November 2020

8.1 Landscape strategy

The landscape proposals in the new masterplan for Cambridge Road support the overall strategy, defining the spatial characters and working in harmony with the building typologies discussed elsewhere in this report.

The aim of the landscape is to create a significant green uplift for the area, promoting Healthy Streets and a natural environment within a dense urban context.

This chapter will consider the following areas in the development of the Landscape Strategy:

- **Existing landscape;**
- **Existing landscape context;**
- **Landscape design principles;**
- **Landscape design evolution;**
- **Landscape Character Areas;**
- **Tree planting strategy;**
- **Hard landscape strategy;**
- **Soft landscape strategy;**
- **Furniture and lighting strategy;**
- **Topography and levels;**
- **Planning guidance;**
- **SUDs and water management;**
- **Ecology and biodiversity;**
- **Amenity and open space;**
- **Play, sports and fitness;**
- **Urban greening;**
- **Arts and culture; and**
- **Meanwhile strategy.**

Figure 1: The landscape masterplan.

Figure 2: New open space of Cambridge Grove Gardens.

8.2 Landscape of the existing Estate

The landscape of the existing Cambridge Road Estate is approximately 44% publicly accessible open space, with the remaining 56% dedicated to vehicle circulation or held within privately demised gardens.

Significant green spaces

Of the 2.8ha of publicly accessible open space, the great majority is hard landscaping or low-quality grass verges, with notable exceptions concentrated in four key areas of the Estate:

- Madingley Gardens;
- Fordham Gardens;
- Piper Hall Green; and
- Childerley Gardens.

Significant hard spaces

Beyond the four garden areas, there are three main hard spaces in the existing Estate:

- Podium Playground;
- Sports Centre roof; and
- The J Pitch.

Topography

The site sits on the side of a ridge of land extending locally between Surbiton and Coombe, defining the eastern extent of the River Thames valley. To the south, a local cut is formed in this ridge by the east:west flow of the Hogsmill River.

The river valley landscape creates a general fall across the site from a high point in the south east to a general low in the north west.

Local fluctuations in the natural topography form depressions, and level changes within the site are accentuated by the signficant 'cliff edge' architecture of the Estate, creating 3:4m level changes accessible only by stair.

Existing trees

Primarily, but not exclusively, within the publicly accessible areas of the site, there are approximately 212 existing trees of varying quality that add to the existing character of the Estate.

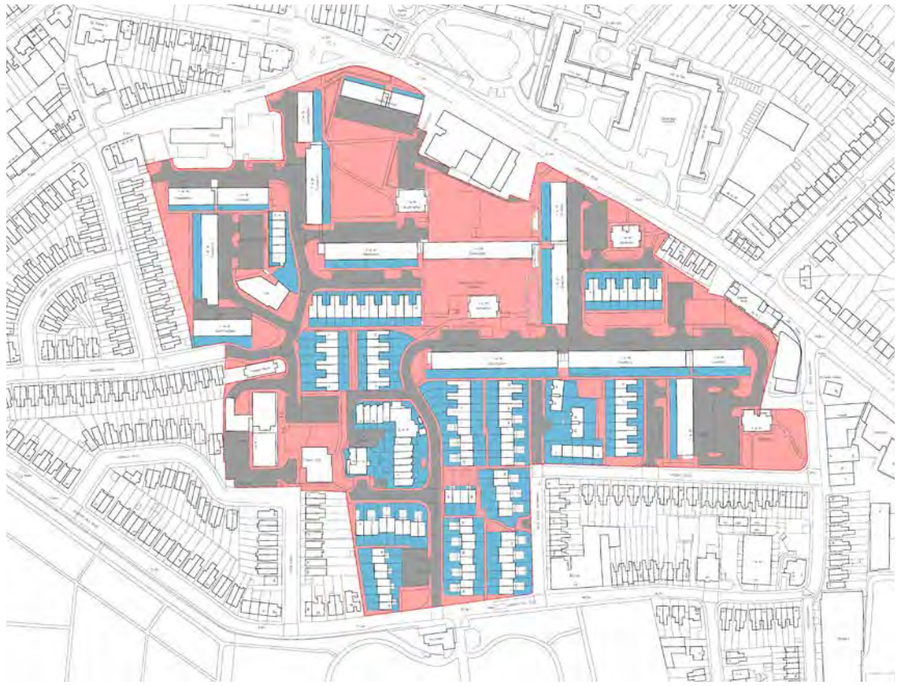


Figure 3: Existing masterplan - Publicly accessible and private open space.

Figure 4: Existing masterplan - Types of open space.

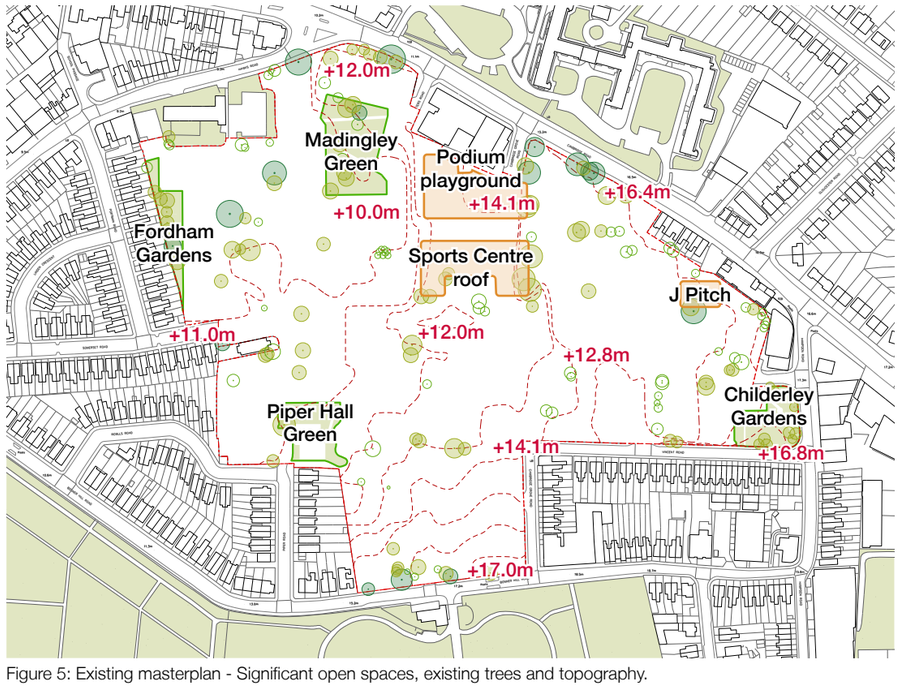


Figure 5: Existing masterplan - Significant open spaces, existing trees and topography.

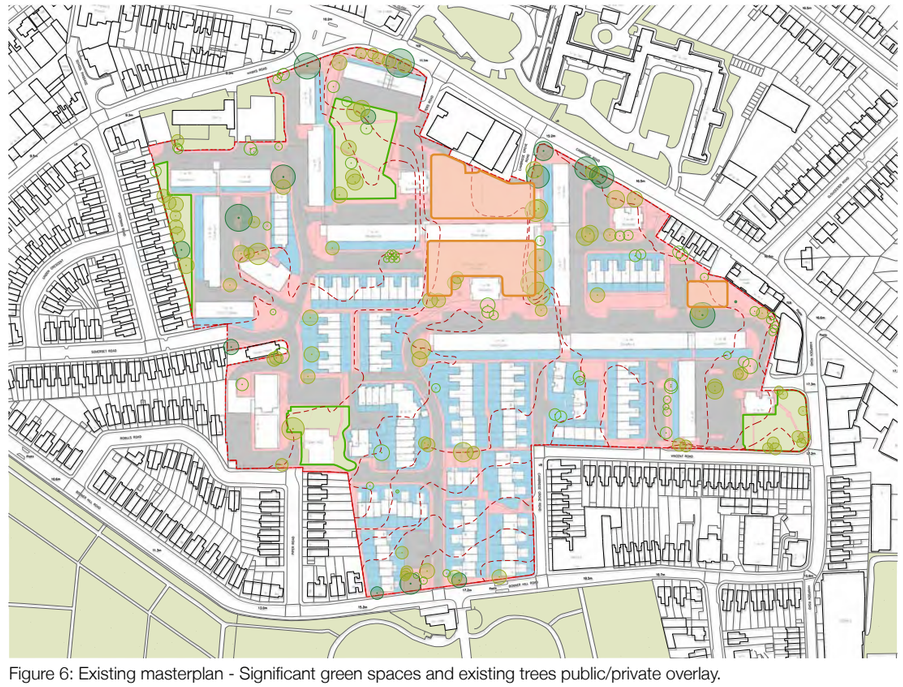


Figure 6: Existing masterplan - Significant green spaces and existing trees public/private overlay.

8.3 Landscape in the local context

The local landscape context is defined by a clear divide to the north and south of the site.

To the north, and wrapping around the west and east, the area is predominantly low scale residential streets with front and rear private gardens, street trees and shrubs.

To the south, the Hogsmill River is bounded by the large, open green spaces in and around the Kingston Crematorium and Cemetery, Thames Water waste treatment plant, Kingsmeadow Sports and Recreation grounds, and allotments.

Local amenity green spaces can be found to the west of the site in and to the south west at Athelstan Recreation Ground.

Figure 7: Existing context - Significant landscape features. Source: Google

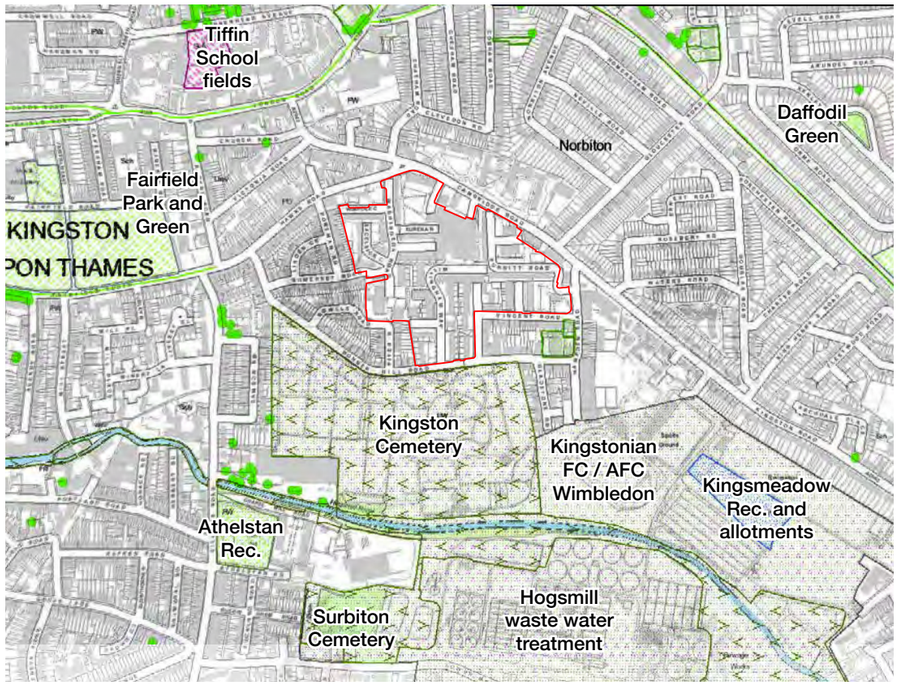


Figure 8: Existing context - Significant landscape features and Local Development Plan. Source: RBK

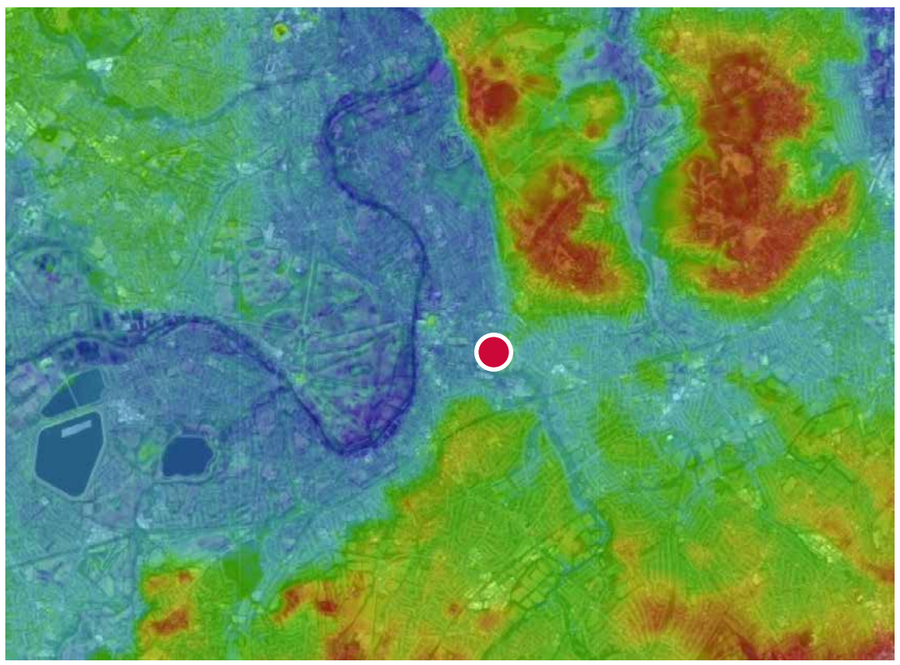


Figure 9: Topographical heat map - wide area. Source: OpenTopoMap

Figure 10: Topographical heat map - local context. Source: OpenTopoMap

8.4 Landscape design approach

The importance of green space

Landscape plays a vital role in the success of any development, and the importance of green space where people live has become much more obvious during the year of this application.

With so many people spending time in the area around their homes, the public realm is a place of refuge, a place to breathe, to socialise and explore, to stimulate and to relax.

The climate emergency

In June 2019, the Council declared a climate emergency in Kingston. As a significant landmark project in the borough, it is critical that the regeneration of the Cambridge Road Estate sets a standard in landscape, introducing measures to improve air quality, create habitats, encourage sustainable transport and signpost change.

Neighbourhood pride

We design with a clear goal: to give residents a sense of "**Being Home**" as far from their locked front door as possible. This means creating safe, enjoyable spaces with identifiable characteristics, belonging to particular neighbourhoods and fostering a sense of pride in the communities.

Our landscape approach aims to:

- Promote links and permeability;
- Establish a hierarchy of streets and access;
- Create distinct character settings;
- Create a hierarchy of materials and planting;
- Create green streets, gardens and squares;
- Provide for flexible outdoor uses and activities;
- Encourage play and fitness in the public realm;
- Provide functional level access;
- Maximise sustainability gains; and
- Promote biodiversity net gain/urban greening factor.

Visibly greener spaces

Shifting the perception of the Cambridge Road Estate from a hard urban environment to a layered green space with expansive planting at street level, tree canopies, podium gardens and rooftops. Ensuring the journey through the streets is always connected to planting within reach.

Celebrating trees

Retaining as many existing trees as possible and focusing activities around them with new seating and planting.

'Releasing' trees from private gardens into the public realm and giving them space to grow. Planting to intensify seasonal colour.

Visibly sustainable spaces

Highly visible elements of sustainable landscape design, signage.

Space for community activities

Creating opportunities for socialising, play, fitness and leisure within the public realm to encourage the use of the outdoors and foster community interaction.

Encouraging exploration and discovery

Locating features for play throughout the public realm.

Inclusive environments

Smoothing out level changes and creating step-free access across the public realm; selecting surfaces to allow for wheeled access; using texture and colour to assist partially sighted people; planting sensory gardens; inclusive play and fitness features.

Healthy Streets

While dedicated cycle lanes have been provided as part of the Kingston 'Go Cycle' initiative, informal allowance for cycling is provided by smaller scale streets that promote slower speed for more sustainable options of cycling and walking. These streets are still wide enough to allow for servicing and the possible provision of a bus route through the site.

Controlling vehicle access

Prioritising pedestrians and cyclists over private cars; creating opportunities for weekend play streets and markets; encouraging safe street play.

Culture, teaching and learning

Interactive tree trails; Signage and smart information; embedded artworks.

Fostering habitats

Designating areas of landscaping for biodiversity.

8.5 Landscape design evolution

The evolution of the landscape design closely tracks the evolution of the masterplan as a whole; this is described in more detail in **Chapter 5.0** of this document.

The most significant change has been the decentralisation of green space, moving from a grand gesture at the heart of the site to a distributed landscape with smaller neighbourhood centres, green streets and extensive tree planting.

Figure 13: Analysis of landscape in the existing Estate.

The existing Estate

The main public areas are located predominately to the north adjacent to the apartment buildings. To the south of the Estate, the soft landscaped areas are predominately private front gardens and private back gardens. Within the Estate there are also several large hard landscaped areas which are used as informal play spaces.

Figure 11: Initial site response with a central green space.

Initial site response

Initial proposals recognise importance of Madingley and Fordham green spaces, create a grand Central Park with a crescent to the north and mansions to the south.

Figure 12: Network of green streets and gardens.

Submission

Distributed landscape in a network of green streets.

Fewer vehicle-dominated roads

Parking dominates much of the public realm along with odd level changes that fragment the site. More green space, car free routes, play on the way would add to the experience and enhance daily lives by providing connection with nature.

More mature trees retained

Retaining as many mature trees within the Estate as possible has been a significant ambition for the scheme, with buildings and roads moving to increase retention levels from 63% in 2018 to 66% on submission in 2020. Importantly now with no loss of Category A trees and a further 8 Category B trees retained.

8.6 Audit of existing tree planting

The existing Estate has approximately 212 trees within the red-line application boundary, standing alone as an identifiable specimen, or forming part of a multi-tree grouping.

The majority of these trees (75%) are from 6 species:

Species	Percentage
Sycamore	21%
London Plane	17%
Lime	13%
Silver Birch	9%
Cherry	7%
Maple	7%

The next 15% are from a further 5 species:

Species	Percentage
Beech	4%
Horse Chestnut	4%
Cypress	3%
Willow	2%
Hawthorn	2%

The final 10% are individual specimens or pairs, typically planted within private gardens.

Reflecting the dominance of the three most prevalent species, more than 1/2 of the mature tree planting on site is either Sycamore, London Plane or Lime.

Ecological survey

Existing trees were studied for their contribution to local fauna, particularly where bat activity may have been suspected.

Arboricultural survey

To help inform decision making around the existing trees, a survey was undertaken by Arboricultural Consultants following the methodology within BS 5837:2012.

The purpose of this survey was to identify each existing tree on the site and record the species, age, size, and importantly the condition and expected lifetime of each tree.

This empirical appraisal guides design decisions on where to place buildings on site. A poor quality, damaged or diseased specimen, for example, or fast growing self-seeded species, may not have the same value as a good quality mature specimen with a significant ongoing contribution to life within the evolving site.

Table 1 of the BS classifies individual specimens and tree groups according to their scale, age and condition, with three categories suitable to be considered for retention:

Category A
Trees of a high quality with an estimated remaining life expectancy of at least 40 years;

Category B
Trees of a moderate quality with an estimated remaining life expectancy of at least 20 years; and

Category C
Trees of low quality with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150 mm.

The standard also describes a fourth category of poor quality trees not suitable for consideration for retention:

Category U
Trees in such a condition that they cannot realistically be retained as living trees in the context of the current land use for longer than 10 years.

GLA guidance

The GLA has current (**LP Policy 7.21.C)** and emerging policy on best practice for development in relation to existing trees. **DNLP Policy G7.C** notes:

"*Development proposals should ensure that, wherever possible, existing trees of quality are retained. If it is imperative that trees have to be removed, there should be adequate replacement based on the existing value of the benefits of the trees removed.*"

Figure 14: Existing Estate plan showing tree planting.

Figure 15: Piper Weeping Willow.

Figure 16: Rowlls Cherry.

Figure 18: Fordham Limes.

Figure 19: Excelsior London Plane.

Figure 17: Bus stop London Planes.

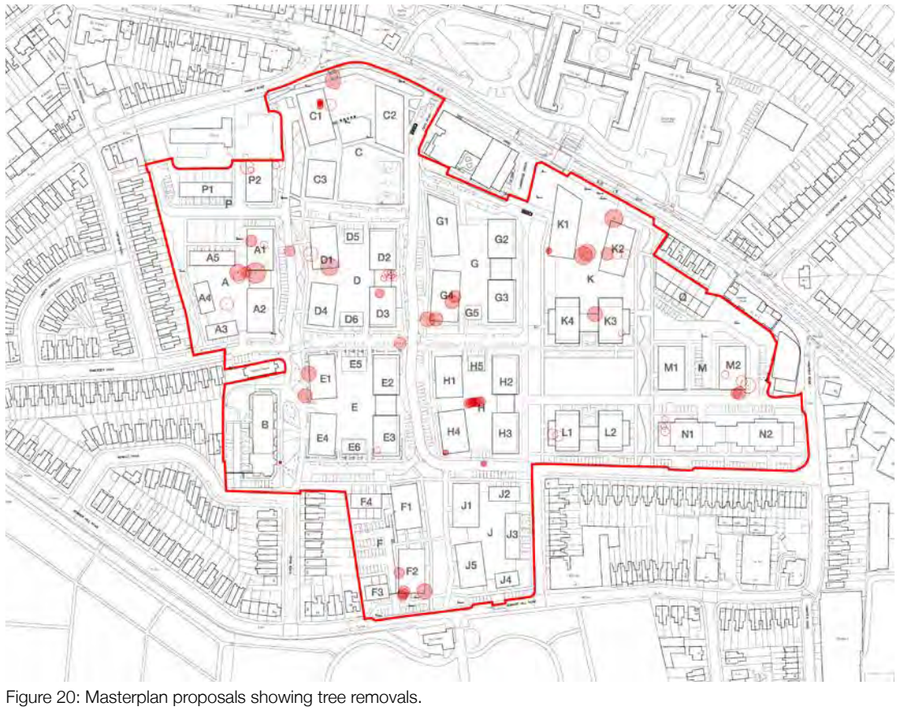


Figure 20: Masterplan proposals showing tree removals.

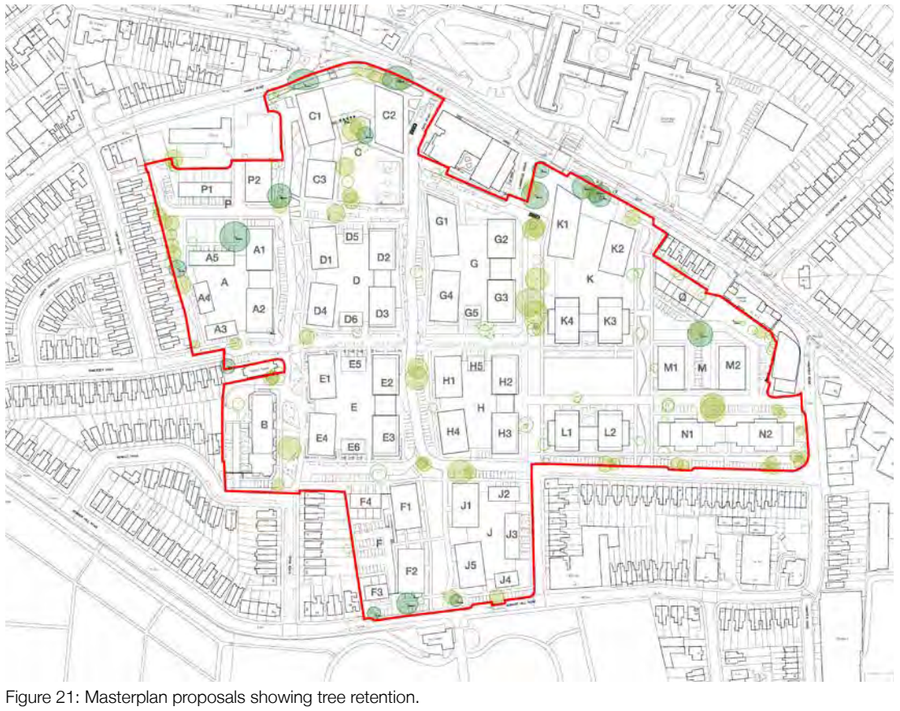


Figure 21: Masterplan proposals showing tree retention.

8.7 Retention and removal of existing trees

Throughout the design process, it has been a high design priority to retain as many existing trees as possible in the regeneration of the Estate.

Beyond their ecological value, high quality trees help to stitch new proposals into an existing environment and give a sense of continuity.

Without rebuilding to the exact same footprint as the existing buildings and roads currently on the site, it would be impossible to retain all of the trees surveyed, and deliver the benefits of the proposed development.

Proposals have sought to maximise retention by moving buildings and roads within the masterplan. In total, more than 70% of the existing tree planting will be retained while more than doubling the number of homes on the site.

In deciding which trees to prioritise for retention or to mark for removal, we have considered both the empirical data of the arboricultural and ecological surveys, and also the emotional connections residents and visitors have expressed through public consultation.

Selection of retained trees

The images to the left and marked on the existing plan on the previous page show a selection of the existing trees which will be retained in the masterplan proposals.

These include:

- Significant mature London Plane trees (86% retention of Planes);
- Mature Weeping Willows (100% retention of Willows);
- A cluster of ‘Conker’ trees (83% retention of Horse Chestnuts); and
- Extensive Lime trees (91% retention of Lime).

Tree and root protection

Of the trees proposed for retention, some specimens may be at risk of damage during demolition and construction. These trees have been identified and a protection plan will be submitted during the next stage of development.

Figure 22: Horse chestnuts and beech trees in Madingley Gardens.

Figure 25: London Plane, Sycamore and Maple on Cambridge Road.

Figure 24: Burritt London Planes.

Figure 23: Memorial tree.

8.8 Tree species groupings

In order to develop a tree planting strategy, it was important to first understand the composition of existing trees to be retained on the site, to allow the selection and placement of new planting which would reinforce and compliment the existing.

Style groupings

Instead of referring to specific species, we have grouped the trees by 'Style' based on commonalities in their key characteristics. These include:

- **Deciduous or evergreen**
  It is important to retain a distribution of leaf canopy throughout the seasons to provide shelter, habitat and visual interest at different times of year;
- **Canopy spread**
  Certain species of tree have a broad, shady canopy which is well suited to open space, but less in a street between taller buildings where a slender columnar form permits more daylight;
- **Autumn colour**
  Seasonal interest trees work best when clustered to intensify an Autumn palette of reds and golds;
- **Blossom, flowering, fruits and berries**
  Colour and fruit can be used to great effect but can also cause damage and maintenance issues if planted in the wrong place;
- **Wetland trees**
  Rain gardens will be used extensively across the site, with trees tolerant to standing water critical; and
- **Specimen trees**
  Iconic trees which stand out from the general canopy can be used for wayfinding and education.

Broad canopy	66
Structural street	--
Specimen	23
Seasonal climax	11
Ornamental	1
Structural evergreen	7
Swale	--
Native	33
Total retained trees	**141**

Figure 26: Retained tree species grouping.

Figure 27: Consolidated tree strategy plan (Existing and proposed).

8.9 Proposed tree strategy

The tree planting strategy has been designed to provide a robust layer of greenery affirming the structure of the proposed public realm and helping to define identity and distinctiveness across different areas of the site.

London and National Guidance, including DEFRA's Urban Tree Manual, has been consulted in the selection of species.

RBK's Tree Officer has been consulted in the preparation of this strategy, and expressed a desire for diversification of species to create a more robust urban woodland habitat.

Pests or diseases which are affecting existing trees in the site and wider area have been taken into consideration.

Proposed planting has been selected to compliment the existing planting, increase diversity, and reinforce the character of different areas of the masterplan.

Replacement trees

As a minimum standard, the number of new trees to be planted has been calculated on the basis of 2:1 replacement of Category A/B trees, and 1:1 replacement of Category C/U trees which are removed to enable development.

Category	Removed	Replacement
A - High quality	0	0
B - Moderate	24	48
C - Adequate	44	44
U - Poor	3	3
All	**71**	**95**

Broad canopy	117
Structural street	38
Specimen	47
Seasonal climax	43
Ornamental	31
Structural evergreen	35
Swale	28
Native	105
Total retained and newly planted trees	**444**

8.10 Tree species selection

The tree species have been selected by analysis of the existing planting and by a number of different criteria.

Analysis - Retained trees

- Many mature London plane, Sycamore, Lime and Norway maple, occasional beech;
- Few evergreens, only Cherry laurel and Leyland cypress, that would offer year round canopy; and
- Few native smaller sized trees (only one Field maple) such as hawthorn, field maple, sorbus, which attract many bird species.

Design considerations - new planting

- Ensure long term durability, with robust species capable to resist and adapt the possible consequences of climate change (e.g. long periods of drought and heavy rain falls);
- Offer human comfort, providing dense shaded areas and a strong structure with the capacity to mitigate the negative effects of high temperatures and strong winds;
- Provide seasonal visual amenity during the whole year with attractive ornamental qualities;
- Promote local biodiversity by increasing the overall population of native species and attracting the local fauna, offering an ecological niche and refuge;
- A range of tree types: differentiate Character Areas and streets, create individual qualities of place by reinforcing existing species groups;
- Sun/ shade implications for outdoor recreation and to nearby homes;
- Tree health: suitability to site; variety of species, clear of major pests and diseases;
- Aesthetics: contribution of character to new parts of the site; engendering a love for trees; and
- Sensory: species that accentuate sounds, scents, colours.

Species selection

The species illustrated on the following pages reflect examples which may be used in the different style groupings. Other species may be selected but should share commonalities and reinforce the principles of each style grouping.

Broad canopy

Species selected for their broad, leafy canopy for summer shade. Many existing specimens retained.

Black locust
Robinia pseudoacacia Bessoniana

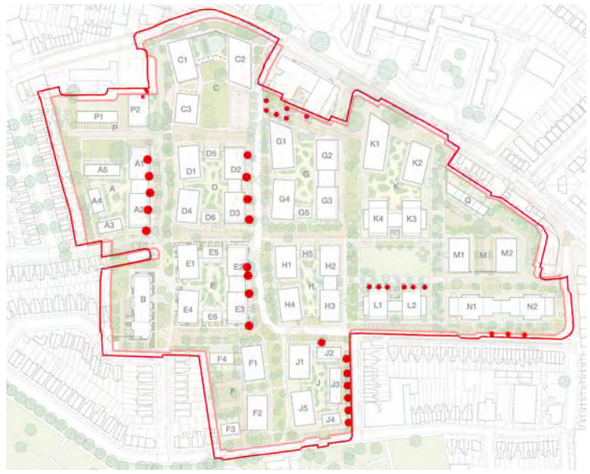
Hop hornbeam
Ostrya carpinifolia

Yellowwood
Cladrastis sinensis

Birch
Betula ermanii

Honey locust
Gleditsia triacanthos

Wingnut
Pterocarya fraxinifolia



Structural street

Species defined by a columnar form providing rhythm and greening to the streetscape without broad spread and rootball.

Field maple
Acer campestre Streetwise

Quaking aspen
Populus tremula

Fastigiate hornbeam
Carpinus betulus Fastigiata

Ginkgo
Ginkgo biloba

Pear
Pyrus calleyrana Chanticleer

Specimen

Uncommon tree specimens or clusters which stand out in the streetscape and provide interest and variety against a backdrop of planting.

Pine
Pinus nigra

Sophora
Sophora japonica

Lime
Tilia x flavescens Dropmore

Euodia
Euodia hupehensis

Stone pine
Pinus pinea

Seasonal climax

Deciduous trees which have a particularly vibrant display in spring or autumn, changing colour or fruiting.


Paperbark maple
Acer griseum


Golden rain tree
Koelruteria paniculata


Sweetgum
Liquidambar styraciflua


White cherry
Prunus Tai Haku


Persian spire
Malus floribunda

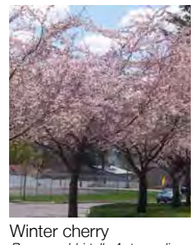
Ornamental

Smaller species suitable for restful, more private spaces such as residents' courtyard gardens. Many fruiting and blossom trees.

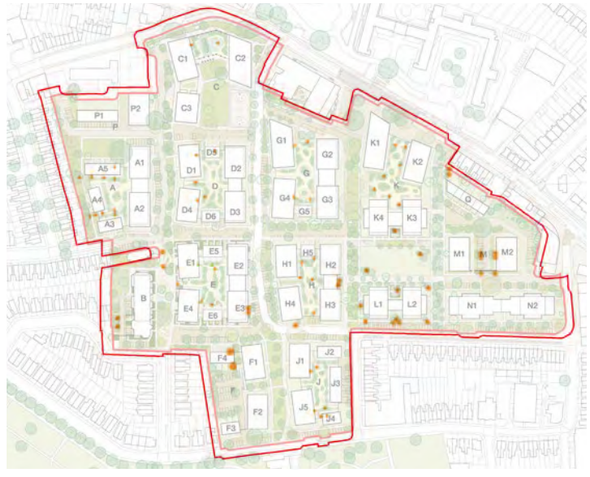

Trident maple
Acer buergianum


Serviceberry
Amelanchier lamarckii


Birch
Betulis utilis


Winter cherry
Prunus subhirtella Autumnalis


Rowan
Sorbus vilmorinii



Structural evergreen

Evergreen species providing year-round greening to the streetscape when deciduous species drop their leaves.

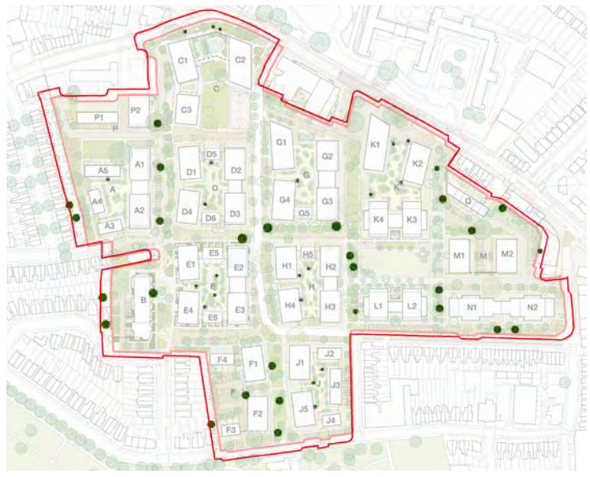

Juniper
Juniperus communiis


Holly
Ilex aquifolium


Holly
Ilex aquifolium Argentea Marginata


Holly
Ilex castaneifolia


Yew
Taxus baccata



Tree Strategy

Swale

Species thriving in wet soil, selected for the significant rain garden / swale landscape to the east of the site.

Cornelian cherry
Cornus mas

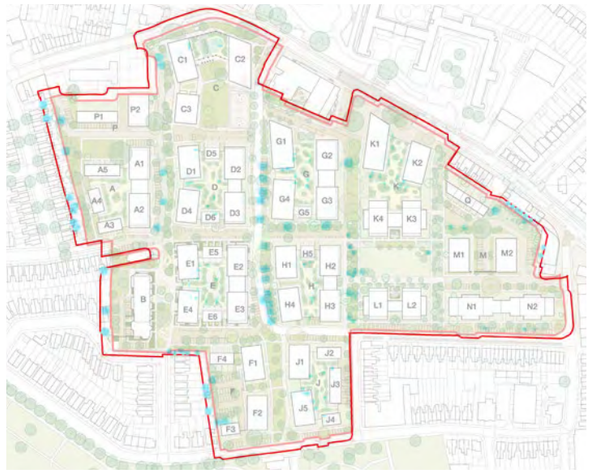
Amur maple
Acer ginnala

Birch
Betula nigra

Sumach
Rhus typhina Laciniata

Medlar
Mespilus germanica

Crab apple
Malus triloba



Native

Native tree species selected for reinforcement of local character and ecology.

Rowan
Sorbus aucuparia

Field maple
Acer campestre

Mountain ash
Sorbus aria

Blackthorn
Prunus spinosa

Hawthorn
Crataegus monogyna

Guelder rose
Viburnum opulus



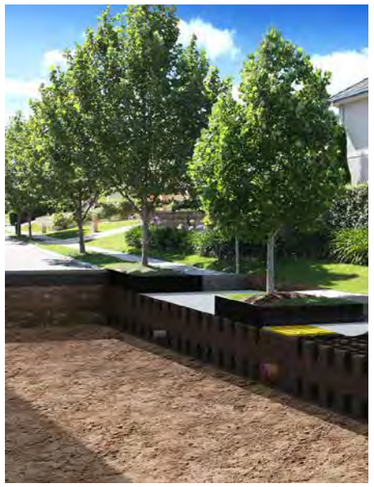
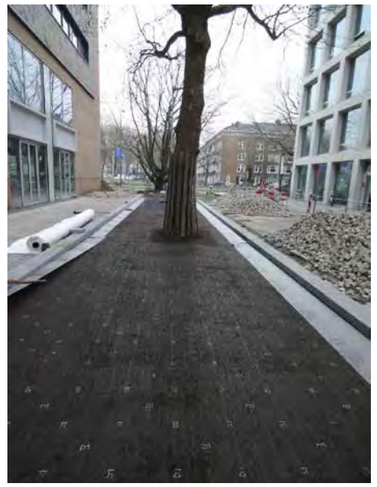



Figure 28: Typical tree planting detail precedents, soil cell systems.

Figure 29: Typical tree planting range of sizes to be used.

Figure 30: Example meanwhile tree and planting nursery.

Figure 31: Example Swedish tree pit structural soil/biochar.

8.11 Proposed tree pit strategy

Too often, trees are planted in cramped planting pits and poor subsoil, resulting in stunted growth, with roots tending to colonize immediately underneath the paved surface, causing pavement damage.

Soil cell tree systems are proposed to provide trees and plants in urban environments with the correct nourishment and suitable conditions that promote healthy growth, without disturbing the structural integrity of paved surfaces above.

Linked tree pits will also be utilised to maximise growing areas of trees in relation to streets where possible. Use of biochar blend of 85% gravel (32 – 63 mm in size) to 15% biochar should also be explored in tree pits/troughs as used by the city of Stockholm.

View visual splays will also reviewed in relation to road safety audits which may affect tree placement. To mitigate this the tree species and size specification may be altered with fastigiate and crown lifted tree types which allow better views under and around trees.

A range of sizes of trees will also be reviewed in future phases to provide varying levels of interest and status based upon the importance of placement. A percentage or proportion of larger trees creates an anchor for smaller trees to group with creating a varied tree planting experience.

Larger semi-mature trees should be used for potential wind mitigation and to provide instant landscape impact to the quality of the scheme. There is an opportunity to explore the creation of meanwhile tree and planting nurseries to provide almost 6 years of tree growth and fit in with the construction phasing programme.

The tree planting proposals work to allow proper long term growth while working with ecology and SUDs to provide mutual benefit for residents and sustainability.

8.12 Open space and public realm

In both the existing Estate and the proposed masterplan, areas of open space accessible to one or more households are arranged both at grade level and raised up onto podiums and rooftops.

Classification

In order to appraise the existing site and new proposals with a common measurement, we have classified the open space into different types:

Roads and parking
Landscape open to the sky which is hard paved or tarmac and principally designed for the movement or storage of vehicles.

Publicly accessible open space
Areas of hard or soft landscaping not principally used for vehicles and offering some amenity value.

Semi-private open space
Areas of hard or soft landscaping principally used for amenity by multiple households but not publicly accessible.

Private demised open space
Areas of hard or soft landscaping principally used for amenity by a single household.

Amount

Existing **52% usable open space**

Within the footprint of the existing Estate, a quarter of the land is occupied by buildings with no amenity space at roof level. The site has significant areas of tarmac and concrete road surfaces, with a quarter of the site dedicated to vehicle use. A third of the site is publicly accessible open space, with 19% privately demised for single household use.

Proposed **59% usable open space**

While accommodating more than double the existing homes, the proposals maintain a similar area of publicly accessible open space at a third, and of built form, with a quarter of the site. Reconfiguring the building typologies and internalising the majority of parking allows a reduction of road areas by a third and the creation of new shared Semi-private space at podium level.

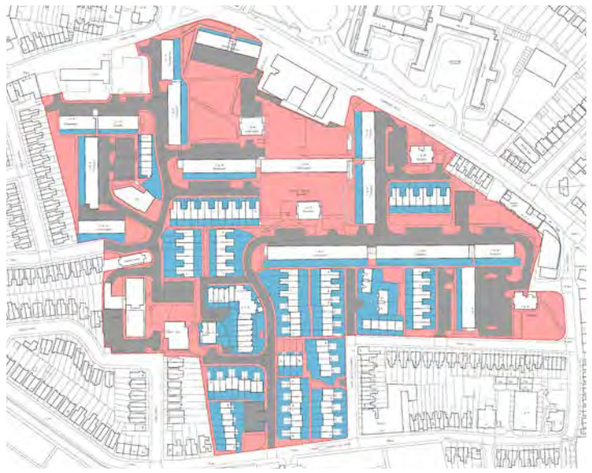


Figure 32: Analysis of existing open space.

Roads and parking
20,458 m2

Public accessible open space
28,346 m2

Private demised open space
16,139 m2

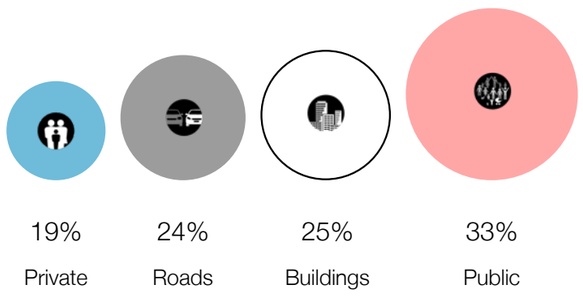
Figure 33: Analysis of proposed open space.

Roads and parking
13,239 m2 / 1.3 Ha

Publicly accessible open space
29,689 m2 / 3.0 Ha

Semi private open space
8,328 m2 / 0.8 Ha

Private demised open space
12,874 m2 / 1.3 Ha



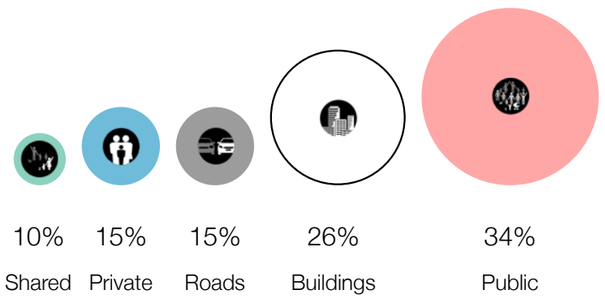


Figure 34: Analysis of proposed open space.

Public hard landscaping

Public soft landscaping
Main open spaces

Public soft landscaping
Secondary open spaces

Semi-private soft landscaping
Courtyard

Semi-private hard landscaping
Courtyard

Private soft landscaping
Garden

Private soft landscaping
Back garden

Figure 36: Large open spaces within the existing Estate.

Figure 35: Analysis of existing open space.

Public hard landscaping

Public soft landscaping
Main open spaces

Secondary soft landscaping
Residual spaces

Front garden
Predominantly soft landscape with continuous fence

Front garden
Predominantly soft landscape without continuous fence

Front garden
Predominantly hard landscape without continuous fence

Private back garden

Open space and public realm

The existing Estate has a concentration of soft landscaping within four gardens at the edges of the site, and a significant percentage within privately demised front and rear gardens, resulting in the majority of the public realm being hard paved.

Uncertain boundaries

Like many Estates of the same age, there exist a number of areas where ownership has been assumed over the lifetime of residents; un-demised garden areas in front of buildings are ill-defined and inconsistent, without a consistent fence or boundary line.

Democratisation of soft landscaping

The proposals seek to transfer ownership of the soft landscaping and trees to the public realm, allowing many more residents and visitors to share the benefits of a greener environment.

Quality and distribution of open space

The quality of the proposed built environment sees a dramatic improvement on the existing Estate.

Through the creation of tree-lined planted streets, gardens and planted swales, every part of the new neighbourhoods will be significantly greener than the existing Estate.

Clarity of public:private space

In order to provide a clear definition of ownership and responsibility, and to buffer ground-level dwellings from the public spaces which surround them, a consistent ‘garden wall’ boundary condition will be developed for the whole masterplan, developing a neighbourhood language of walls, fences, paving and planting in a similar way to the surrounding streets.

Net gain of outdoor amenity space

While the density of the site has been increased, the configuration of buildings and spaces, and the reduction of roads and surface parking ensures that there is a net gain of external amenity space across the masterplan.

8.13 Cycling connections

Cycling is a major priority for the Borough Council, as well as for the DfT and the GLA. As well as consultation with residents, the proposals have been prepared in consideration of policy, emerging infrastructure and best practice.

Kingston Go Cycle scheme

The Go Cycle programme is a major £32M infrastructure project, designed to upgrade Kingston's major highway routes and improve the flow of road users, cyclists, and pedestrians.

Cycle route on Cambridge Road

As part of Go Cycle, a project to introduce a new segregated cycle lane to Cambridge Road has been approved by RBK's Environment and Sustainable Transport Committee and is in detailed design. The route will connect Kingston and New Malden.

Integration with the Estate

Proposals for the regeneration have integrated and influenced the emerging strategy to ensure works on the road stitch seamlessly into the regeneration over the phased delivery of the site.

LTN 1/20 Core design principles

The DfT Local Transport Note 1/20 recommends designers of cycle infrastructure consider five core principles; a successful cycle route must be:

- Coherent;
- Direct;
- Safe;
- Comfortable; and
- Attractive.

Electric cycle charging

More Electric bicycles and E-scooters are being seen on London's streets as an efficient, emission-free solution for personal transport over longer distances as an alternative to walking or volume public transport.

Charging of personal vehicles will possible through the provision of outlet points in secure cycle stores and in the Community Centre.

Informal cycling

During the public consultation, the Youth Panel expressed a desire for more cycle-friendly streets and spaces, with places to lock up but also to just leave bikes while socialising in the public realm.

Figure 38: Modal filtered cycle-permeable streets.

Figure 37: Cycle routes through and around the site.

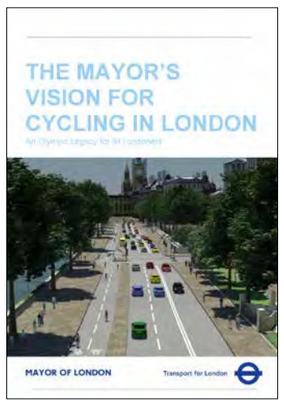


Figure 39: Cycling in London (2013).

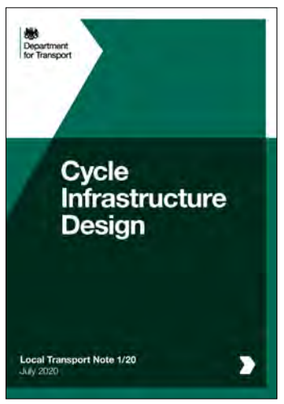


Figure 40: DfT LTN 1/20 (2020).

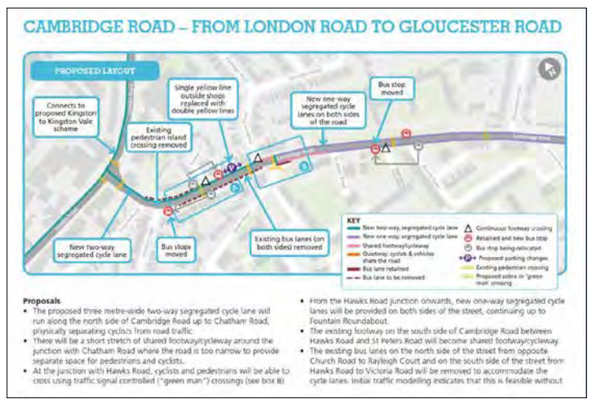
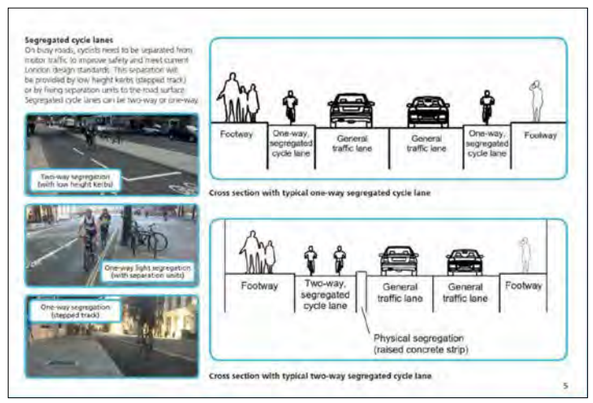


Figure 41: Go Cycle consultation papers (2016).



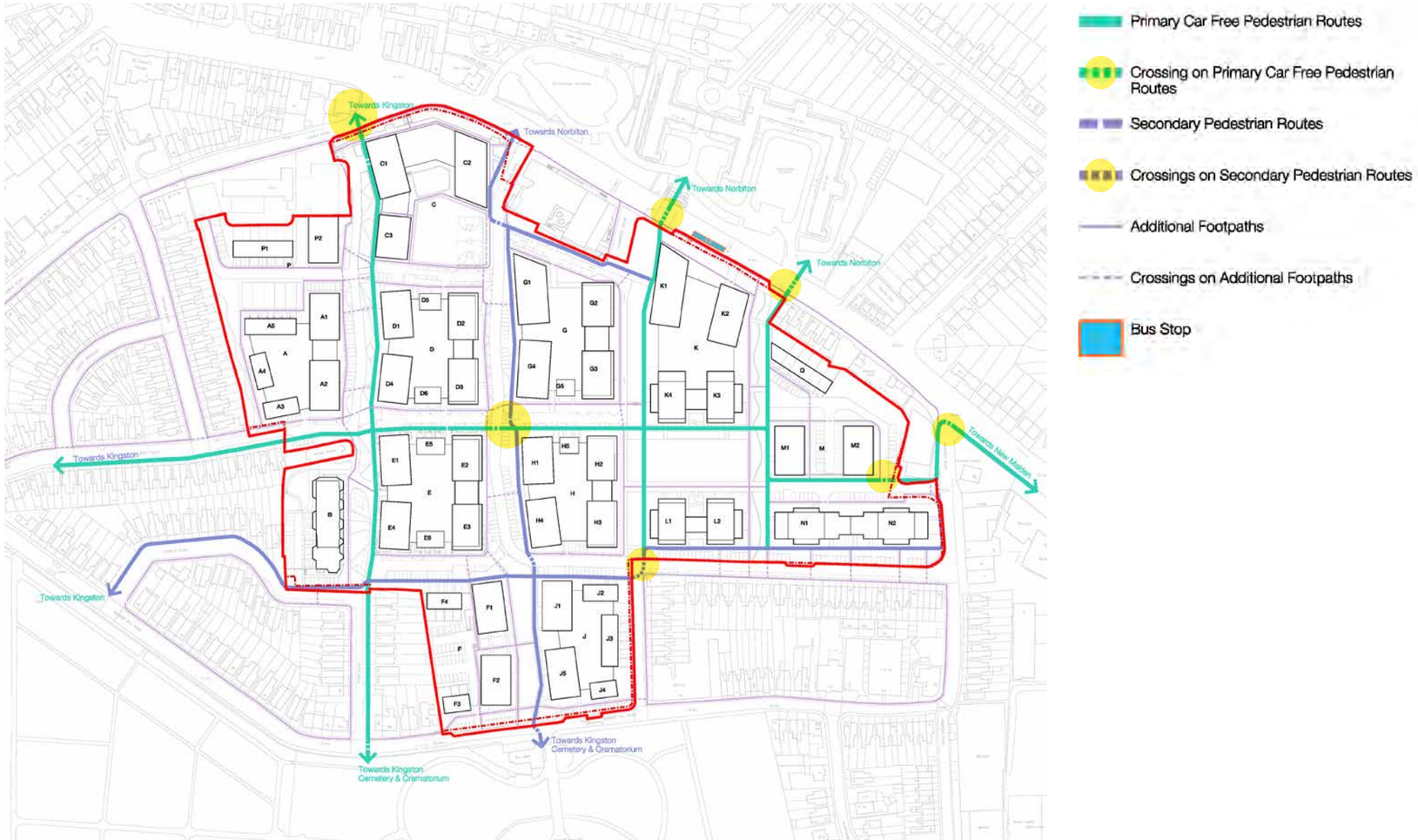


Figure 42: Key pedestrian routes through and around the site.




Figure 43: Pedestrian precedents.

8.14 Car free connections

The existing Estate is dominated by vehicles. A common issue which came up in consultation and focus groups was the lack of safe, car free routes around the site.

Garden streets

A driving principle of the masterplan has been the creation of Garden streets: Heavily planted connections through the site which provide:

- Safe, car-free walking routes;
- Play along the way; and
- Interconnected habitats and wildlife corridors.

8.15 Recreation in the local area

The surrounding area is very low density in nature, with provision of publicly accessible open space for walking in the landscaped grounds of the Kingston Cemetery.

However, the Hogsmill River running to the south of the Cemetery presents a natural barrier to accessing the nature reserve.

There is however good open space provision with the nearby Farfield Park, Kingsmeadow, Kingston Road Rec. Ground and Athelstan Rec. Ground. This provides a strong green infrastructure network for amenity and recreation.

Figure 44: Sports and leisure facilities in the local area.

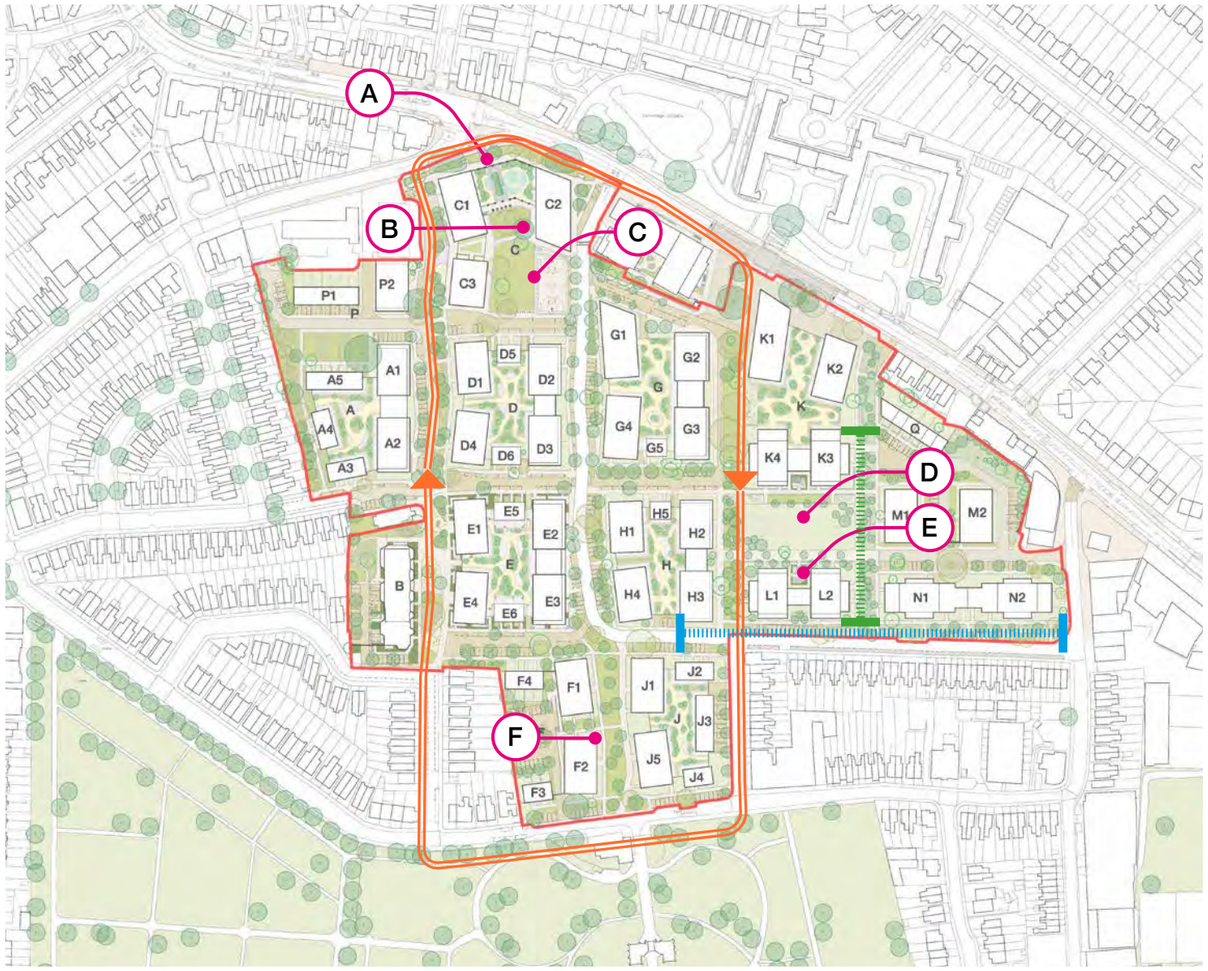


Figure 52: Potential for running and fitness in the public realm.

Fitness and sports equipment

A. Community Centre with space for indoor sports
B. Scramble wall and boulder climbing features
C. MUGA (Multi-Use Games Area) for ball and hoop sports
D. Open lawns sized for 5-a-side football
E. Inclusive outdoor gym
F. Adventure play / bodyweight resistance training

Marked running and fitness walking routes

1km Neighbourhood loop

100m Rain Garden sprint

200m Vincent Mansion sprint

8.16 Sports and fitness strategy

The strategy for sports and fitness works closely alongside play, using the public realm more intensively to providing opportunities for healthy sporting activity in the public realm.

GLA policy guidance

The scheme has been developed to take account of emerging draft policy as well as the current 2016 London Plan (Policies 3.19, 7.1).

DNLP Policy S5 - Sports and recreation facilities, states that new residential development proposals should:

- Increase or enhance the provision of facilities in accessible locations, well-connected to public transport and link to networks for walking and cycling;
- Maximise the multiple use of facilities, and encourage the co-location of services between sports providers, schools, colleges and other community facilities; and
- Support the provision of sports lighting within reasonable hours where there is an identified need for sports facilities and lighting is required to increase their potential usage, unless the lighting gives rise to demonstrable harm to the local community or biodiversity.

Skating, scooting and cycling

Surfaces will be designed with wheels in mind, and alternative car free paths will separate pedestrians and wheeled movement where space allows.

Walking, jogging and running

Distance marked routes have been planned in and around the site to show options for the local community.

- A 100m sprint distance can be marked out on the ground between the ends of blocks L2 and K3, running along the rain garden route;
- A 200m sprint distance can be marked out on the ground between the ends of blocks H3 and M2, running along the Vincent Road mansion blocks; and
- A primary Neighbourhood Loop circuit of 1.0km can be marked out through the site, maximising use of the car-free north:south routes and minimising road crossings.

Considering all ages and fitness levels, rest spots with seating will be provided along the circuit, and water fountains can be located at strategic intervals.

Outdoor fitness trail

Inclusive outdoor fitness equipment can be sited throughout the site to allow for outdoor resistance and cardio training. Adventure play equipment can provide bodyweight training for older children and adults.

Ball, hoop and racquet sports

A Multi-Use Games Area (MUGA) is proposed for Madingley Green, providing bookable courts suitable for a range of sports including:

- Netball / Basketball
- Hockey
- Tennis / Mini-tennis
- Mini-football


Figure 45: Hoop sports.


Figure 49: Signposted fitness trail.


Figure 53: Running outdoors.


Figure 47: Flexible open lawns.


Figure 48: Table tennis tables.


Figure 46: Racquet sports.

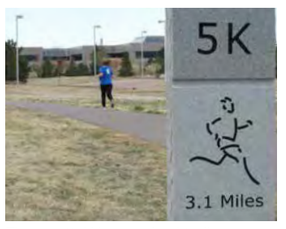


Figure 50: Way-marked trails.


Figure 51: Fitness equipment.

8.17 Strategy for play

GLA policy guidance

The scheme has been developed to take account of emerging draft policy as well as the current 2016 London Plan (Policy 3.6).

DNLP Policy S4 states that new residential development proposals should:

- Increase opportunities for play and informal recreation and enable children and young people to be independently mobile;
- Incorporate good-quality, accessible play provision for all ages, of at least 10 square metres per child that;
  - Provides a stimulating environment;
  - Can be accessed safely from the street by children and young people independently;
  - Form an integral part of the surrounding neighbourhood;
  - Incorporate trees and/or other forms of greenery;
  - Is overlooked to enable passive surveillance;
  - Is not segregated by tenure;
- Incorporate accessible routes for children and young people to existing play provision, schools and youth centres, within the local area, that enable them to play and move around their local neighbourhood safely and independently;
- Incorporate incidental play space to make the space more playable; and
- Does not result in the net loss of play provision.

Play space requirements

Play space requirements are a product of the expected population and dwelling mix. For the proposed mix of ~2,170 homes, the GLA publishes guidance to calculate the expected number of children within the population of the scheme.

The estimated child yield for the development is assumed to be 977.6 children between 0-17 years old.

For the child yield of 977.6 the total play space requirement across the masterplan is 9,776sqm.

This total child yield is broken down into bands of ages to provide the most suitable facilities for play:

- Under 5 years old **30%**
- Between 5-10 years old **40%**
- Between 11-17 years old **30%**

Percentages equate to the proportion of play space, and are based upon the needs of different groups.

Playable landscape and equipped spaces

The development will provide a good balance between traditional open landscape with informal playable features, and enclosed, programmed play space with dedicated equipment.

Play space in London is threatened by the dominance of traffic and parking. Play streets are a flexible way to create playable areas while still allowing occasional vehicular traffic and servicing. Careful placement of play equipment, street furniture and natural features such as boulders and tree planting prohibit traditional street use inviting children to reclaim the space much like at the turn of the 20th century when cars took over. Using vibrant patterns and contrasting materials also are methods to indicate to all users that the space is for informal play. The streets could be closed completely occasionally and have a series of by-laws managed by users and residents groups within the community. Inventive ideas like this return the public realm to residents and promote healthy family living.


Figure 55: Natural play.


Figure 56: Imaginative elements.


Figure 57: Sharing play equipment.


Figure 61: Youth climbing equipment.


Figure 59: Adventurous play.


Figure 60: Playable landscape.


Figure 58: Formal play equipment.


Figure 62: Play trail.


Figure 67: Informal elements.


Figure 63: MUGA pitch.


Figure 64: Controlled risk taking.


Figure 65: Play streets.


Figure 66: Playable elements.

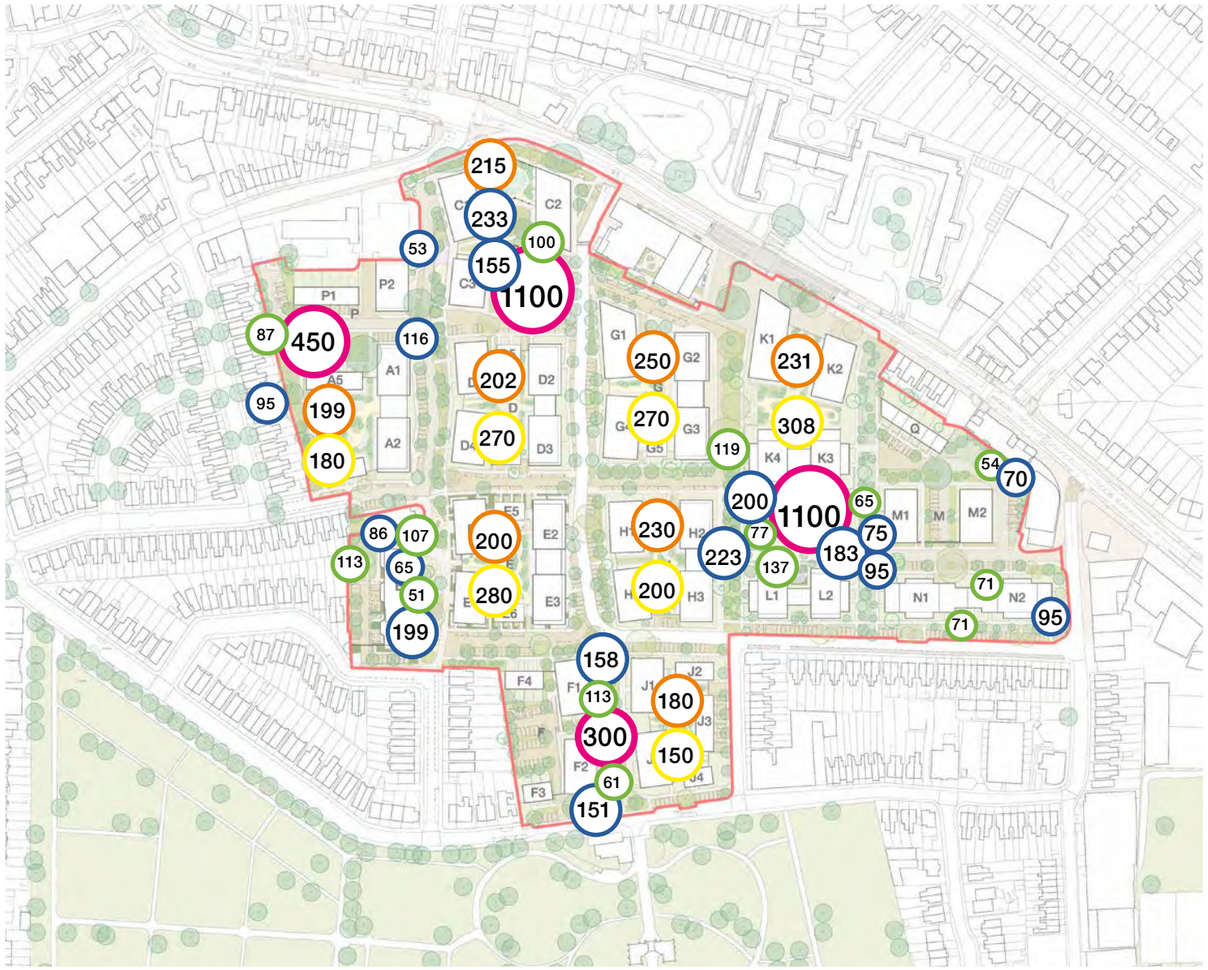


Figure 68: Playspace allocation.

- Application boundary
- LAP - Under 5s doorstep play on podium (sqm)
- LAP - Under 5s doorstep play at grade (sqm)
- LEAP - 5-11s play on podium (sqm)
- LEAP - 5-11s play at grade (sqm)
- NEAP - 12-17s play at grade (sqm)

Illustrative masterplan child population

LAP area requirements

Plot	Estimated Total Child yield	Doorstep / LAP area	Location
Plot A	66	199sqm	Plot A podium
Plot B	38	113sqm	North and East of Plot B
Plot C	72	215sqm	West of C, Podium and Madingley
Plot D	67	202sqm	Plot D podium
Plot E	120	359sqm	Plot E podium and West of Plot E
Plot F	38	113sqm	East of Plot F
Plot G	156	468sqm	Plot G podium, Madingley and SE of Plot G
Plot H	106	317sqm	Plot H podium
Plot J	77	231sqm	West of Plot J
Plot K	77	231sqm	Plot K podium and South of Plot K
Plot L	46	137sqm	North of Plot L
Plot M	36	109sqm	West of Plot M
Plot N	47	142sqm	West of Plot N
Plot P	29	87sqm	East and South of Plot P
Plot Q	3	9sqm	Back gardens
Total	**978**	**2,932sqm**	

Play space provision

A minimum of 9,774sqm play space will be provided across the masterplan within a mix of semi-private and public areas, providing discrete play opportunities for residents, as well as wider community benefits. The strategy for play within the masterplan has been considered to align with GLA guidance.

Doorstep Play / Local Areas for Play (LAP) 2,932sqm

Secure LAP for under fives will be provided very near to homes, typically within semi-private podium residential amenity spaces or designated areas in publicly accessible gardens.

LAP are designed for children who must be supervised at all times.

LAP distribution across the masterplan, based on the illustrative scheme, is shown on the adjacent table and Fig. 68.

Locally Equipped Areas for Play (LEAP) 3,910sqm

Targeted at children between 5 and 11 years old, these designated areas are provided in publicly accessible gardens and provide opportunities for play for children who are able to play independently with little or no supervision.

LEAP are located a short walk, typically within 10 minutes, of residential building entrances.

Neighbourhood Equipped Areas for Play (NEAP) 2,932sqm

Targeted at children over 11 years old, these areas are provided in publicly accessible open space, and provide opportunities for play for older children who are able to play independently with little or no supervision.

The masterplan has been designed to integrate playable features of landscaping for informal play, as well as more formally clustered play with larger equipment and safety surfacing.

NEAP facilities are located a short walk, typically within 15 minutes, of residential building entrances.

50% of playable area for 12-17 year-olds will be provided within formally equipped sports facilities, with the remaining space in open playing fields.

8.18 Soft landscape - Planting

The site has many differing Character Areas where various styles and qualities of planting are required. There is an overlapping of themes and species to help bring together the site as a holistic and verdant place.

Ecologically friendly planting helps to create a mind-set of sustainability and pride in the neighbourhood. Planting areas are maximised and also have functional biodiversity gains to promote corridors of movement for fauna to thrive.

Functional amenity spaces are hard wearing yet allowing for a variety of flexible uses. All of these are interconnected by a series of ornate planted streetscapes, front gardens and walkways that make for a wonderful accessible green grid and infiltration of nature into the site

Longevity and ease of maintenance has been planned to correspond with the areas where parking podium are located below the planting and could cause issues if not considered early in the design process. The size of shrub and perennial planters allows for proper growth while potential water irrigation usage has been considered for potential impacts of global warming. Planters also integrate into ramps and steps at level changes to soften the experience and journey.

Seasonal interest has been considered to ensure a year round quality experience with colour, flower and leaf types of various heights and sizes.

For safety and security, planting next to a footpath should start with grass and low growing plants with taller shrubs and trees to the rear. This is to avoid the potential for anti-social behaviour and the ability to conceal illegal items such as weapons and drugs. If planting next to a path is required in tight areas it should have a clear and visible ground plane to deter concealment.

Legend:

- Amenity lawn
- Native buffer planting
- Ground cover / ornamental
- Tall perennials
- Grassland / meadow
- SUDs channel
- Community growing space
- Courtyard ground cover / ornamental
- Buffer planting for privacy frontage
- Biodiverse roofs
- Intensive green roofs

Figure 69: Soft landscape planting strategy plan.

Soft landscape planting strategy

Amenity lawn



Native buffer planting



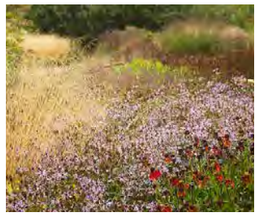
Ground cover and ornamental planting



Tall perennials



Grassland and/or wildflower meadow


Dry SUDS channel



Community growing space



Courtyard ground cover and ornamental



Buffer planting for privacy frontage


Biodiverse roofs



Intensive green roofs