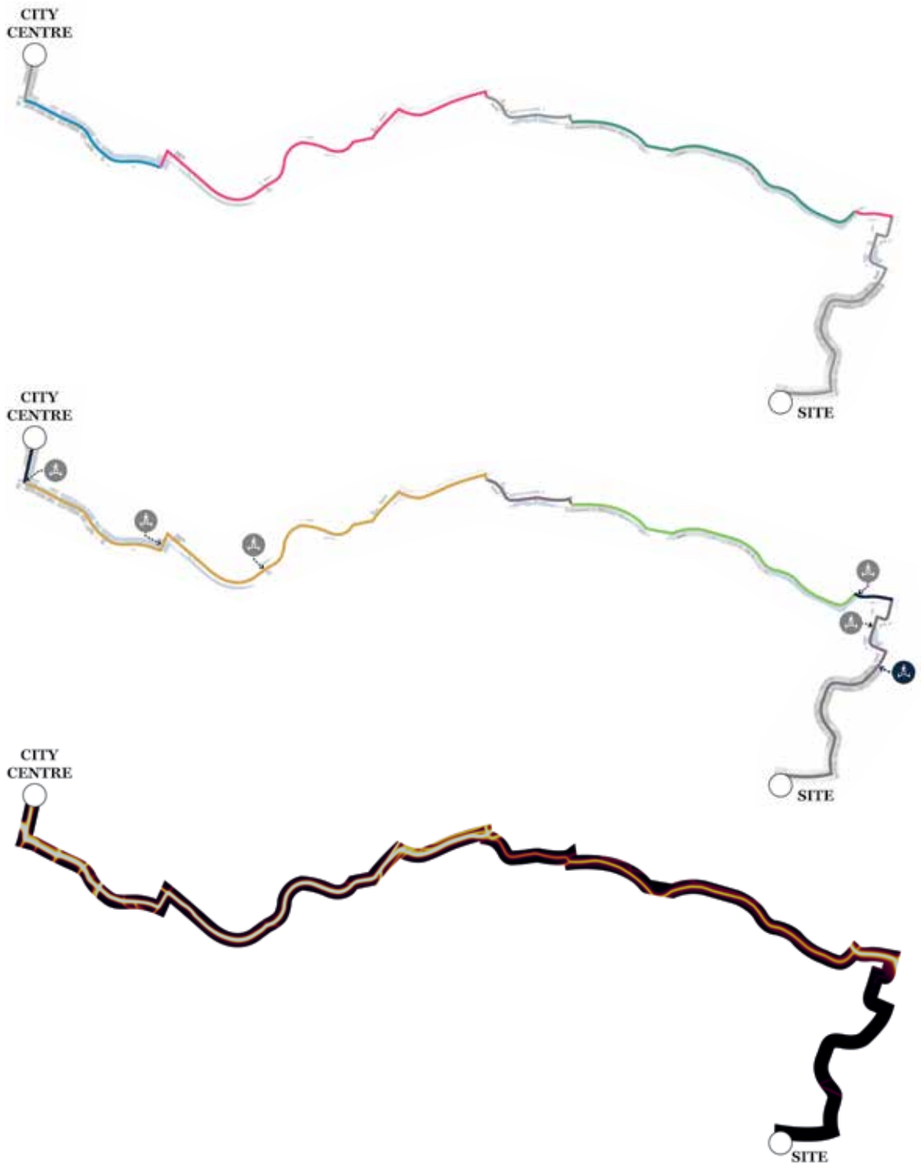
- Cycling not currently permitted along the Chelmer Navigation towpath.
- Chelmer Navigation towpath not surfaced to a cyclable standard.
- Higher elevation gain and route distance than Options 1 and 2.
- Much of route is within the floodplain.

Infrastructure Required

- New cycle paths within the site.
- New cycle compliant bridge over non-navigable section of watercourse.
- Cycle route through Sandon Mill Science and Education Centre.
- Construction of new cycle path including lighting along the navigation towpath.

Constraints

- Potential harm to the setting of the Chelmer and Blackwater Conservation Area.
- Heritage and Landscape & Visual impacts of new infrastructure in the Conservation Area.
- Ecological impacts as a result of construction activities and new pathways/ lighting along the river.
- Likely to be resistance from stakeholders based on previous cycling projects along the Chelmer and Blackwater Navigation.
- Relies on substantial upgrades outside of land controlled by Hopkins Homes.
- Section of route running through Sandford Mill Science and Education Centre not in Hopkins Homes control; although this could be viable in the future depending on the Council's input.
- Much of route is within the floodplain.



Existing Status

Cycling Permitted

- Sustrans Cycle Route NCN 1
- Sustrans NCN 1 and Great Baddow to City Centre Cycle Route

Cycling not Permitted

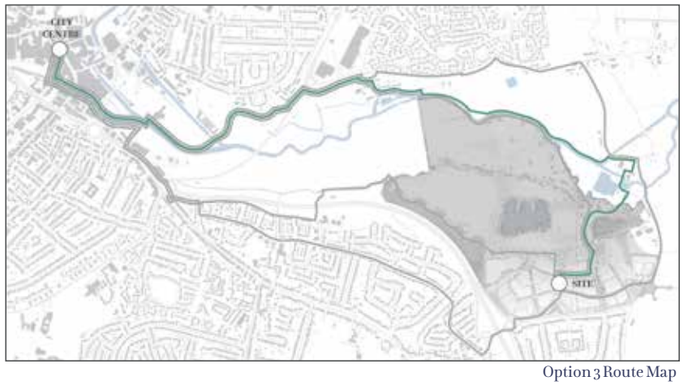
- Chelmer Navigation Towpath and Public Footpath
- No Status

Existing Condition

- On Road Cycle Route
- All Weather Cycle Track
- Rough Track
- No Existing Route
- New Bridge Required
- Existing Bridge

Existing Cycling Usage

- Frequently Used
- Rarely Used



Option 3 Route Map

Existing Status

Cycling Permitted

- Sustrans Cycle Route NCN 1
- Sustrans NCN 1 and Great Baddow to City Centre Cycle Route

Cycling not Permitted

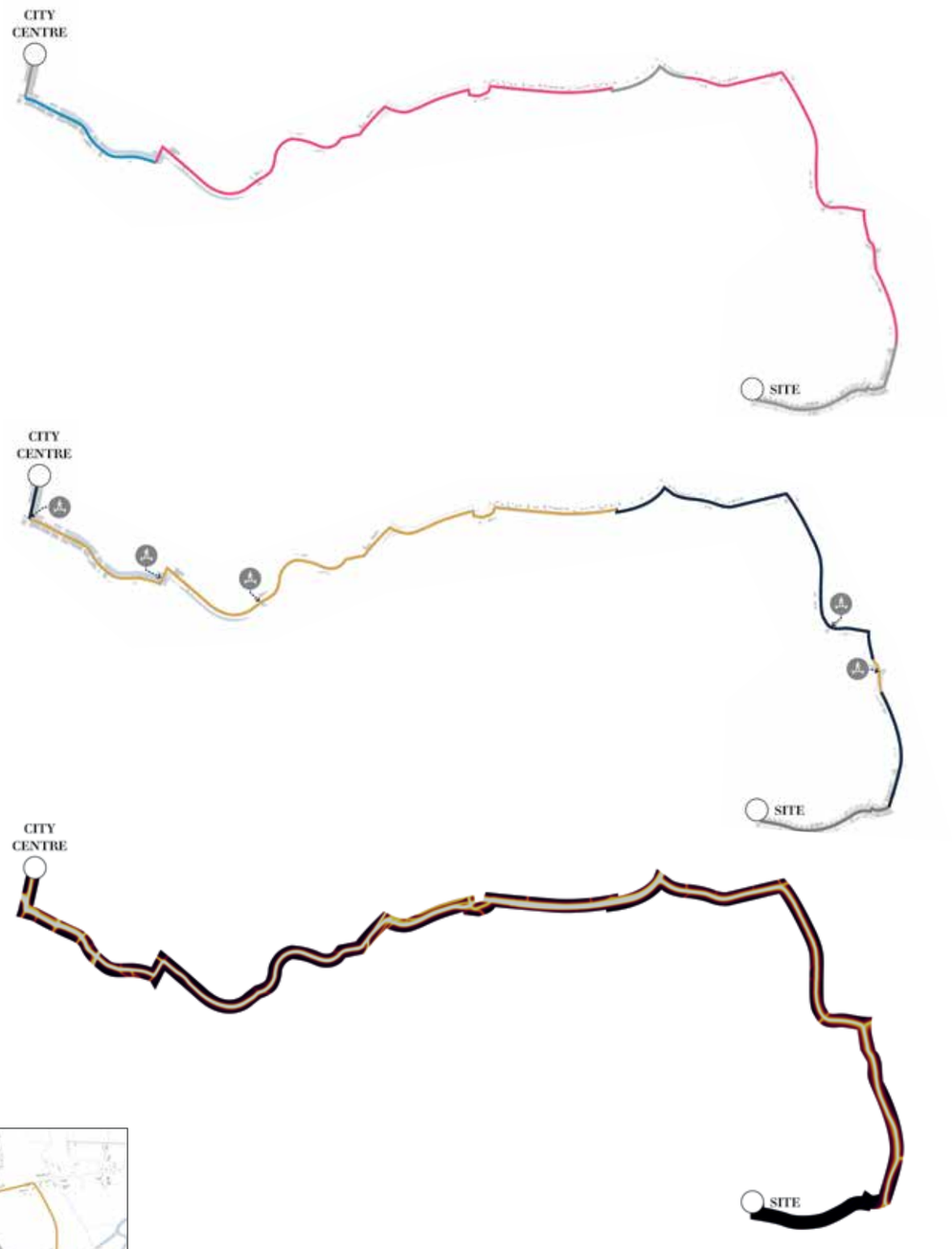
- No Status

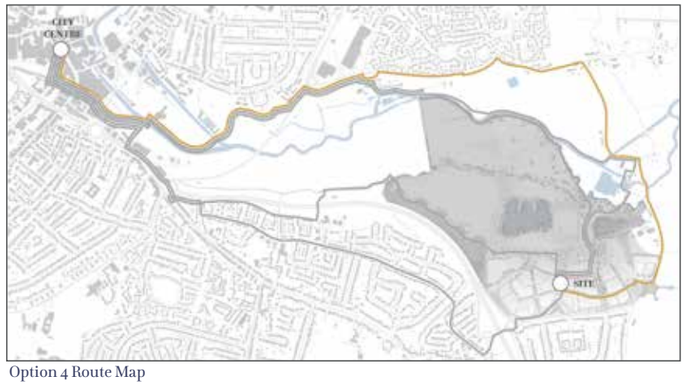
Existing Condition

- On Road Cycle Route
- All Weather Cycle Track
- No Existing Route
- New Bridge Required
- Existing Bridge

Existing Cycling Usage

- Frequently Used
- Rarely Used





Option 4 Route Map

CYCLE ROUTE OPTION 4

Route Length: 5.3km **Elevation Gain:** 78m

Route Description: The route initially follows Sandford Mill Lane via the proposed roundabout within the site, crossing the River Chelmer via the existing bridge along the Sustrans Cycle Route NCN1. NCN1 runs initially along quiet lanes and extends alongside Chelmer Village Way. The final section of NCN1 is primarily a segregated cycle path into the centre of Chelmsford .

Strengths

- Relatively low levels of infrastructure required.
- Makes efficient use of existing cycle infrastructure.
- Majority of route is on an existing cycle route.
- Where route is on roads, they are quiet country lanes.
- Makes use of existing bridge over the Chelmer Navigation.
- Relatively scenic route.
- Very high levels of existing usage.
- Provides a convenient connection to NCN1.

Weaknesses

- Longest route amongst the five cycling options.
- Highest elevation gain amongst the five options.
- Narrow width of existing bridge over Chelmer requires cyclists to dismount.
- Part of route is within the floodplain.

Infrastructure Required

- New cycle paths within the site.

Constraints

- Width of bridge over River Chelmer.
- Part of route is within the floodplain.

CYCLE ROUTE OPTION 5

Route Length: 3.65km **Elevation Gain:** 46m

Route Description: This route would extend through the proposed Country Park to the western site boundary, crossing a small watercourse to join Public Right of Way 220_5. The route would then continue westwards past Meadgate Farm before running southwards through an existing underpass of the A114 and subsequently westwards again through existing public open space to the north of Meadgate Avenue to join the GBCCR at Meadgate Terrace. The latter part of this route follows the same section as Option 1 including current and future arrangements at the Army & Navy roundabout.

Strengths

- Shortest distance amongst the five cycling options.
- Route with minimal elevation gain.
- Relatively low levels of infrastructure required.
- Approximately half of route is on an existing cycle route.
- Makes efficient use of existing cycle infrastructure.
- High levels of existing usage on the western part of the route.
- Scenic route to the east.

Weaknesses

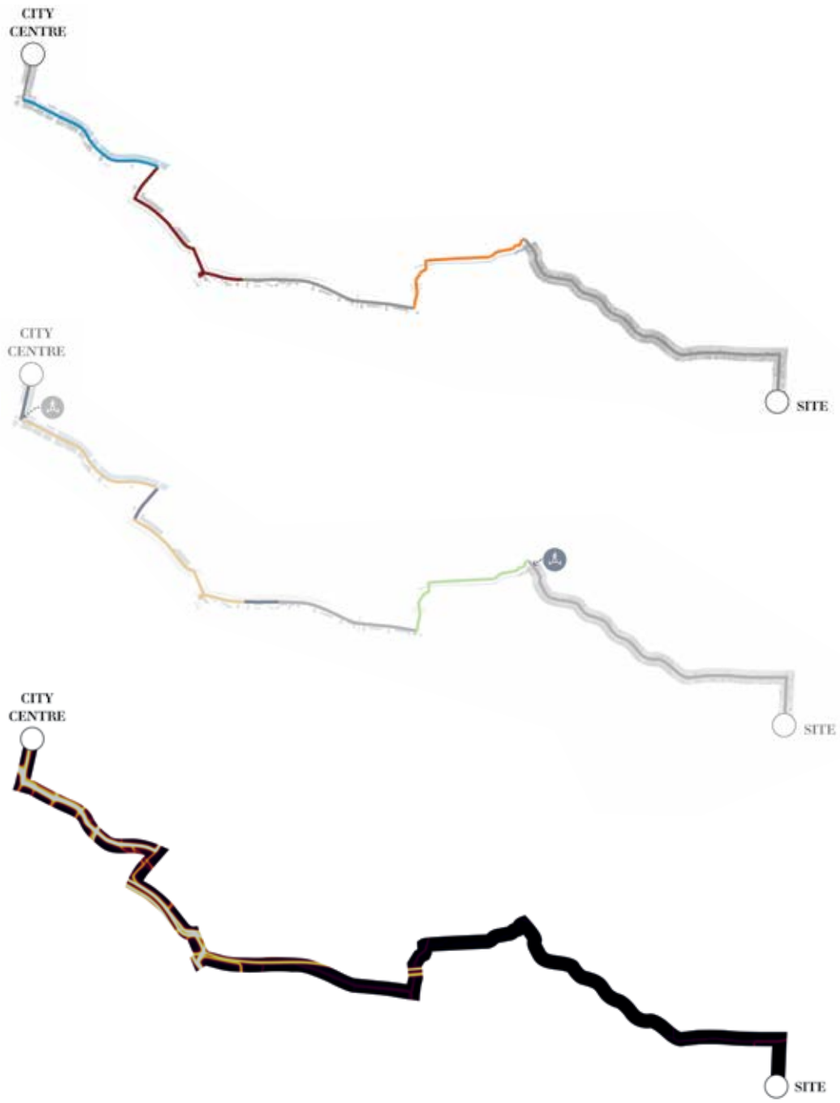
- Requires considerable length of new cycle path through the Country Park and adjacent agricultural land.
- Cycling not currently permitted along public footpath.
- Much of route is within the floodplain.

Infrastructure Required

- New cycle paths including lighting within the site.
- Construction of new cycle path including lighting along the public footpath.
- Potential upgrades required to underpass.

Constraints

- Heritage and Landscape & Visual impacts of new infrastructure in the Conservation Area.
- Relies on substantial upgrades outside of land controlled by Hopkins Homes.
- Suitability of existing underpass for cyclists.
- Much of route is within the floodplain.



Existing Status

Cycling Permitted

- Great Baddow to City Centre Cycle Route
- Sustrans NCN 1 and Great Baddow to City Centre Cycle Route

Cycling not Permitted

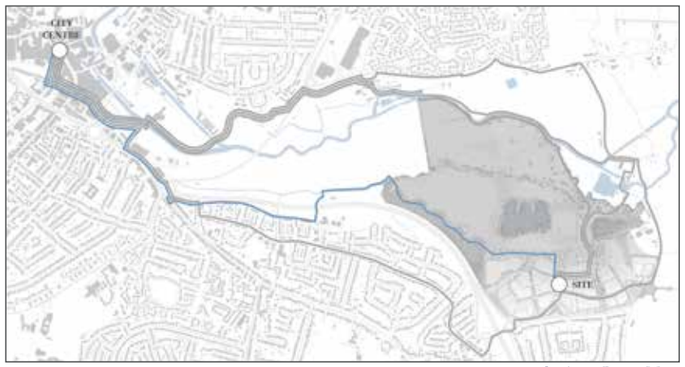
- Public Footpath
- No Status

Existing Condition

- On Road Cycle Route
- All Weather Cycle Track
- Rough Track
- No Existing Route
- New Bridge Required
- Existing Bridge

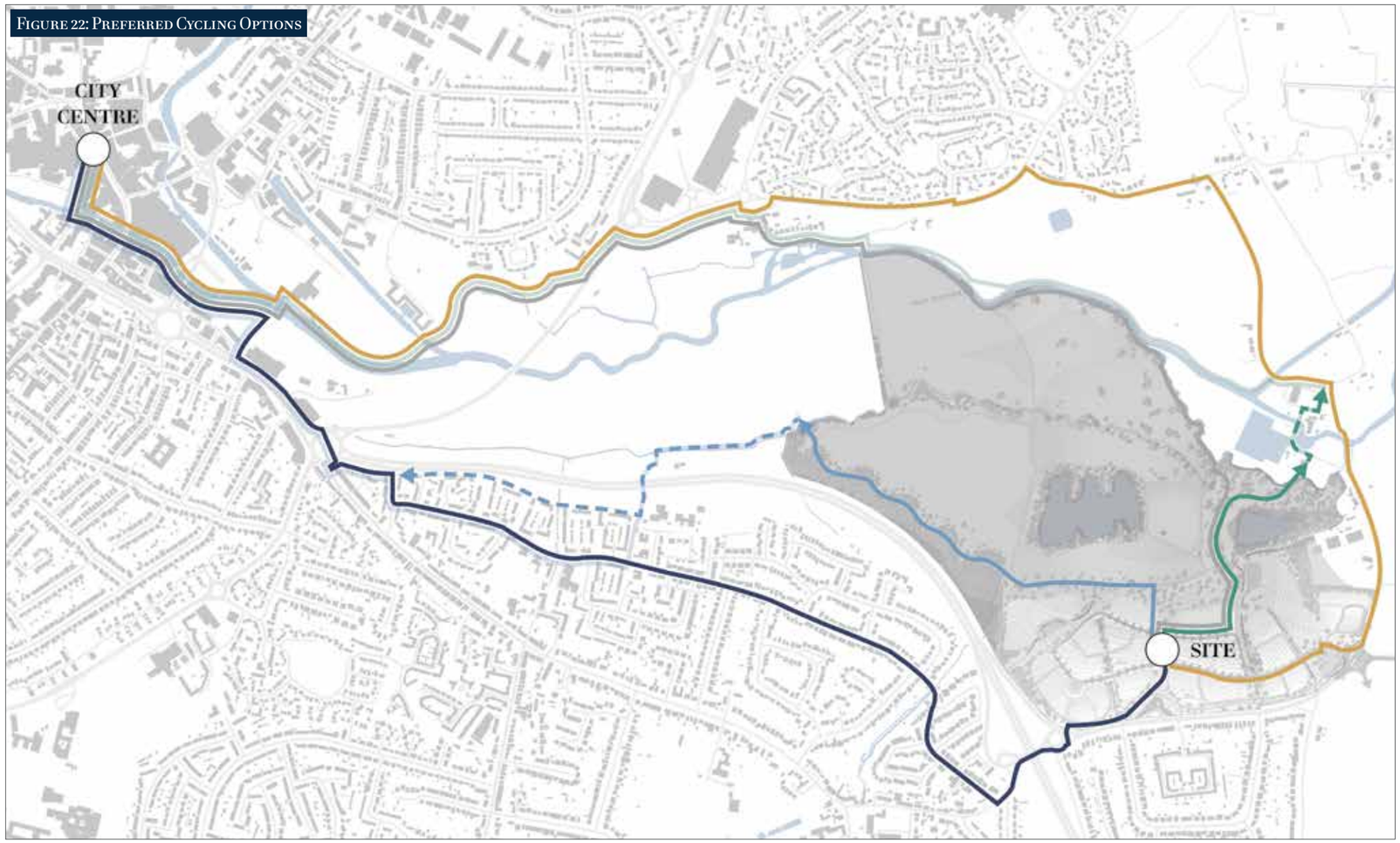
Existing Cycling Usage

- Frequently Used
- Rarely Used



Option 5 Route Map

Figure 22: Preferred Cycling Options



Legend

- Great Baddow to City Centre Connection (Option 1)
- NCN 1 Connection (Option 4)
- Sandford Mill/NCN1 Connection (Option 3)
- Country Park Connection (Option 5)

Note: Dashed lines indicate routes on land outside of Hopkins Homes' control. Potential future cycle links in this area are being explored by Chelmsford City Council/Essex County Council

SUMMARY

Five potential cycle routes have been analysed in four key areas: key statistics, existing status, current form, and current usage.

All routes have strengths, weaknesses, infrastructure requirements, and threats, however a summary of the findings of the analysis are set out below:

Route 1 is the second shortest route to the city centre and can be delivered with a minimal level of infrastructure. It makes use of an existing well-used cycle route and is primarily located on residential roads and segregated cycle ways. The route is well lit and benefits from a high level of passive surveillance, with resulting higher levels of safety. It is also outside of the floodplain and likely to be subject to improvements as part of proposed improvements to the Army and Navy Roundabout.

This route is the least constrained and offers substantial benefits. It is considered likely that cyclists commuting to the city centre will use this route.

Route 2 requires the most infrastructure and makes the least use of existing cycle routes; it is also the most constrained albeit it would also offer a high level of recreational value. Proposals to build substantial sections of all-weather cycling paths with lighting along the Chelmer Navigation and 3 new bridges including one over the navigation itself are likely to be expensive, met with opposition by some stakeholders and lead to the highest levels of environmental effects of all the options. Even with lighting, there would remain risks for cyclists at night due to a lack of surveillance and the proximity to open water.

Route 3 makes some use of existing established cycle routes to the west and the existing bridge over the navigation, reducing the need for new infrastructure in the Conservation Area, albeit a smaller bridge is required to cross to Sandford Mill. However, part of this route would also require upgrades of surfacing and lighting along a substantial section of the navigation, likely resulting in environmental effects and stakeholder opposition, and the safety of cyclists at night would remain an issue. This part of the route does not benefit from passive surveillance.

Route 4 has clear benefits in that it provides convenient access to NCN1, and is segregated and well lit for the majority of its length, and makes use of the existing bridges over the navigation and River Chelmer, albeit the latter is narrow and requires cyclists to dismount. There is also clearly a high level of existing usage along the majority of the route as demonstrated by the Strava map. Whilst option 4 is the longest of the four options, it also has relatively high recreational value, and functions as part of the much wider NCN1. Furthermore, the majority of route 4 benefits from high levels of passive surveillance.

Route 5 is the shortest with Route 1 and a considerable proportion makes use of an existing established cycle route. However the route would also require a substantial length of new infrastructure within the Conservation Area/Country Park and on third party land, including potentially an existing underpass of the A114, the suitability of which for cycling is unknown.

On the basis of this analysis, the preferred approach for cycling connectivity is shown on Figure 22, with connections to the Great Baddow to City Centre Cycle Route via Maldon Road (Option 1), a connection to NCN1 via the proposed roundabout (Option 4) also linking with the adjacent allocated sites and local facilities, and a connection to Sandford Mill and any visitor facilities located there with the potential for an onward connection to NCN1 (the initial part of Option 3). The strategy also includes Option 5, which extends over land outside of Hopkins Homes' control. Potential future cycle links in this area are being explored by Chelmsford City Council & Essex County Council.

The wider cycling connections are predominantly on land outside of Hopkins Home's control. However, the proposed development has the potential to help facilitate improvements to routes through developer contributions, providing these are proportionate and CIL Regulations compatible.

5.4 WIDER MOVEMENT STRATEGY

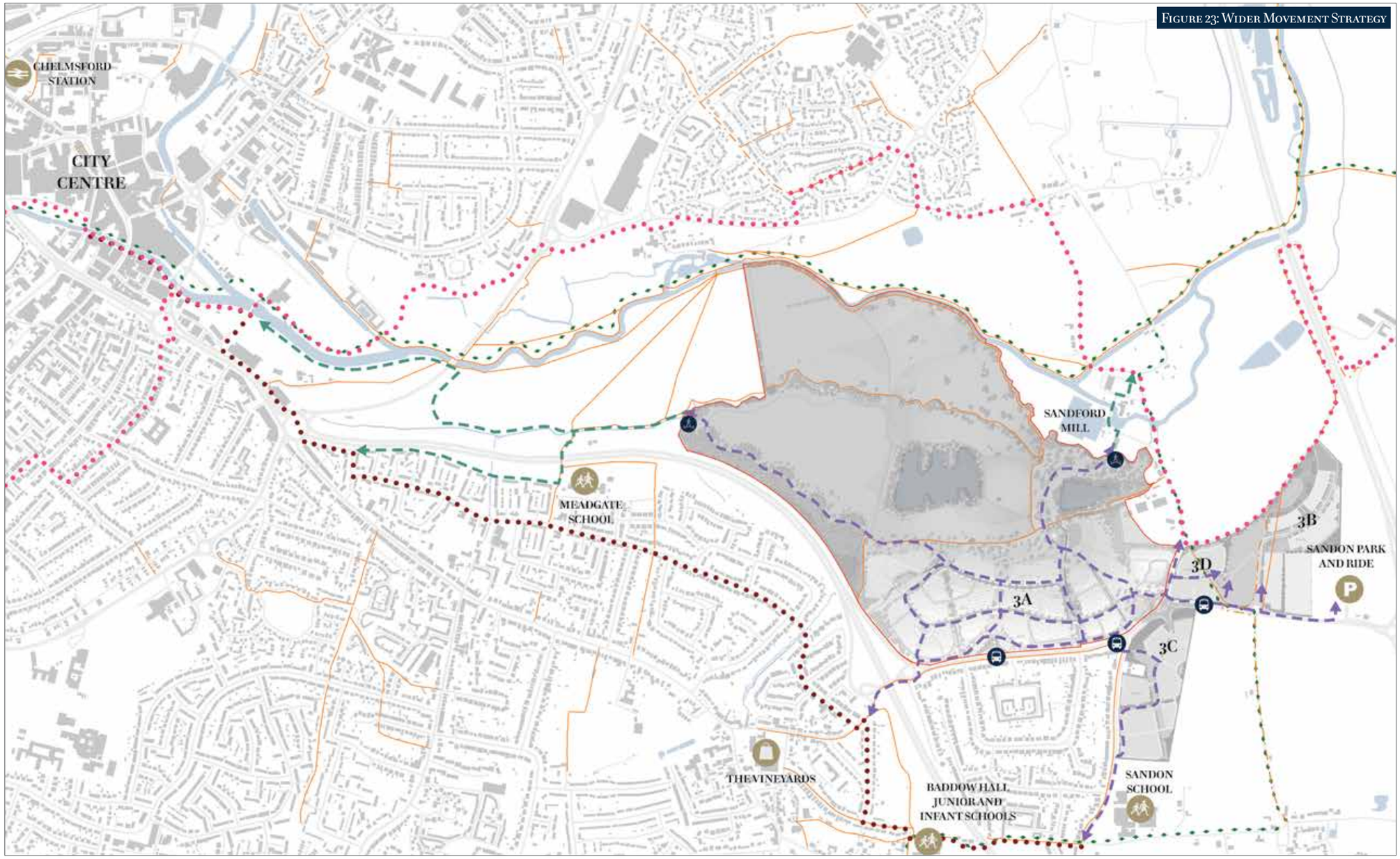
Figure 23 demonstrates the aspirational wider sustainable movement strategy for East Chelmsford, including key pedestrian and cycle connections within and immediately around the site and neighbouring allocations, and proposed off-site links that may be delivered by Chelmsford City Council as part of the East Chelmsford/City Centre Movement Strategy.

The proposed development offers a high degree of improved cycle connectivity with existing local facilities and to the city centre by linking to existing designated routes to the north and south of the site. The site itself will create a key east-west off road cycle connection linking the adjacent allocated sites to Great Baddow and onwards to Chelmsford, in addition to the new Country Park.

The site also offers a high level of pedestrian permeability, with existing public rights of way within the Country Park accompanied by a new network of pedestrian only, or shared use routes through the landscape spaces of the proposed housing development.

Public transport will also form a part of the sustainable transport strategy, with convenient use of local bus stops on Maldon Road, and resultant onward accessibility to various locations within and around Chelmsford, including Chelmsford Railway Station in less than 15 minutes.

Figure 23: Wider Movement Strategy



*Hopkins Homes will deliver all proposals within the application boundary and will help enable improvements to wider routes through appropriate and proportionate developer contributions to be agreed as part of the planning application.

Legend

- Masterplan Boundary
- Public Rights of Way / Key Local Footways
- Existing/Proposed Bridleway (Site 3B)
- Great Baddow to City Centre Cycle Route
- National Cycle Network 1
- Saffron Trail Long Distance Walk
- Park & Ride
- Local Schools
- Local Shops
- Local Bus Stops
- Wider Linkages*
- Potential future cycle links being explored by CCC/ECC*
- Proposed Pedestrian/Cycle Bridges

5.5 RECREATION, HEALTH & WELL-BEING

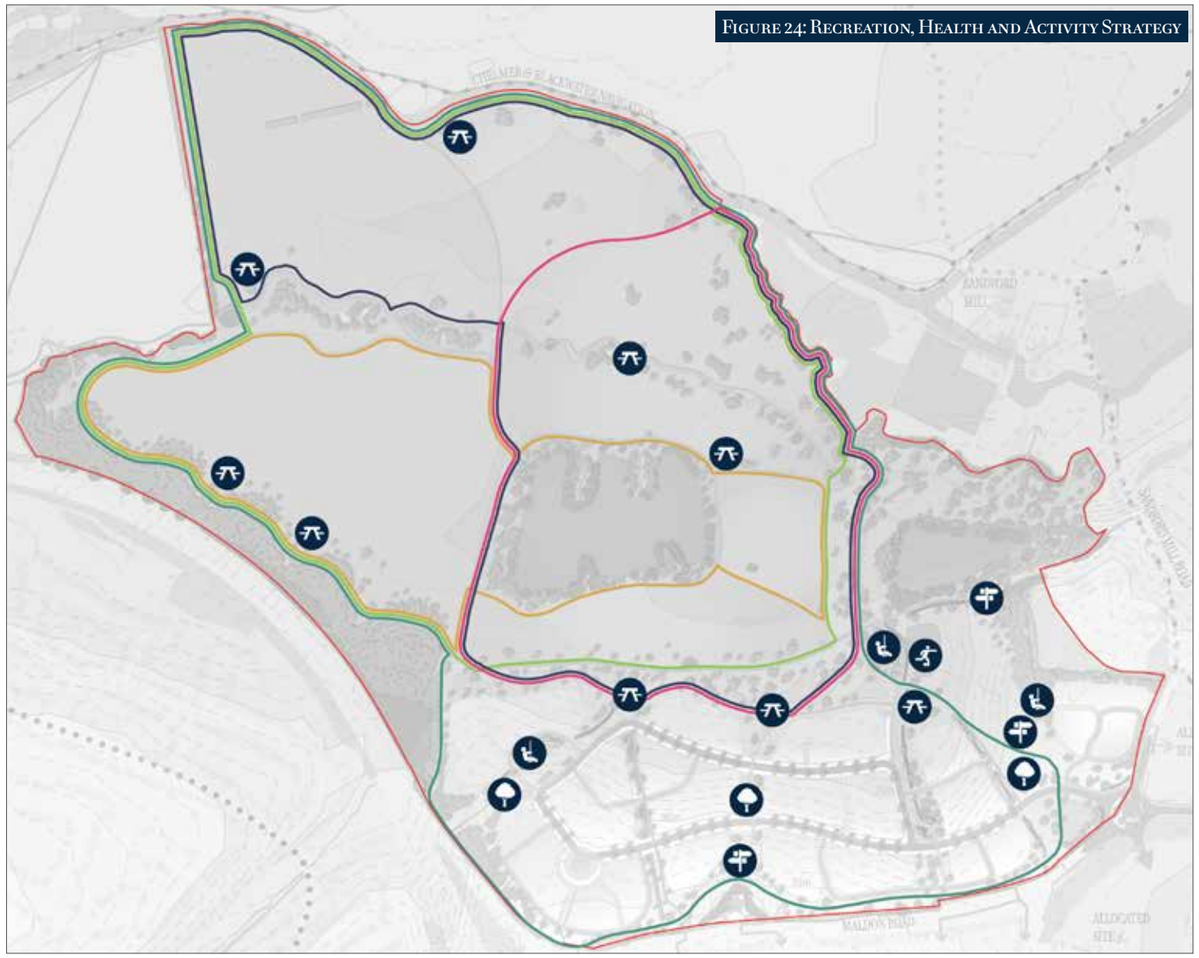


Figure 24: Recreation, Health and Activity Strategy

The proposed development will provide excellent opportunities for health and well being, including play areas, public amenity areas and natural green spaces. The Country Park includes the opportunity for a series of waymarked walking and cycling leisure routes to encourage exercise. These routes would be accompanied with rest stops to cater for people of all ages and abilities, and would include route markers and seating provided as part of a site wide furniture strategy.

A planning application for the development of the site will be accompanied by Health Impact Assessment (HIA).

HIA is a tool used to assess the health impacts of a development proposal, including the potential to maximise the positive impacts and mitigate / minimise the negative impacts. HIA supports the planning process by considering local health and well-being outcomes that can be influenced by development.

There are a number of potential health and well-being considerations for HIA that are relevant to development of this site. These include: reduction in health inequalities; improving mental health and well-being; improving respiratory and cardiovascular health; protecting environmental health; and access to health and care infrastructure.

Elements of the proposal that are considered to be of particular relevance to the aforementioned considerations through HIA include the provision of modern, high-quality housing (including affordable housing); provision of significant areas of green space and space for leisure and recreation; and encouraging opportunities for active travel (cycling and walking) for both existing and future residents.

In addition the HIA will be a tool in helping to determine the availability of healthcare facilities to residents, and whether mitigation as a result of the site's development is required.

5.6 WAYFINDING, STREET FURNITURE, & PUBLIC ART

It is essential that the proposed development establishes a strong sense of place and identity, as enshrined within the National Design Guide and national and local planning policy. Character and sense of place are established through careful design at all levels from guiding principles to detailed implementation.

There is an opportunity to achieve a unique identity at Sandford Park not just through the design of the development itself, but also through the implementation of a site wide wayfinding, street furniture and public art strategy.

This strategy will include a holistic approach to signposting, interpretation boards, seating and other street furniture such that a consistent and appealing palette of materials is used to unify the scheme. There is also the potential to have a combined approach, where art-work doubles as interesting street furniture, or local artists are commissioned to create interpretation and signage.

A detailed strategy for street furniture and wayfinding will be developed as part of a planning application for the site, and opportunities for public art will be explored in collaboration with Chelmsford City Council. These proposals will be developed with due regard for Chelmsford's 'Making Places SPD, October 2020'.

5.7 CHARACTER ZONES

The design of the proposed development has been considered at a finer grain of detail to create local distinctiveness through the preparation of a character zone strategy as illustrated by Figure 25.

The following pages set out the unique overarching design principles, including landscape feel, landscape strategy and built form strategy for each character zone.

The starting point for the establishment of character zones has been the key landscape spaces that frame and articulate the site, however the edges of each zone will naturally blur within the development, such that character zones will blend across the residential areas.

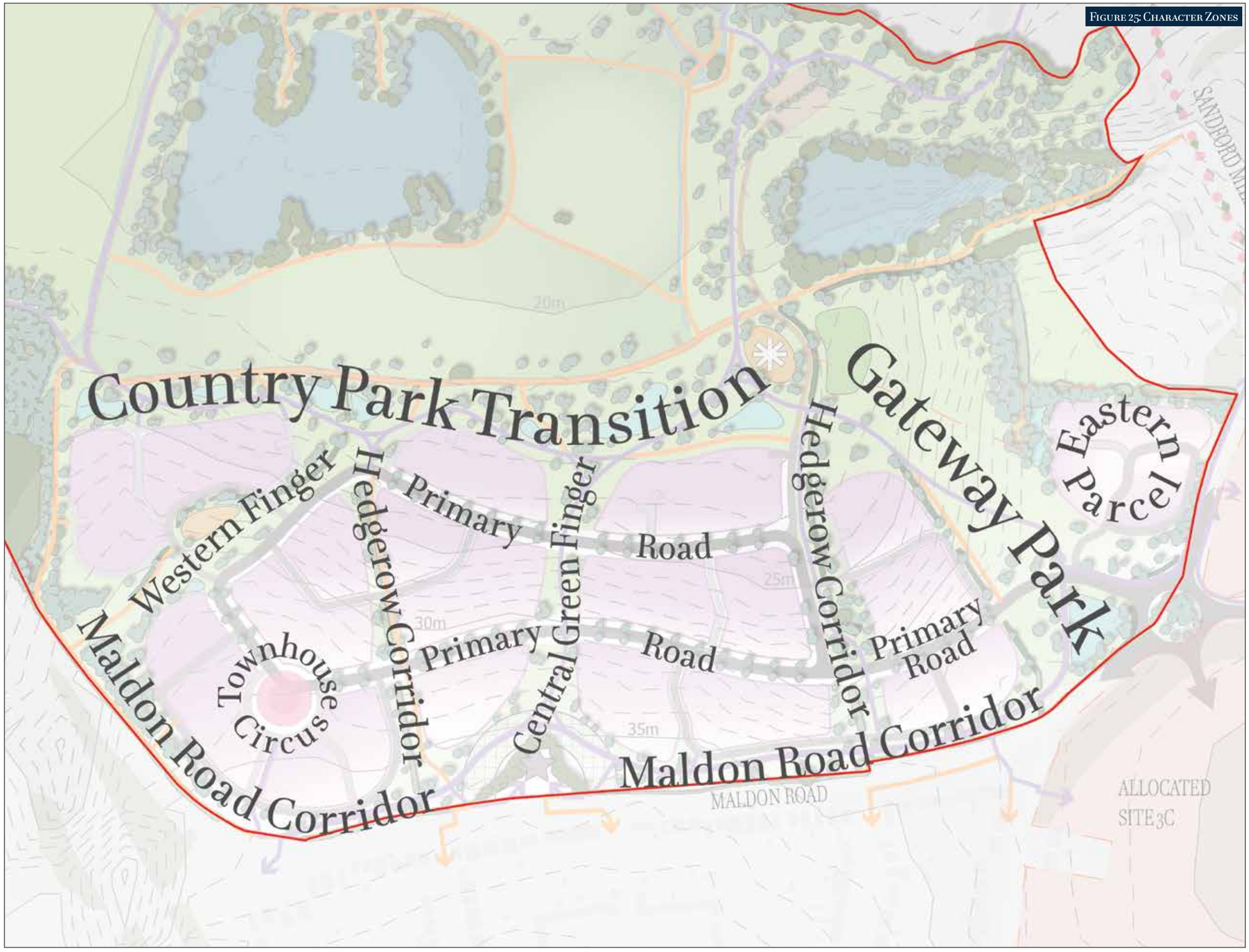
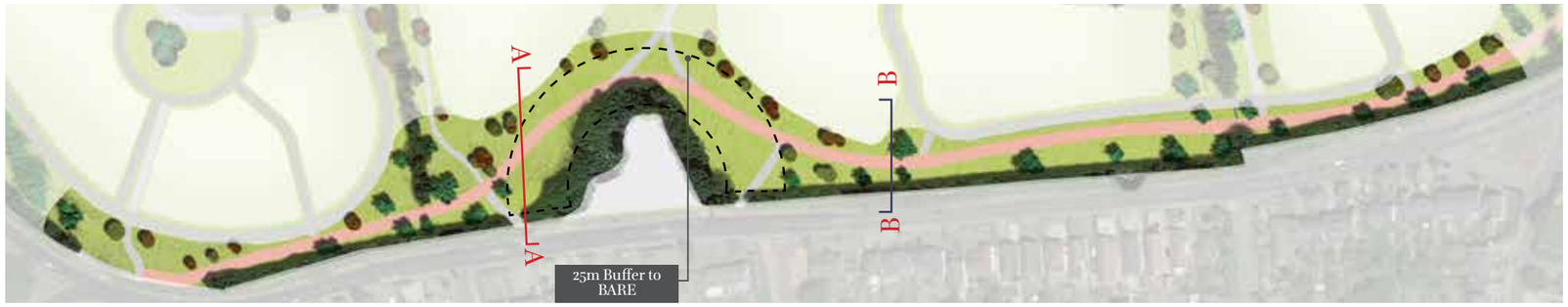
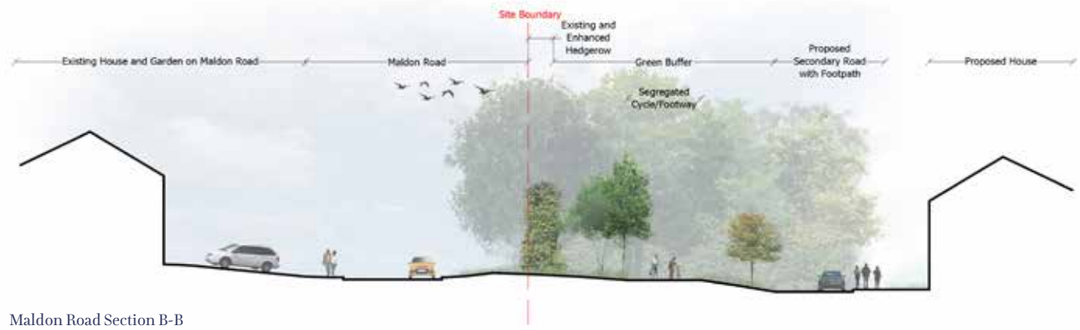


FIGURE 25: CHARACTER ZONES



Maldon Road Section A-A



Maldon Road Section B-B

MALDON ROAD CORRIDOR

A naturalistic linear space that provides a year-round landscape buffer to Maldon Road and a green backdrop to the development.

Landscape Feel

- SOFT
- GREEN SHADY
- LUXURIANT

Landscape Strategy

- Improve the structure and habitat value of existing hedgerows.
- Provide a strong habitat link as well as strong pedestrian/cycle permeability.
- Provide small-to-medium size native tree planting to complement hedgerow.
- Create a soft, verdant landscape of shade tolerant native wildflower species as part of a site wide biodiversity improvement strategy.

Built Form Strategy

- Wide fronted detached or semi-detached dwellings.
- Two storey height limit.
- Variable setback with a continuous yet fluid build line and some variation in orientation to accentuate the fluidity of the green space.
- Medium continuity with parking and garages set between properties.
- Generally back to front roof scape with gables facing plot frontage.

Potential Tree Palette

- Betula pendula
- Acer campestre
- Prunus padus
- Alnus glutinosa
- Ilex aquifolium

Acer campestre

Wide Fronted detached Housings

Betula pendula

Sarcococca confusa

Hebe

CENTRAL GREEN FINGER

A generous space that retains views to the north from elevated ground through a corridor of open, amenity grassland framed by swathes of shrub planting and clumps of flowering trees creating year round bursts of colour.

Landscape Feel

- EXCITING
- COLOURFUL
- CASCADING

Landscape Strategy

- Space is defined by frontages rather than roads.
- A subtle yet well-defined demarcation of public and private domains, with pathways cutting through the landscape pattern.
- Use a set of design measures to reduce the impact of the primary road.
- Create swathes of colourful shrub and bulb planting with clumps of small-medium sized flowering trees.

Built Form Strategy

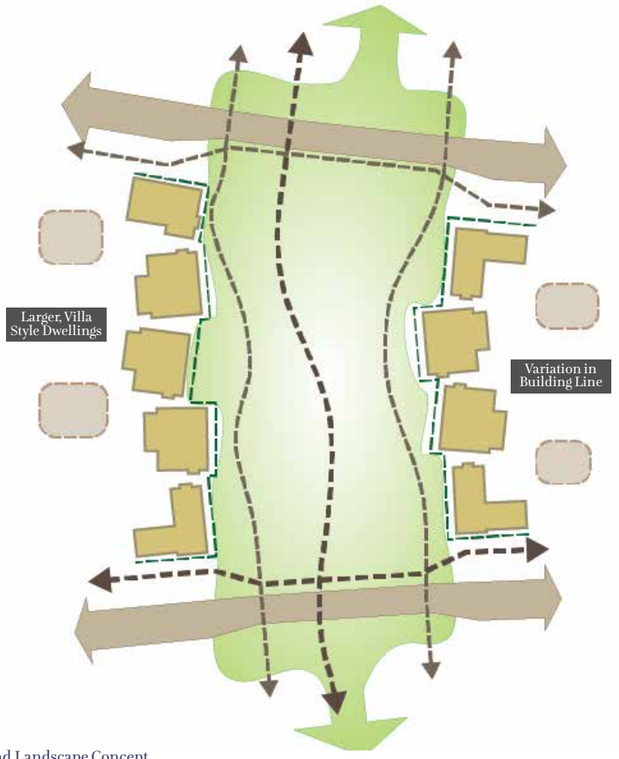
- Larger, villa style dwellings to create an informal edge along this pedestrian focused green space.
- Wide fronted detached dwellings with some semi-detached.
- Two storey height limit..
- Maximum variation in building line and orientation with limited gaps.
- A variable roofscape with chimneys encouraged.
- Subtle definition of private and public space to the front of dwellings.

Potential Tree Palette

- Prunus spp.
- Malus spp.
- Pyrus calleryana
- Amelanchier spp.
- Magnolia spp.
- Crataegus spp.
- Sorbus spp.
- Cercis spp.

Large Villa Style House

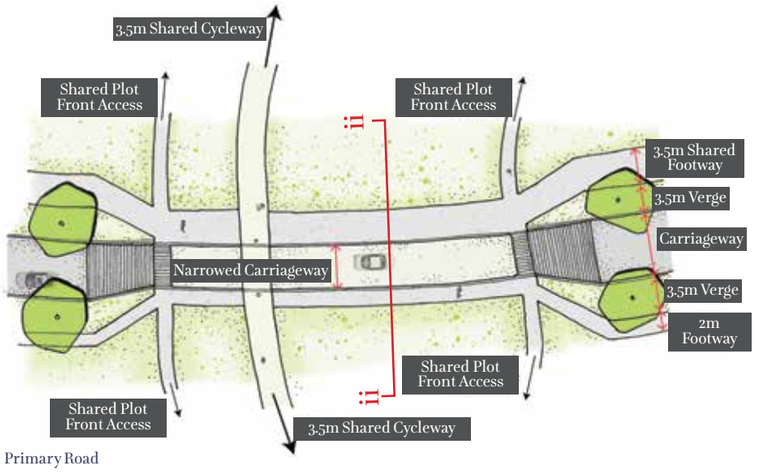
Mews at Back of Green Finger Frontages



Built Form and Landscape Concept

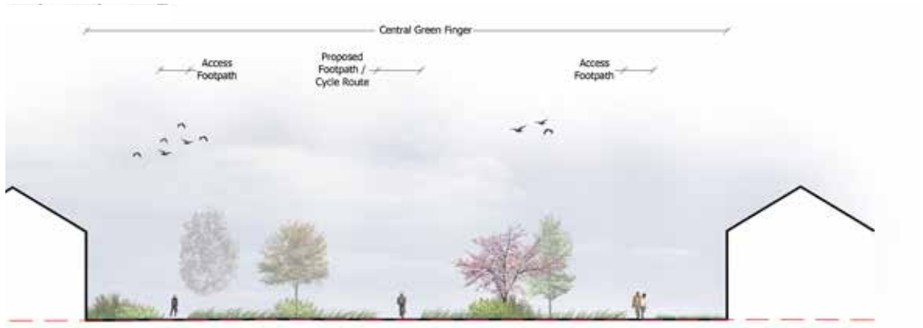
Wide-fronted Detached Houses

Central Finger Landscape Sketch

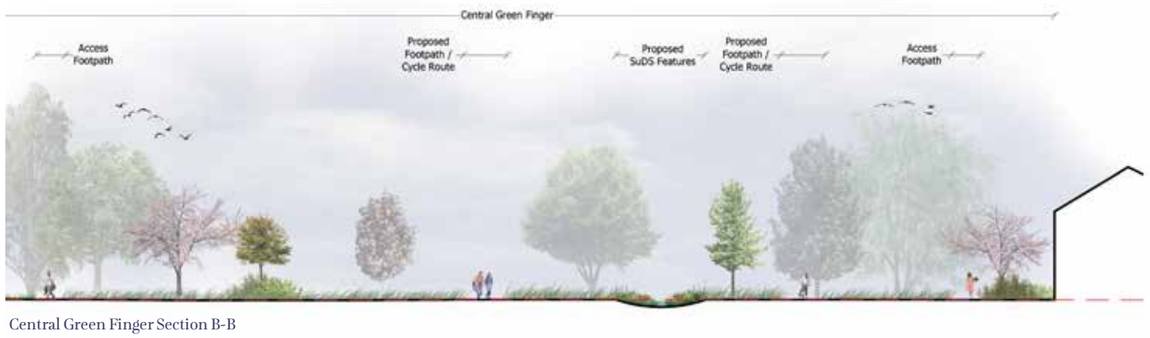


Primary Road

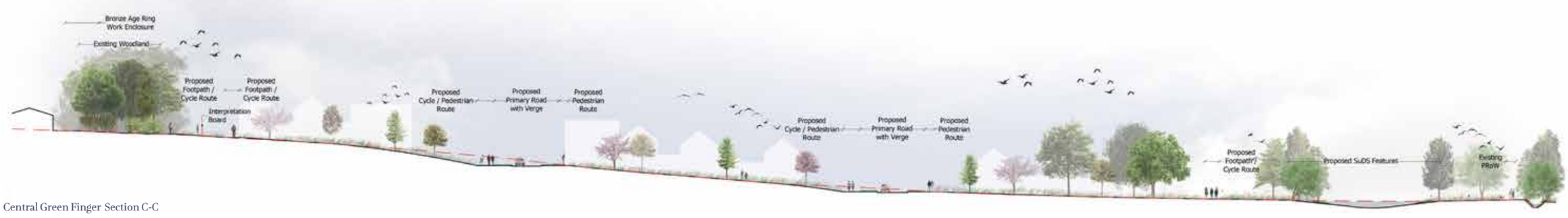
Primary Road Sketch Section ii-ii



Central Green Finger Section A-A



Central Green Finger Section B-B



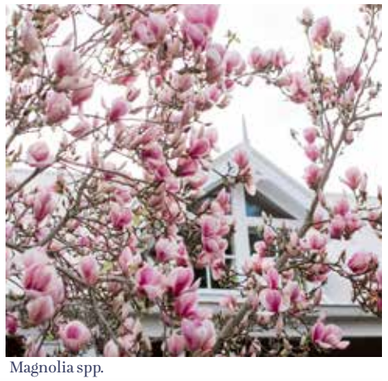
Central Green Finger Section C-C

Amelanchier spp.

Precedent Image - Winter Colour

Precedent Image - Swathes of Naturalised Bulbs

Precedent Image - Swathes of Colourful Shrubs



Magnolia spp.

GATEWAY PARK

Clusters of parkland trees frame and filter views to the north from the main site entrance, with the remainder of the space kept open to maintain views towards the city centre. Expansive diverse wildflower grassland crossed by mown paths and a kickabout area provides an opportunity for habitat and recreational value.

Landscape Feel

- GRAND
- EXPANSIVE
- STUNNING

Landscape Strategy

- Maintain open views across the valley through the retention of an open grassland landscape in the main.
- Extensive areas of species rich native wildflower planting.
- Mown paths through grassland to provide recreational value as well as habitat enhancements.
- Grand parkland tree planting to frame views and create containment.
- New native hedgerow planting to provide structure within the space and link together existing habitats.
- Informal kickabout area to be included.

Built Form Strategy

- Couplets of semi-detached with some apartment buildings on key corners.
- Generally 2 storey with 2.5 storey marker buildings on key corners.
- Consistent building line with a regular set back of 2-3m.
- Predominantly back to front roofscape to accentuate slope.

Potential Tree Palette

- Quercus robur
- Quercus patraea
- Carpinus betulus
- Castanea sativa
- Acer pseudoplatanus
- Aesculus hippocastanum
- Sorbus aria
- Ilex aquifolium

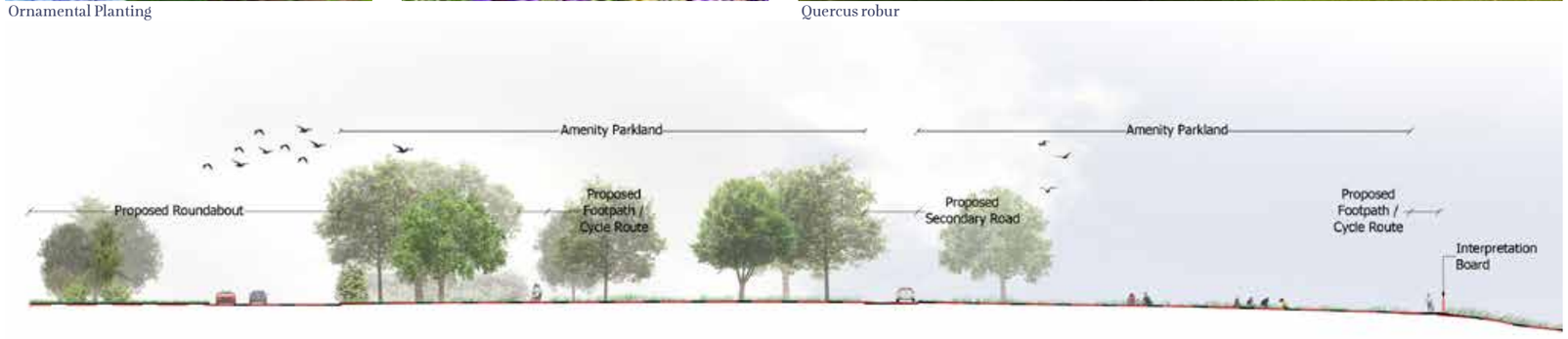
Tertiary Street

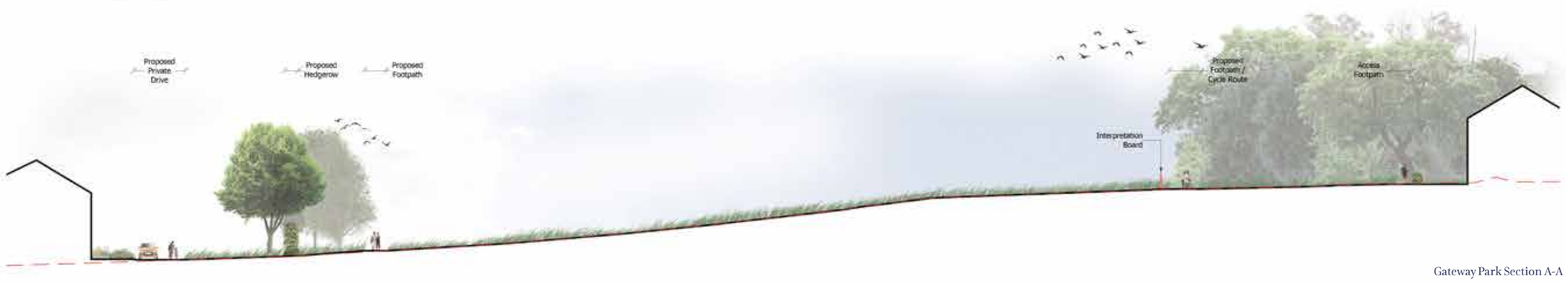
Open Grassland

Species Rich Native Wildflower with Mown Path

Ornamental Planting

Quercus robur





Gateway Park Section A-A

Gateway Park Section B-B

PRIMARY ROAD

A neat, formal and traditional linear landscape of clipped forms with a strong rhythm, providing contrast with more informal areas elsewhere within the development. A grand tree lined avenue with a strong relationship with architectural built form.

Landscape Feel

- LEAFY
- SIMPLE
- RHYTHMIC
- FORMAL

Landscape Strategy

- Plant a restricted palette of substantial avenue trees at regular intervals to frame views of new built form and create a strong sense of rhythm to break up the linearity of the space.
- Provide a muted but classic palette of soft and hard landscape elements to instil a clean and consistent backbone to the development.
- Provide generous turfed front gardens bounded by evergreen hedges with occasional feature topiary to create a strong crisp green structure to the landscape.

Built Form Strategy

- A regular and rhythmic built response to provide formal structure to the primary route through the development.
- A mixture of detached, semi-detached and terraced houses with apartments in key locations.
- 2 storey height limit to the north, with a mixture of 2, 2.5 and 3 storey dwellings in the south, used to highlight rhythm or pick out key areas.
- Consistent building line with a regular setback of 2-3m.
- Medium continuity with parking and garages set between properties.
- Generally back to front roofscape with gables facing plot frontage.

Potential Avenue Tree Palette

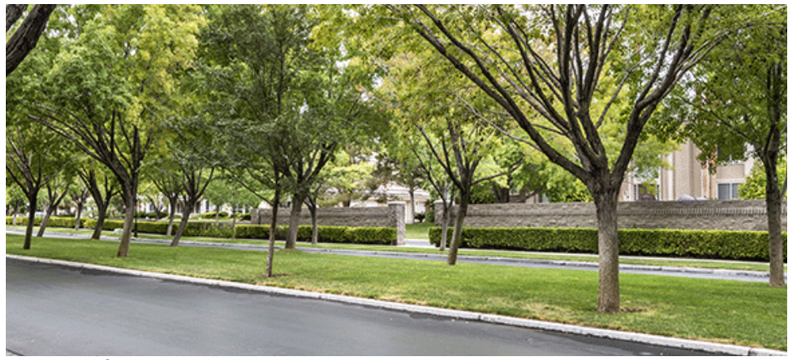
- Platanus × acerifolia
- Quercus palustris


Clipped Hedge

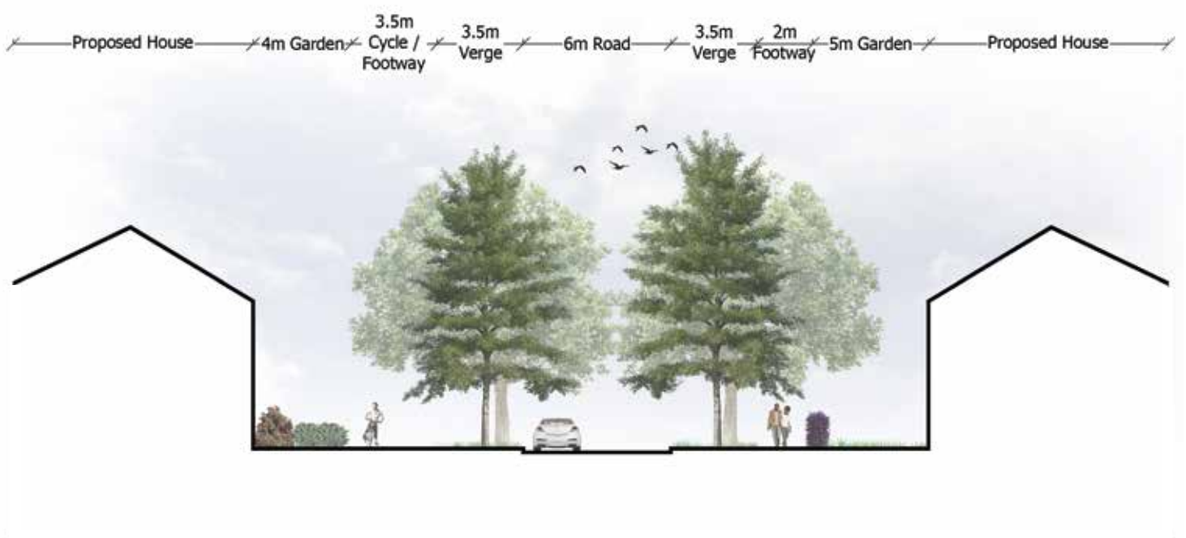

Platanus x acerifolia


Regular and Rhythmic Built Form


Quercus palustris

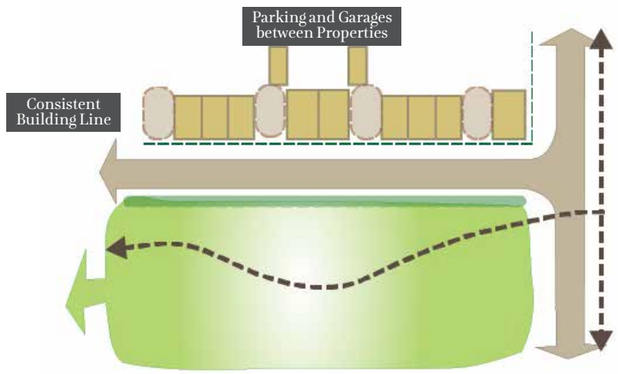

Avenue Tree Planting


Estate Railing



Typical Section: Primary Road

HEDGEROW CORRIDORS



Build Form and Landscape Concept

Consistent Housing Lines

Swift Brick

Hedgerow Wildflower Mix

Mixed Native Hedgerow

Ilex aquifolium

Section A-A: Western Hedgerow Corridor

Section B-B: Eastern Hedgerow Corridor

Strong landscape routes with a focus on existing hedgerow enhancement, habitat creation and the provision of connectivity and landscape structure within the development for people and pollinators.

Landscape Feel

- VERDANT
- BUCOLIC
- ANIMATED
- VIBRANT

Landscape Strategy

- Improve the structure and habitat value of existing hedgerows.
- Provide a strong habitat link as well as strong pedestrian/cycle permeability.
- Provide small-to-medium size native tree planting to complement hedgerow.

Built Form Strategy

- A mixture of semi-detached and terraced dwellings with some detached.
- Predominantly 2 storey dwellings with some up to 2.5/3 storey at junctions with the primary road.
- Buildings orientated consistently, in line with the existing hedgerows where possible.
- Medium continuity with parking and garages set between properties.
- Generally back to front roof scape with gables facing plot frontage.
- Opportunity to incorporate swift bricks into architectural detailing.

Potential Tree Palette

- Betula pendula
- Acer campestre
- Prunus padus
- Alnus glutinosa
- Ilex aquifolium

EASTERN PARCEL

A cluster of generous plots in a loose, organic layout that is respectful of its ridgeline position. Establishing a strong relationship with the adjacent allocated site, and with emphasis on parkland tree planting to tie into the Gateway Park, and to soften and integrate built form.

Landscape Feel

- ORGANIC
- INTEGRATED
- SUBTLE

Landscape Strategy

- Retain existing hedgerow along Sandford Mill Lane to the north.
- Further south, hedgerow will be removed to provide cycle infrastructure and to establish a strong visual connection with the adjacent allocation.
- Provide a subtle and restrained palette of hard and soft landscape materials.
- Provide large native canopy tree planting to filter views from the valley floor and screen the proposed roundabout.
- Plant new native hedgerow along the proposed roundabout to mitigate loss of existing and to contain new infrastructure.
- Create a natural play feature within areas of tree planting with passive surveillance from proposed built form.

Built Form Strategy

- Primarily 2 storey height, with opportunity for limited use of 2.5 storey to provide articulation of roofline and architectural focus.
- Potential for single storey, or 1.5 storey dwellings.
- Wide fronted detached dwellings with some semi-detached.
- Varied building line with a positive frontage onto the Gateway Park and Sandford Mill Road.
- Reduced continuity to create a softer edge.
- Variable roofscape with chimneys encouraged.

Potential Tree Palette

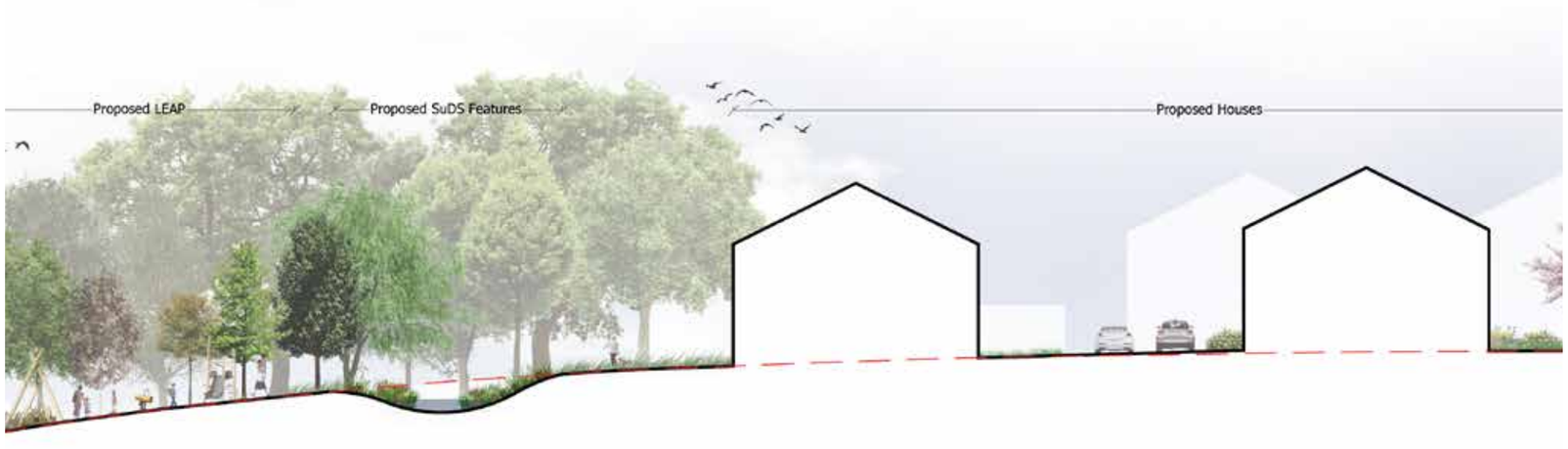
- Acer pseudoplatanus
- Aesculus hippocastanum
- Carpinus betulus
- Castanea sativa
- Ilex aquifolium
- Quercus robur
- Quercus patraea
- Sorbus aria
- Native Woodland Planting

Natural Play Area

Ornamental Planting

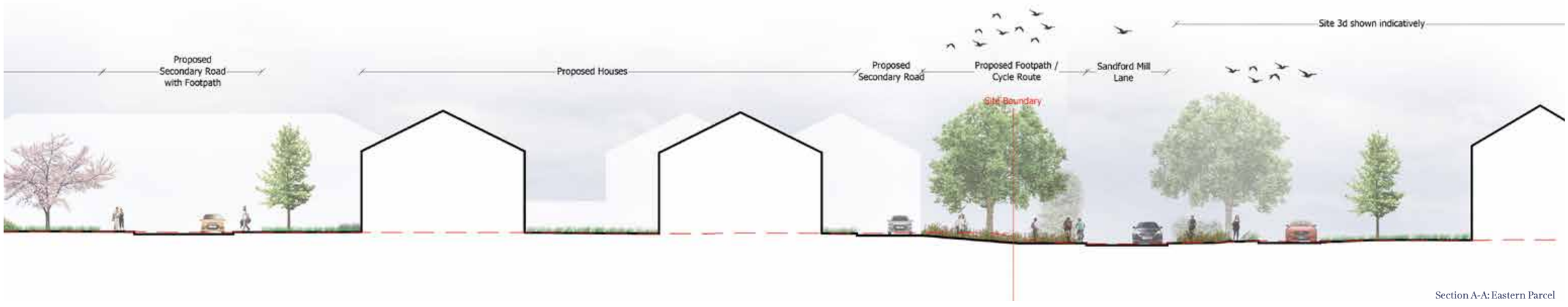
Organic Building Arrangement

Acer pseudoplatanus



Natural Play Area

SuDS Basin and Native Tree Planting



Section A-A: Eastern Parcel

TOWNHOUSE CIRCUS

A hybrid landscape space comprising a combination of hard surfacing with interest created through the range of materials and street tree planting and a more traditional green with statement ornamental planting.

Landscape Feel

- ELEGANT
- CRISP
- ARCHITECTURAL

Landscape Strategy

- Create a strong architectural and landscape statement at the heart of the development.
- Provide a hybrid typology of urban and traditional landscape styles.
- Provide a cohesive but varied mixture of hard surface materials to provide interest and complement the architecture.
- Break down the linearity of the primary road with changes in levels and materials.
- Provide a green area with the opportunity for large scale, statement ornamental tree planting.
- Create seating areas to promote usage of the space by the community.
- Provide clipped ornamental hedges in places to screen parked cars.

Built Form Strategy

- Formal, continuous building form giving enclosure to the space and creating an event along the key primary route.
- Predominantly terraces of townhouses arranged to create a circus.
- Generally 3 storey townhouses with potential for 3 storey apartments.
- Parking mainly behind dwellings with some spaces located alongside the central green space for added convenience.
- Consistent build line with all dwellings contributing towards the form of the overall circus.
- Maximum continuity of built form to accentuate the circus.

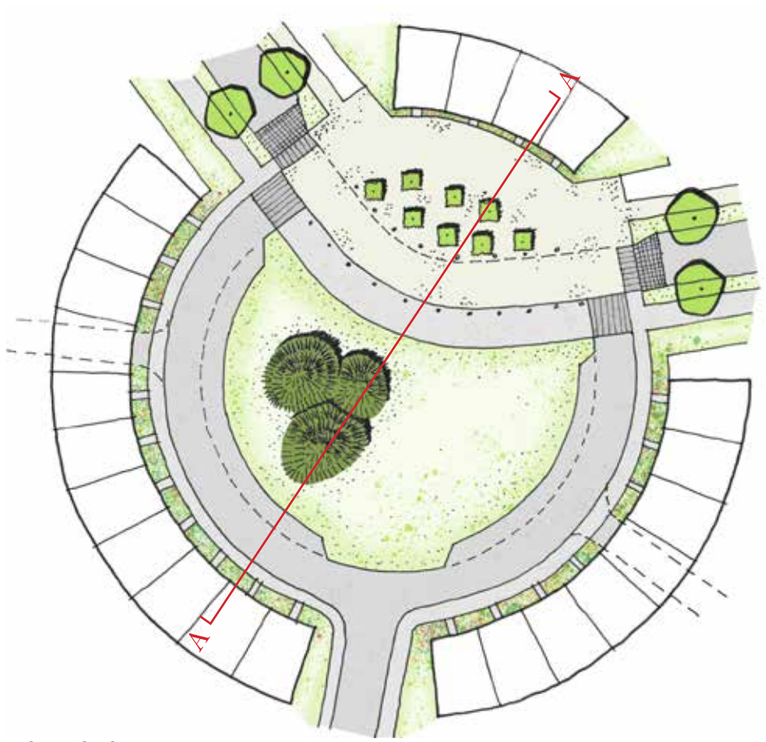
Potential Tree Palette

- Box headed Carpinus betulus
- Pinus sylvestris

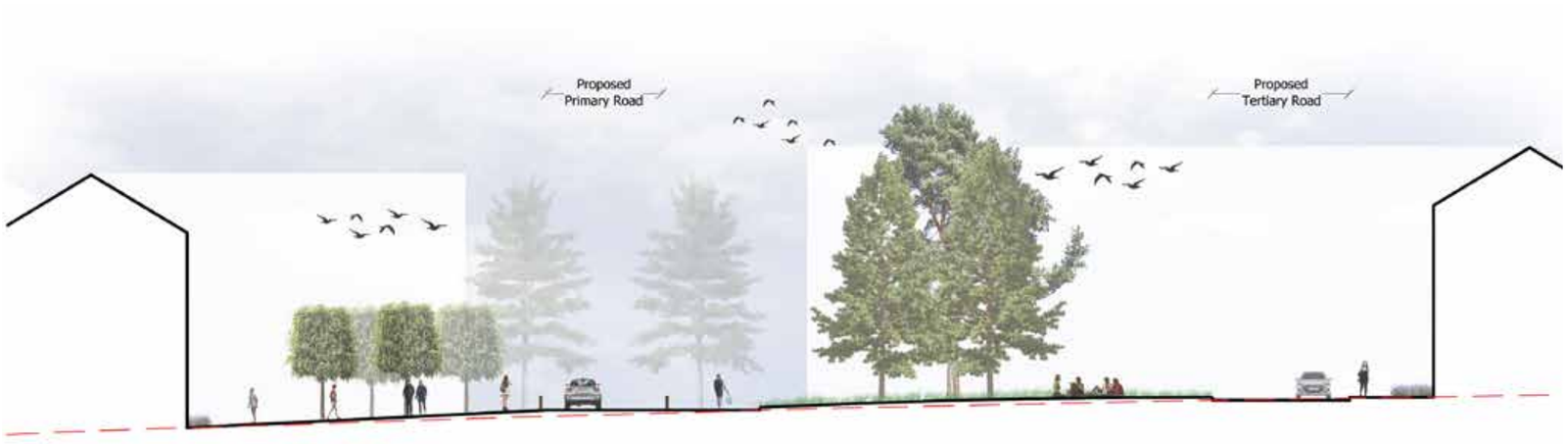
Pinus sylvestris

Three Storey houses

Box Headed Carpinus betulus



Landscape Sketch



Section A-A: Townhouse Square

WESTERN FINGER

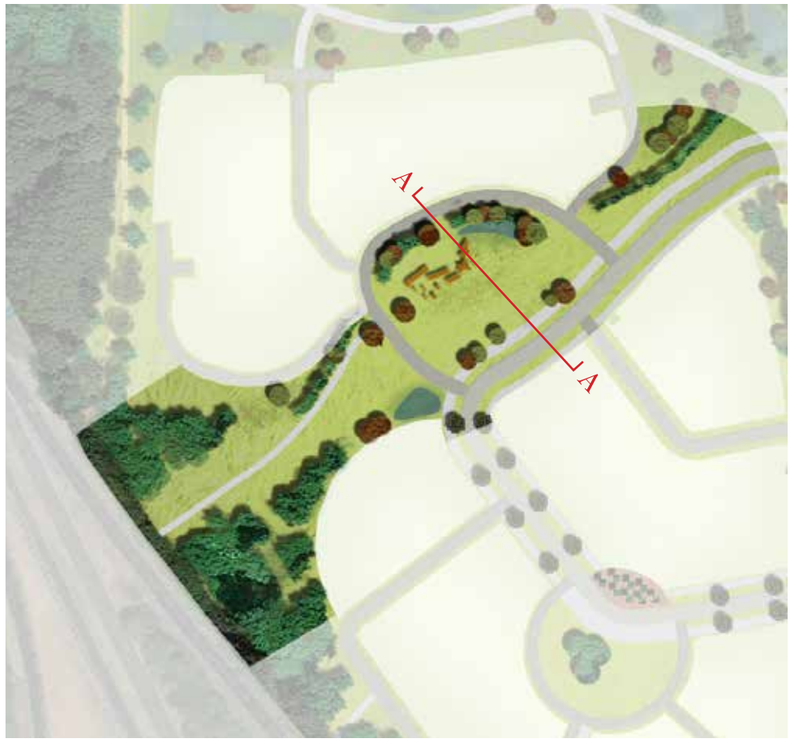

Swift Bricks

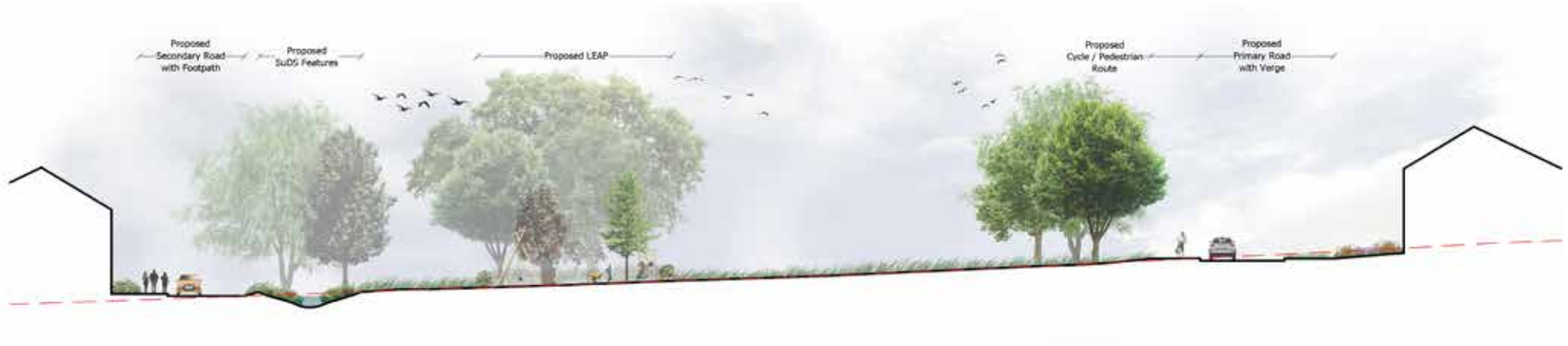

SuDS Features


Sensory Gardens


Organic Building Line


Play Boulders





Section A-A: Western Finger

A generous linear landscape space focusing on informal recreation through the provision of a play area set within an amenity grassland landscape with a diverse palette of native and ornamental trees and SuDS features.

Landscape Feel

- PLAYFUL
- POPULATED
- RICH

Landscape Strategy

- Swathe of informal grassland framed by a range of ornamental trees.
- Play area with associated seating and sensory planting.
- New native hedgerow planting for structure within the space and link together existing habitats.
- Extend the existing wooded character to the south-west through the planting of native trees.

Built Form Strategy

- A structured, robust but organic built with a stepped build line.
- A mixture of semi-detached and terraced with some detached .
- 2 storey dwellings with limited 2.5 storey at junction with primary road.
- Parking located alongside dwellings served from street/private drives to the front of house.
- Variable build line with buildings stepping in and out at regular intervals.
- Buildings orientated consistently, following the curvature of the green space.
- Medium continuity with parking and garages set between properties.
- Generally back to front roof scape with gables facing plot frontage
- Incorporate swift-bricks into architectural detailing.

Potential Tree Palette

- Acer cappadocicum 'Aureum'
- Acer platanoides 'Crimson King'
- Alnus incana 'Aurea'
- Amelanchier spp.
- Catalpa bignonoides 'Aurea'
- Cercis canadensis 'Forest Pansy'
- Gleditsia triacanthos f. inermis 'Sunburst'
- Liquidambar styraciflua
- Quercus rubra 'Aurea'
- Quercus robur 'Concordia'
- Pyrus salicifolia 'Pendula'
- Native Woodland Planting

COUNTRY PARK TRANSITION

A naturalistic mosaic landscape of ponds and water meadows with a broad palette of native tree, shrub wildflower and wetland planting providing a sensitive transition from the Country Park conservation area to built development.

Landscape Feel

- NATURAL
- TRANSITIONAL
- FLOWING

Landscape Strategy

- Provide SuDS features as part of an integrated landscape of blue and green infrastructure.
- Use natural methods to intercept, attenuate and filter surface water from the development.
- Permanent water, marginal planting, water meadows, reedbeds, and patches of wet tolerant tree and shrub planting.
- Provide public access through a network of pedestrian and cycle routes (informal paths and boardwalks).
- Native plant selection with a focus on habitat creation.
- Post and rail fencing used to define semi-private courtyards and public space.

Built Form Strategy

- Informal varied built form featuring larger, farmstead style dwellings assembled small green spaces to allow the landscape to permeate.
- Predominantly 2 storey farmhouse style dwellings with some lower elements.
- Parking served via parking courtyards or alongside dwellings but generally hidden from the main elevation.
- Variation in building line and building orientation encouraged.
- Limited continuity to create softer edge to the development.
- Variable roof scape with elements of ancillary roofs and chimneys encouraged.
- Screen walls and ancillary buildings used to link main dwellings and encourage farmstead style urban form.

Potential Tree Palette

- Acer campestre
- Alnus glutinosa
- Betula spp.
- Carpinus betulus
- Corylus avellana
- Crataegus monogyna
- Populus nigra
- Prunus spinosa
- Salix spp.

Betula pubescens

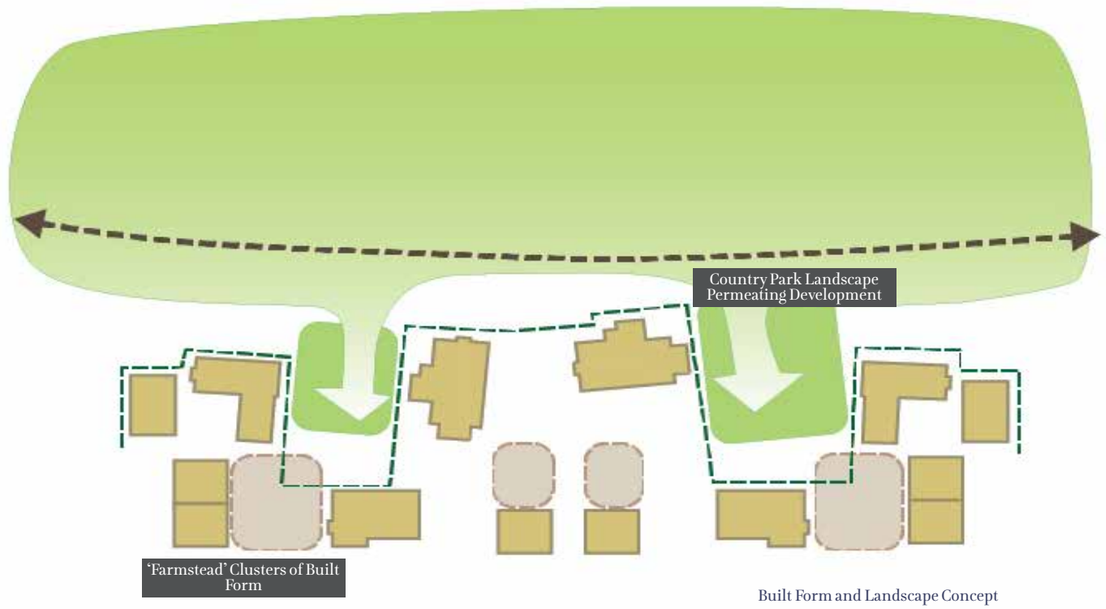
'Farmstead' Built Form Typology

Houses Looking Over Pond

Swift Brick

Agricultural Style Post and Rail Fencing

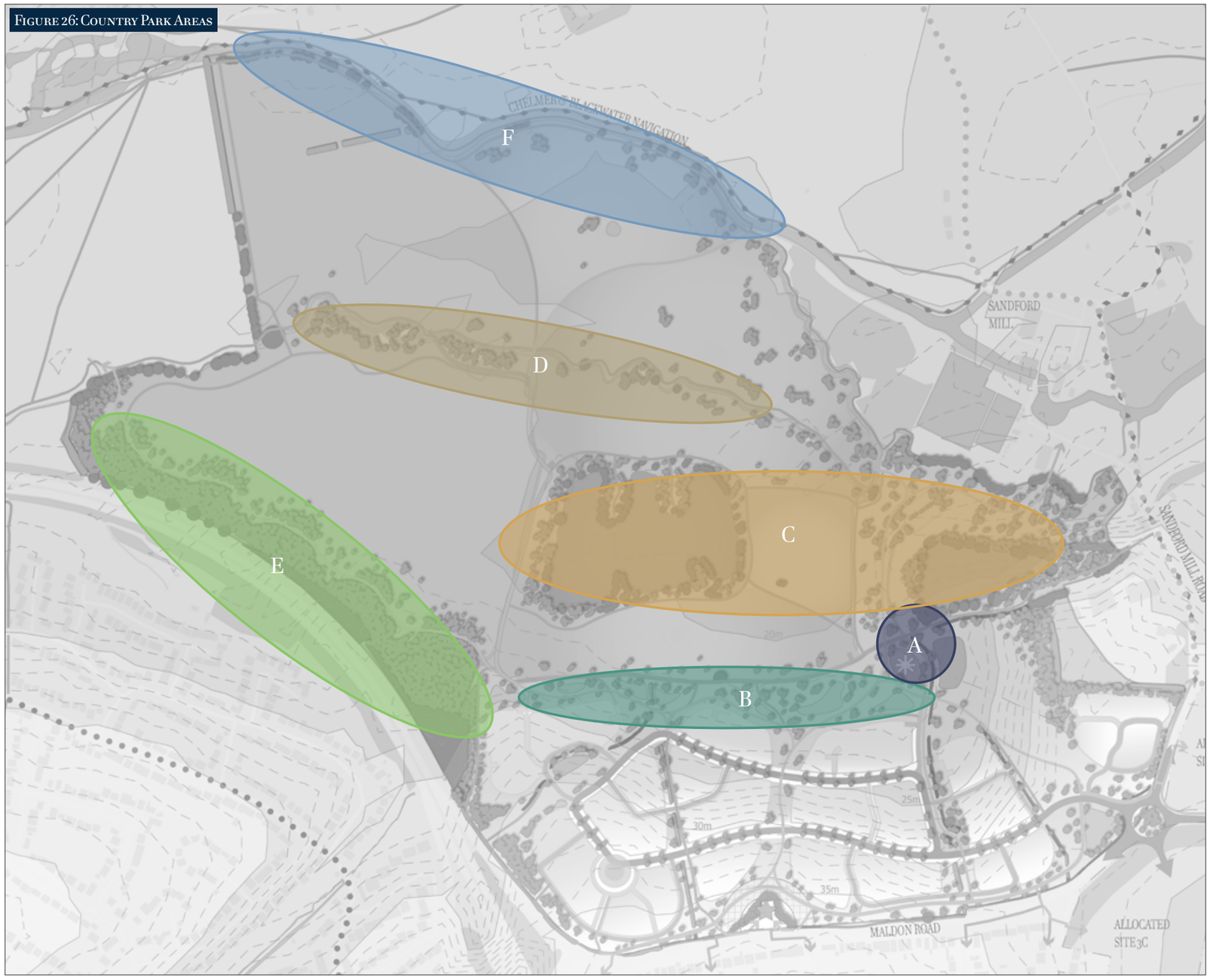
Ponds and Reedbeds



Built Form and Landscape Concept

5.8 COUNTRY PARK DESIGN & MANAGEMENT

Figure 26: Country Park Areas



The proposed development at Sandford Park includes an exciting opportunity to deliver a new Country Park on the doorstep of Chelmsford offering the prospect of a substantial new public open space with improved access and facilities, delivered in a way that preserves the unique characteristics of the River Chelmer valley and enhances existing habitats.

This section describes the proposed strategy for landscape interventions and outline the medium to long term management objectives of the proposed Country Park.

The vision for the Country Park is based on the principle of 'minimum intervention, maximum impact', whereby a series of light touch landscape design proposals are focused on key areas to gain the most benefit by reinforcing and amplifying the existing features and characteristics that contribute to the site's sense of place, its ecological value, and its recreational and educational opportunities.

These design proposals have been explored in more detail in the subsequent pages of this document based on the identification of key areas that best demonstrate the potential combination of existing and proposed landscape features.

The areas are identified as follows:

A. Park Gateway
B. Country Park Interface
C. Lakes
D. Riparian Habitats
E. Woodland Edge
F. Chelmer & Blackwater Navigation

PARK GATEWAY

An area that provides a natural focal point to the Country Park, with a high level of connectivity to the proposed development and the wider footpath and cycleway network, including a new link towards Sandford Mill. An exciting Neighbourhood Play Area and an informal kickabout area would be provided as part of considerable overall recreational provision for future and existing residents of the area.

Key Landscape Elements

- Equipped Play Area.
- Informal 'kickabout'.
- Picnic Tables and Seating.
- Access to Footpath and Cycleway Network.

Management Strategy

- Maintenance of the play area to a high standard to ensure it caters for residents from the wider area.
- Management of the landscape to create and attractive setting, emphasising the area as a focal point.
- Management of spaces and pathways to encourage access and recreation.

Natural Play

Sensory Planting

Adventure Play

Picnic Area

Adventure Play

Sensory Planting

Kickabout Area

Park Gateway Typical Section

COUNTRY PARK INTERFACE

Ponds and Reedbeds

Boardwalks

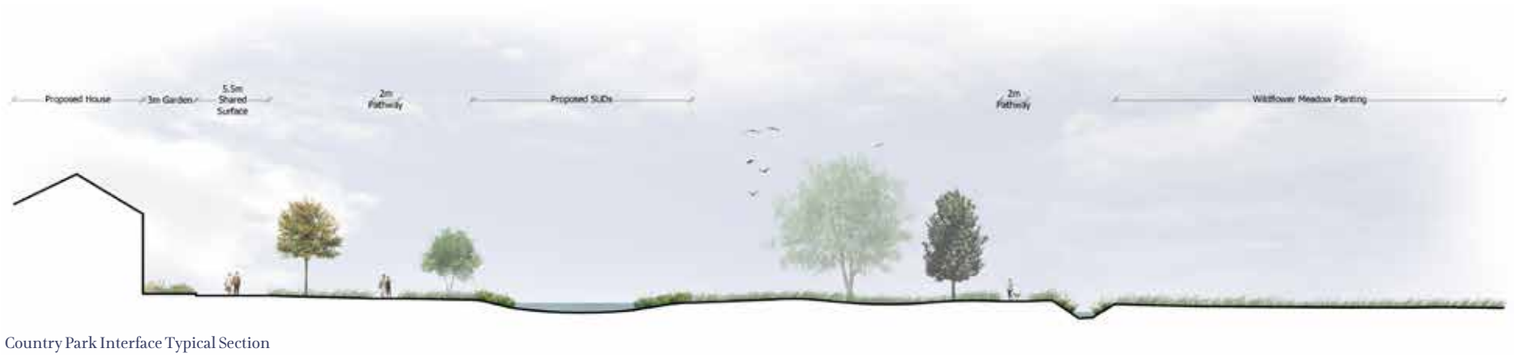
Water Meadow Planting

Ponds and Reedbeds

Cycleway & Seating

Salix alba

Pathways and Boardwalks



Country Park Interface Typical Section

A transitional zone between the open flood plain of the Country Park and the proposed housing area. One that sensitively addresses views in and out while providing an enhanced setting and unique landscape asset to the development. Due to landform, this area will have a strong emphasis on blue infrastructure, meeting the sustainable proposal's drainage needs of the proposal with a holistic landscape design approach.

Key Landscape Elements

- Cycleways and Footpaths.
- SuDS Basins and Ponds.
- Water Meadows and Reedbeds.
- Native Wetland and Parkland Tree Planting.
- Seating Areas and Boardwalks.

Management Strategy

- Management of SuDS features to mitigate flood risk.
- Maintenance of wetland areas to promote native species and discourage invasive species.
- Promotion of management practices that seek to naturally filter and clean surface water.
- Management of spaces and pathways to encourage access and recreation.

LAKES

This central waterbody would be retained and enhanced as part of the proposed development with areas of shoreline opened up to public access. There would be a strong focus on education and interpretation, with bird hides and pond dipping platforms provided as a resource for visiting school groups and the general public alike. There would also be a emphasis on ecology, encouraging diverse native wetland habitats to take hold.

Opportunities to retain fishing on the lakes will be explored through consultation with key stakeholders.

Key Landscape Elements

- Native Wetland Tree Planting.
- Bird Hides and Pond Dipping Platforms.
- Native Shrub Planting.
- Water Meadows and Reedbeds.
- Informal Footpaths.

Key Management Strategy

- Management of spaces and pathways to encourage access and recreation with a focus on education.
- Maintenance of wetland areas to promote native species and discourage invasive species.
- Maintenance of open water areas to encourage native birds.

Pond Dipping

Betula pubescens

Bird Hide

Populus nigra

Alnus glutinosa

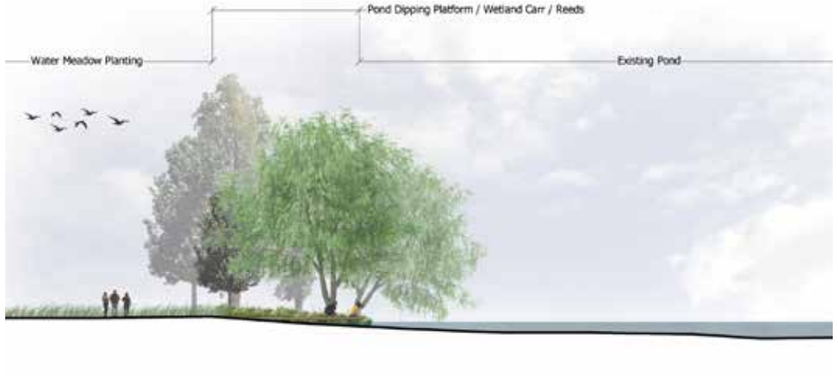
Pond Dipping

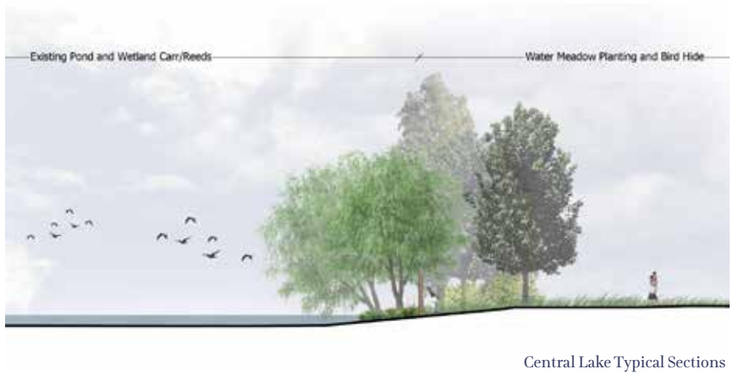
Water Meadow Planting

Bird Hide

Salix viminalis

Native Wetland Birds





Central Lake Typical Sections

RIPARIAN HABITATS

Ponds and Shrub Planting

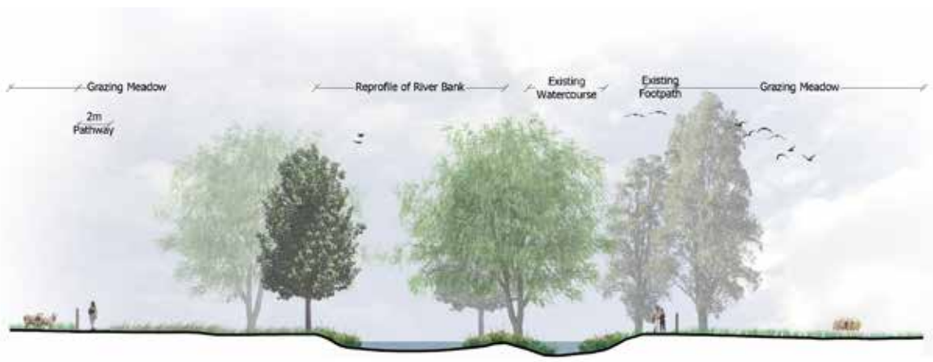
Reedbeds

Wetland Meadows and Pond

Wetland Carr

Grazing Meadow

Mown Grass Paths



Riparian Habitat Typical Section

Provision of a series of interventions that provide enhanced wetland habitats along the existing ditches within the site. This would include a focus on tree planting to provide shade and areas of characteristic wet woodland, reedbeds and ponds to provide habitat for declining bird species and water voles, and waterside shrub thickets to provide havens for wildlife such as otters near the riverbank.

Key Landscape Elements

- Native Wetland Tree Planting.
- Ponds and Scrapes.
- Wet Woodland, Reedbeds and Alder Carr.
- Native Shrub Planting.
- Species Rich Floodplain Meadow.
- Conservation Grazing.
- Mown Grass Paths.

Management Strategy

- Rotational de-silting/clearance of wetland habitats to ensure long term maintenance of wetland habitat.
- Maintenance of wetland areas to promote native species and discourage invasive species.
- Priority given to habitats and biodiversity over public access.
- Meadow areas managed through conservation grazing or yearly hay cut.

WOODLAND EDGE

A peripheral zone along the Essex Yeomanry Way where existing vegetation would be reinforced with new native woodland planting, thereby providing visual and noise containment to the road, providing enhanced habitats on site, and mitigating climate change.

Key Landscape Elements

- Native Woodland.
- Woodland Walkways.
- Woodland Edge Planting.

Management Strategy

- Establishment of a diverse and resilient area of native woodland.
- Rotational coppicing to maintain variation in structure of vegetation.
- Creation of log and brash piles.
- Management to encourage diverse native ground flora.

Woodland Walk

Acer campestre

Log Piles

Ilex aquifolium

Quercus robur

Woodland Edge

Native Woodland

Woodland Edge Typical Section

CHELMER & BLACKWATER NAVIGATION


Navigation


Salix caprea


Wildflower Meadow


Grazing Meadow


Willow Pollard


Populus nigra


Alnus glutinosa

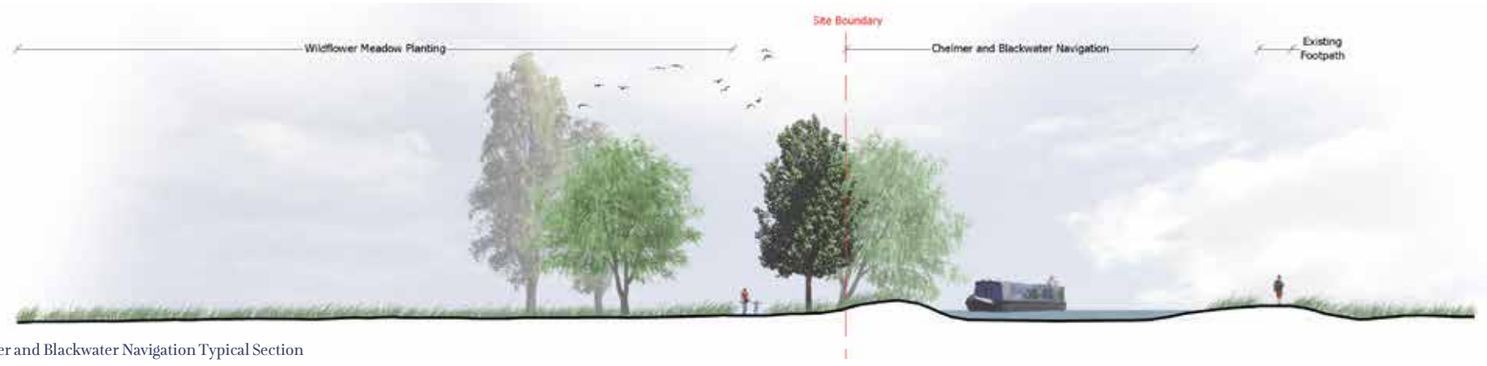
Minimal intervention including enhancements to the existing footpath along the navigation and limited planting of characteristic tree species.

Key Landscape Elements

- Native Tree Planting.
- Wildflower Meadow and Grazing Meadow.

Key Management Strategy

- Maintain open views across the site available from the River Chelmer.
- Selective pollarding of riverside willow trees.
- Conservation grazing where appropriate.
- Management of pathways to encourage access and recreation along the river.



Chelmer and Blackwater Navigation Typical Section

5.9 ILLUSTRATIVE LANDSCAPE MASTERPLAN

FIGURE 27: LANDSCAPE MASTERPLAN

Legend

- Masterplan Boundary
- 1 Proposed development parcels
- 2 Existing hedgerow retained / reinforced with native planting
- 3 Farm shop/Bronze Age Ring Work Enclosure retained and respected
- 4 Loop road with avenue tree planting
- 5 Amenity parkland providing landscape gateway to development
- 6 Neighbourhood Equipped Area for Play (NEAP)
- 7 Local Equipped Area for Play (LEAP)
- 8 Blue infrastructure / SuDS features / Country Park interface
- 9 Country Park - grazing meadow / wildflower meadow
- 10 Existing pond enhanced with native tree planting, pond dipping and bird hide platforms and improved public access
- 11 Existing pond for fishing / ecological enhancement
- 12 Woodland buffer planting providing structural planting and enhanced containment from the A1114
- 13 Proposed native hedgerow
- 14 Enhancement of watercourse including re-profiling of banks, reed beds and wetland carr planting and provision of off-stream habitats
- 15 Interpretation board identifying landmarks, pillboxes and Bronze Age Ring Work Enclosure
- 16 Sandford Mill Science and Education Centre
- 17 New and existing pedestrian routes
- 18 Chelmer and Blackwater Navigation
- 19 Native white willow and black poplar planting
- 20 Car park and vehicular access for the Country Park
- 21 Informal kickabout area

5.10 BLUE INFRASTRUCTURE

Permeable Paving

Reedbeds

Swales

Figure 28: Blue Infrastructure

The character of the site is strongly influenced by water, with existing lakes, ditches and watercourses present within the flood plain to the north of the housing allocation.

The proposed development will include a comprehensive SuDS strategy that focuses on using natural processes and materials to intercept, guide, filter and absorb surface water from the proposed development.

These wet features will be incorporated as a key part of the final landscape design and sensitively integrated into public spaces with native planting. The natural pattern of landform is the guiding principle for locating the majority of SuDS features, with a chain of SuDS elements forming the sensitive landscape transition between the Country Park and the housing area.

All proposed housing will be located outside of the flood zone, and the development will be designed to mitigate flood risk.

The SuDS strategy is shown indicatively and will be subject to detailed design as part of the planning application. It may include features such as ponds, basins, swales, rain gardens and permeable paving, as well as source control measures such as water butts.

Legend

- Masterplan Boundary
- Housing Allocation Boundaries
- Existing Watercourses and Features
- Flood Zone 2
- Topographical Contours
- Proposed SuDS Features

Ponds & Boardwalks

Water Meadows

Dry Basins

Waterbutts

5.11 DENSITY

The approach to the distribution of housing density across the site is governed by the same 'push and pull' principles that informed the alignment of the primary road overall layout of the proposed development.

Areas of medium density will be set out within the parts of the site that have the closest relationship with existing settlement.

Lower density housing will front on to the sensitive landscape interfaces, including the Country Park/Conservation Area and the Bronze Age ringwork enclosure.

The approach to density distribution across the site is as follows:

1. Low density (22 - 28dph) creating a sensitive edge that combines built form and landscape.
2. Low-Medium density (27-33dph) laid out in a series of discrete groupings, replicating local vernacular.
3. Medium density (32-38dph) with development creating appropriate site edges interfacing with existing adjacent context but still with a sensitive approach to the wider landscape context.

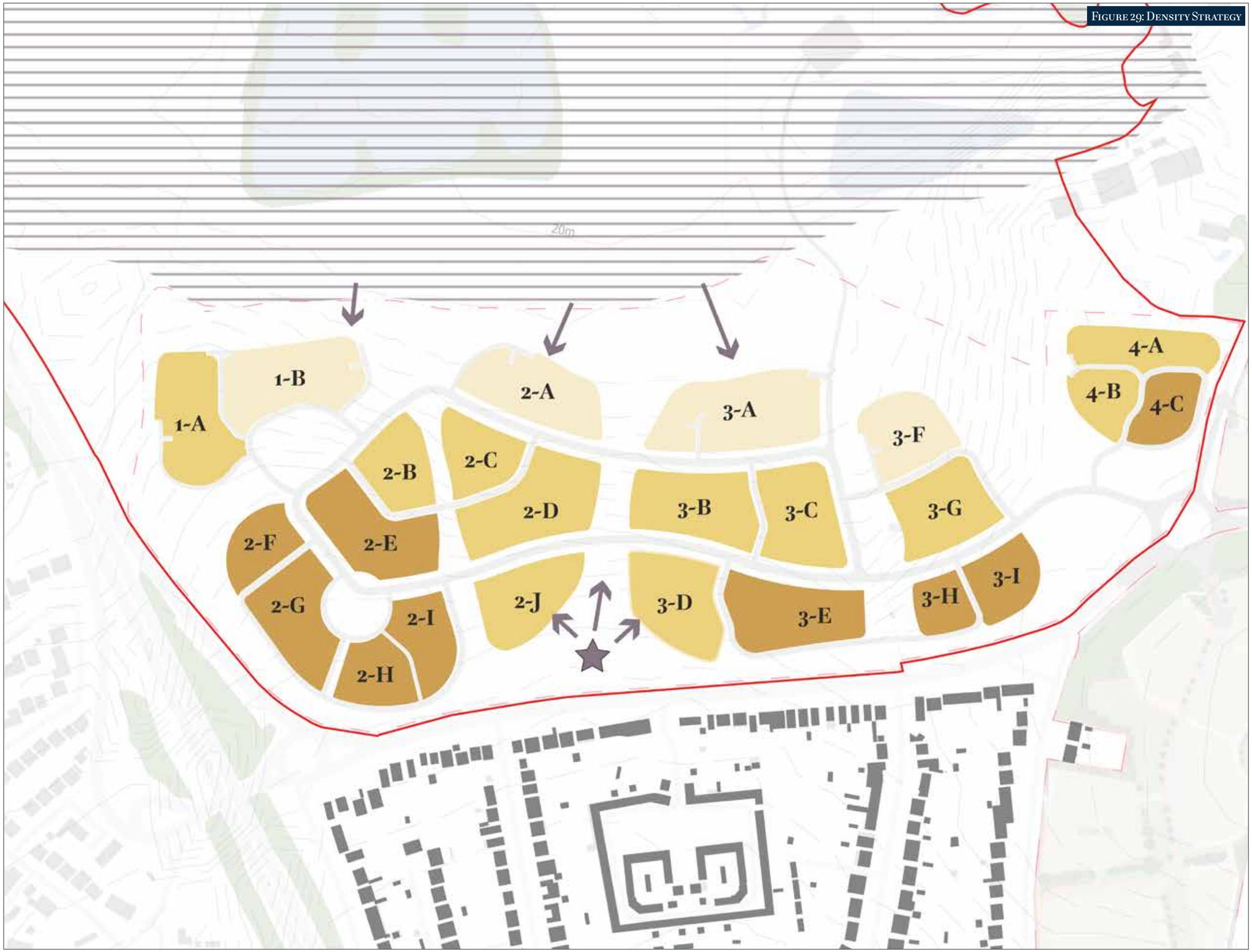
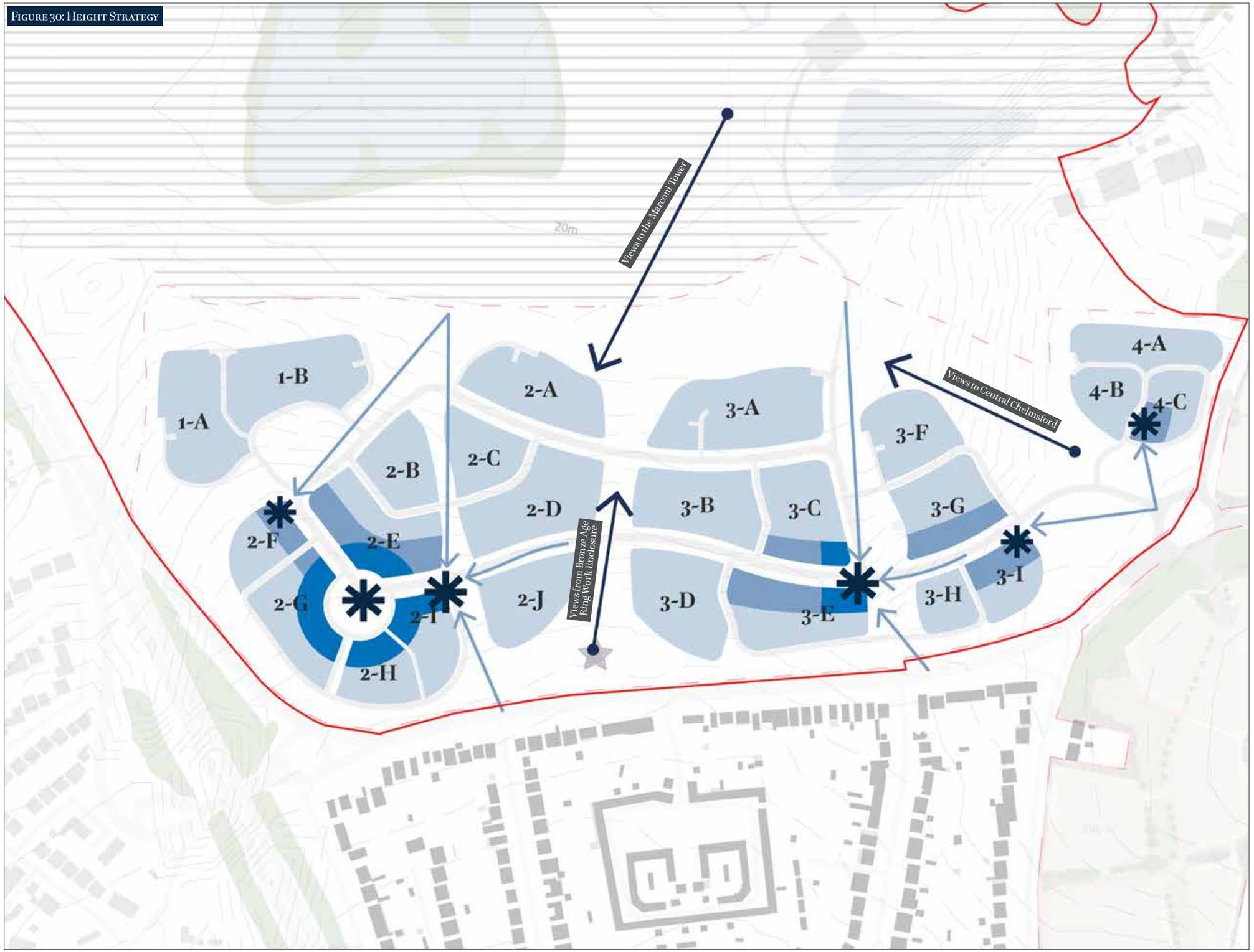


FIGURE 29: DENSITY STRATEGY

5.12 HEIGHT

Figure 30: Height Strategy



The approach to building heights is informed by the proposals for density with a sensitive approach to existing views to features outside of the site.

The starting point for built form height is a two storey maximum, however there is a strong rationale for limited areas where the maximum height is increased to 2.5 and 3 storeys.

These subtle uplifts in height, located along the primary road and away from more sensitive edges will assist in establishing a varied, dynamic roofline, and provide a placemaking role, by providing architectural focal points to articulate gateways and anchor vistas experienced from key landscape spaces.

Hopkins Homes typical storey heights (dpc to ridge) are as follows:

- 2 Storey - 8-9m
- 2.5 Storey - 9.5-10.5m
- 3 Storey - 11-13m

Detailed proposals for heights of buildings will be determined through the planning application.

HOPKINS HOMES

5.13 SUSTAINABILITY AT HOPKINS HOMES

Hopkins Homes is proud of its green credentials and demands that its homes are energy efficient and constructed to a high standard of sustainability. Further details of all sustainable design measures will be set out at detailed design stage, with due regard to Chelmsford's 'Making Places SPD'. However, key measures relating to environmental performance and sustainability have been identified for the proposed development, including the following.

Energy Efficiency

Hopkins Homes' standards will limit CO_2 emissions by increasing the thermal performance of the fabric of proposed buildings through the utilisation of low carbon technology and robust building design details to achieve high level of air tightness and controlled ventilation. Home User Guides will be provided to enable the promotion of energy efficiency within the community of the development and provide further resources to enable long term carbon and energy reduction.

Water Conservation and Management

The proposed development will not be vulnerable to flood risk and will not cause flood risk elsewhere. The scheme will be accompanied by a comprehensive Sustainable Drainage System that is integrated into the landscape using natural features wherever possible.

Sustainable Construction and Materials

"A" rated materials components will be aimed for as assessed in the Green Guide for Specification (BRE). This will include construction details for the roofs, external and internal walls, ground and upper floors and windows. By specifying materials that are A rated it reduces the environmental impact of the materials on our environment over their life cycle.

Waste Recycling

The layout of the development will be designed to meet local standards for recycling and waste collection. Hopkins Homes provide information and support for local schemes on recycling and sustainable living within a home user guide on completion.

Tree Planting

The proposed development will conform with Chelmsford's 'Making Places SPD', with a minimum of three trees planted per dwelling.

Health and Well-being

By designing in features into all housing, Hopkins Homes promotes a variety of features which improve quality of life within the dwellings and also on site. Designing homes with good natural day lighting, reducing the need to use artificial lighting and increasing the potential for solar gain while preparing for any over-heating risks by using natural ventilation all assist in this aim. Access to green space is a key focus for Sandford Park, with clear opportunities to promote health, well-being and exercise through the design of the proposed development.

Construction Management

By promoting Hopkins Homes' environmentally, socially considerate and accountable management of their construction sites, the construction programme will seek to achieve best practice site management principles. It will optimise site activity so that the mitigation of environmental impacts are of the highest regard. Monitoring the site processes and setting targets so that reductions can be made on the use of water and energy, adopting best practice in respect of air pollution arising from site activities and over 80% of timber is recycled.

During the construction phase a site management plan will be produced. This will include measures for identifying, sorting and separating construction and demolition materials for re-use and recycling. The plan will also identify effective methods for minimizing construction waste.

Ecological and Landscape Enhancement

The proposed development is accompanied by a comprehensive landscape strategy underpinned by detailed surveys and a robust analysis of the site and its features. The landscape strategy has been developed with the aim of improving and enhancing the site wherever possible, including through the extensive planting of native trees, hedgerows, shrubs and wildflowers. A Landscape and Biodiversity Management Strategy will be submitted as part of the planning application to set out the measures required for successful landscape establishment and longer-term maintenance and management as well as habitat creation and enhancement, in accordance with local and national policy.

6 Quantum of Development

Local Plan Policy 3A, states that ***"the masterplanning process will determine the final number of new homes, which could be in excess of 250 homes, whilst ensuring that the overall objectives of the site policy are not compromised"***.

This masterplan document has been informed by a robust analysis of the site's historical, physical and visual context, with the establishment of a comprehensive set of site-specific design principles based on a detailed understanding of all aspects of the project. This process has been approached iteratively, and informed by in-depth collaboration with officers of Chelmsford City Council, and feedback received from the Stage 1 and Stage 2 Consultations.

The Masterplan Document does not determine a specific number of new homes to be provided on the site. However, on the basis of the principles that have been established within it (which seek to ensure a high quality, landscape led development, accounting for constraints and opportunities), and applying appropriate densities to the development parcels identified, it is considered that the Masterplan Framework would deliver approximately 340 new homes. This number has been calculated on the basis of Figure 31 and the table below right.

When viewed in the context of the area allocated for residential development through the Chelmsford Local Plan, 340 homes would represent a low gross density of around 17 dwellings per hectare (dph). Whilst mindful of the Government's call (as set out in the National Planning Policy Framework) to make efficient use of land for development, the approach proposed here is nevertheless considered appropriate in response to a detailed assessment of the site's characteristics.

The precise number of new homes to be provided on the site will be determined through a subsequent planning application to follow the Masterplan.

Density Band	Sub-Parcel	Combined Developable Area	Average Density	Approximate Units
Low	1B, 2A, 3A, 3F	2.54ha	25dph	64
Low-Medium	1A, 2B, 2C, 2D, 2J, 3B, 3C, 3D,3G, 4A, 4B, 4C	5.28ha	30dph	158
Medium	2E, 2F, 2G, 2H, 2I, 3E, 3H, 3J	3.36ha	35dph	118
	Total	**11.18ha**	**30.4dph**	**340**

Figure 31: Developable Area

7 Consultations

7.1 STAGE 1 CONSULTATION CHECKLIST

Issue Raised	Action	Relevant Page Number
ECC expressed some concerns with the proposed main cycling route into Chelmsford: ECC suggested that account would need to be taken of those wanting to use different routes, and concerns with the route shown given that cyclists currently have to dismount at the Army & Navy roundabout.	Masterplan Document has given consideration to a number of options and followed a clear rationale in arriving at preferred options. Preferred cycle route is predominantly on land outside of Hopkins Homes' control, but the proposed development could help facilitate improvements to the route by way of potential contributions, providing these are proportionate and otherwise CIL Regulations compatible.	58-65
Lack of direct cycle link to north of site (ECC and CCC).	Further discussions with CCC have been carried out regarding potential for link to go through Sandford Mill and are ongoing. The Masterplan Document makes clear that this could potentially be provided, however it is not essential to the sustainable transport strategy.	65
ECC Passenger Transport suggested they would like to see provision made for buses to access the site.	Future residents will have easy access to existing bus stops along Maldon Road. Bus operators unlikely to wish bus to enter site given the accessibility of existing bus stops to future residents, and the delays to journey times that re-routing services through the development would cause.	56
Wording was overly negative in terms of the approach to addressing heritage assets, including Bronze Age enclosure.	Masterplan Document text has been reworded more positively in terms of approach to heritage assets, explaining opportunity to enhance their setting through the development.	32
Width of proposed green fingers insufficient (CCC and ECC). (LW of CCC acknowledged that it was not simply about the width of the fingers)	Further supporting material has been prepared to set out the aspirations for landscape, built form and access to demonstrate in further detail the proposed relationship between built form and landscape in these key spaces. Additional material was presented to officers of Chelmsford City Council to obtain buy in on proposals. This material has been developed and subsequently incorporated into the Masterplan Document.	56, 66-89.
ECC requested further engagement in respect of SuDS (subsequent email with further details from ECC forwarded to Stantec)	ECC confirmed that once more detail becomes available on the Flood Risk Assessment and proposed Drainage Strategy they will be happy to engage further. Key points concerning the provision of un-obstructed corridors along watercourses crossing the site and the location of storage structures outside of the floodplain are already allowed for by the proposed masterplan whilst details of source control measures and the design of multi-function SuDS features will addressed as the design develops.	n/a
Suggestion from Sport England that the Country Park incorporate an area for informal play / 'kick-about' near to homes; and circular, signed-posted, running / walking routes.	An informal 'kick-about' area has been added to the proposals. A series of waymarked pedestrian and cycling routes have also been incorporated.	66
It was suggested that the development would be an ideal location to create habitats for swifts, as the Country Park would provide excellent foraging grounds for them. Habitats could be created relatively easily through use of swift bricks in the residential development.	Masterplan Document includes reference to swift bricks in three of the character zones (Country Park Transition, Western Finger, Hedgerow Corridors).	75, 79, 80
Need for dedicated and separate paths for cyclists and walkers / runners within Country Park, to avoid conflict	A series of waymarked walking and cycling routes have also been incorporated within the Country Park, with a clear hierarchy to guide usage.	67
Country Park to include rest areas	Rest areas with seating are proposed in a series of locations within the Country Park. Further detail will be provided within a holistic street furniture strategy as part of a planning application.	67
Health Impact Assessment required. Suggested that this be undertaken as early as possible.	Text relating to the preparation of an HIA has been included in the Masterplan Document.	67
Questions of future management of Country Park	The Country Park design and management strategy has been incorporated into the Masterplan Document. Arrangements for adoption/responsibility of Country Park subject to ongoing discussion.	81-87
Bridleways should be incorporated into the Country Park, connecting to those proposed by Redrow. There was policy support for such (Cllr Sue Dobson)	The location of existing and proposed bridleways within the surrounding area and in particular within the Redrow development do not provide a safe and direct means of access to the County Park for equestrians. On this basis, no bridleways have been incorporated into the Country Park.	n/a
Country Park car park: still uncertainties re location. Some concerns from local residents' representative regarding anti-social behaviour and impact on neighbours.	Location of proposed car park adjusted to be further from rear of existing residential properties and a more prominent position with better passive surveillance. Car park access arrangements potentially to include lockable gate to discourage antisocial behaviour.	56
It was questioned by community representatives / Councillors what the environmental performance of the new development would be.	Stage 2 masterplan has been updated to outline Hopkins Homes' approach to sustainability and environmental performance.	92
Councillors questioned storey heights of development.	Masterplan Document includes full detail of proposed storey heights	91
It was questioned whether Sandon School would be engaged in the development of the masterplan, with participants noting in particular opportunities for students to see how issues such as heritage and ecology are addressed as part of development; as well as being an excellent opportunity to ensure young people's views could be considered in the preparation of the masterplan. Sandon School representative expressed support for involvement of the school.	Consultation with schools/students has not been possible due to covid restrictions, however Hopkins Homes would be happy to further discuss this with the School representative.	n/a
GBENA representative suggested there was a long term lease on the fishing lakes on site, and that this secured private fishing rights over these. This was at odds with the masterplan's proposals to enhance the public use of the fishing lakes.	Lease arrangements have been reviewed and discussions are ongoing with CCC and other stakeholders. Masterplan Document makes clear that continued use for fishing is an aspiration of the proposed development.	84
A Councillor asked whether it would be possible to provide vehicular access to the Country Park without having to utilise new access to be provided for residential development off Maldon Road (i.e. whether an access via Essex Yeomanry Way was feasible).	With the exception of Maldon Road and Sandford Mill Lane, the development site does not share a site boundary with any other section of existing highway apart from Essex Yeomanry Way. Essex Yeomanry Way is a dual carriageway road constructed along an embankment. As such it is not feasible to construct a new separate access for the Country Park which does not also provide access to the proposed residential development.	n/a
A Councillor noted that a Great Baddow Village Design Statement was prepared and is still considered extant.	Reference has been made to Great Baddow Village Design Statement and the proposals have been progressed with the document's guidance in mind.	21

7.2 STAGE 2 CONSULTATION CHECKLIST

A large number of comments were received from various organisations and individuals through the Stage 2 Consultation, and these have informed the final version of the Masterplan Document. A full response to all comments has been provided to Chelmsford City Council, however the table below summarises changes that have been incorporated.

Action	Relevant Page Number
Update Sandford Park Vision Objectives, Policy & Designations, Circulation Facilities & Noise and Landscape Appraisal to include reference to safe, direct sustainable routes, and multi-functional Green Infrastructure.	11, 18, 19, 37, 38
Identify GP surgeries and dentists in Local Facilities and Amenities Section.	22, 23
Update heritage section to account for recent listed building status of the Great Baddow Mast.	32
Review and correct location of existing crossings in Circulation, Facilities and Noise section.	37
Add street tree planting as an opportunity in the arboricultural section.	42
Add reference to public transport in overall opportunities.	45
Update legend, labelling, access arrangements and SuDS in Masterplan Framework and other drawings, including ensuring all SuDS are shown outside flood zone.	53, 88, 89
Review proposed Maldon Road crossings, add eastern pedestrian/cycle access to farm shop, add pedestrian/cycle access from eastern parcel to Sandford Mill Road.	53, 56, 57
Review and adjust legends, colours, crossings and cycling hierarchy in Figures 19 and 20. Add 400m buffers to bus stops.	56-57
Include reference to local standards for waste collection and the bridge to visitor facilities at Sandford Mill.	56
Add reference to equestrian access to the Country Park being discussed as part of the planning application.	56
Amend cycling strategy to note flood zone and width of existing bridge as constraints and include reference to Army and Navy roundabout proposals. Update conclusion to better communicate preferred strategy.	60-65
Provide a wider movement strategy drawing referencing East Chelmsford/City Centre Movement Strategy, and Army and Navy roundabout proposals with proposed bridges in Country Park added. Include reference to public transport and note on developer contributions.	66
Include reference to Chelmsford's 'Making Places SPD' in Wayfinding, Street Furniture, & Public Art section.	67
Improve legibility of Character Zone plan.	68
Update labelling and sections in character zone strategy, removing kiosk from Park Gateway, cycling from Chelmer Navigation and reference to 'pavements' in central finger.	68-87
Check and update all character zone descriptions for consistency with current proposals for height and overall development principles.	68-80
Add new character zone study for Eastern Parcel (parcel 4).	76-77
Update landscape concept plan and blue infrastructure plan in accordance with other comments.	88-89
Add ranges to density bands.	90
Update Sustainability Statement to include reference to Making Places SPD and commitment to planting 3 trees per unit.	92

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