



Western Lands Landscape Strategy

or

The Old Oak and the Common



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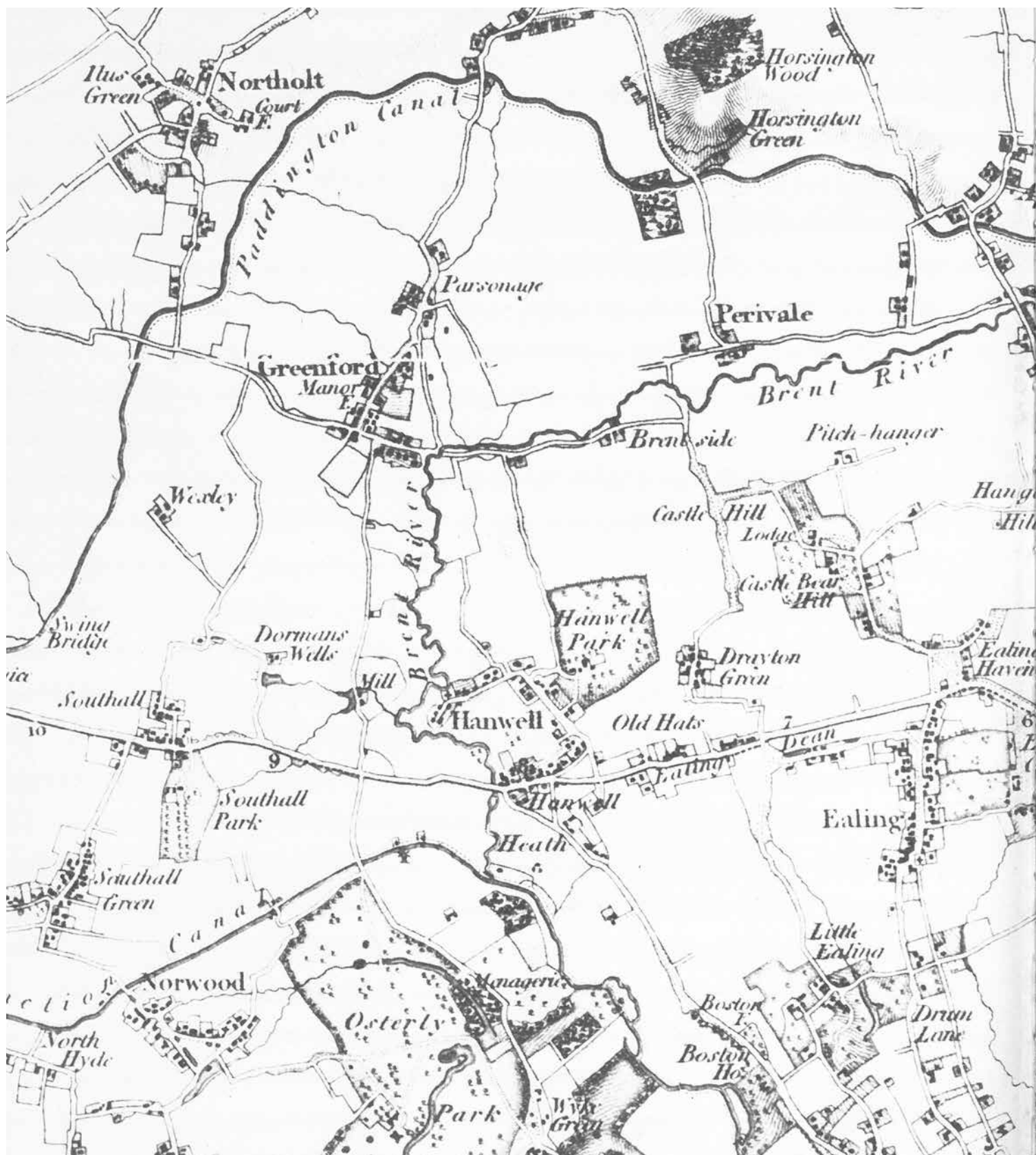
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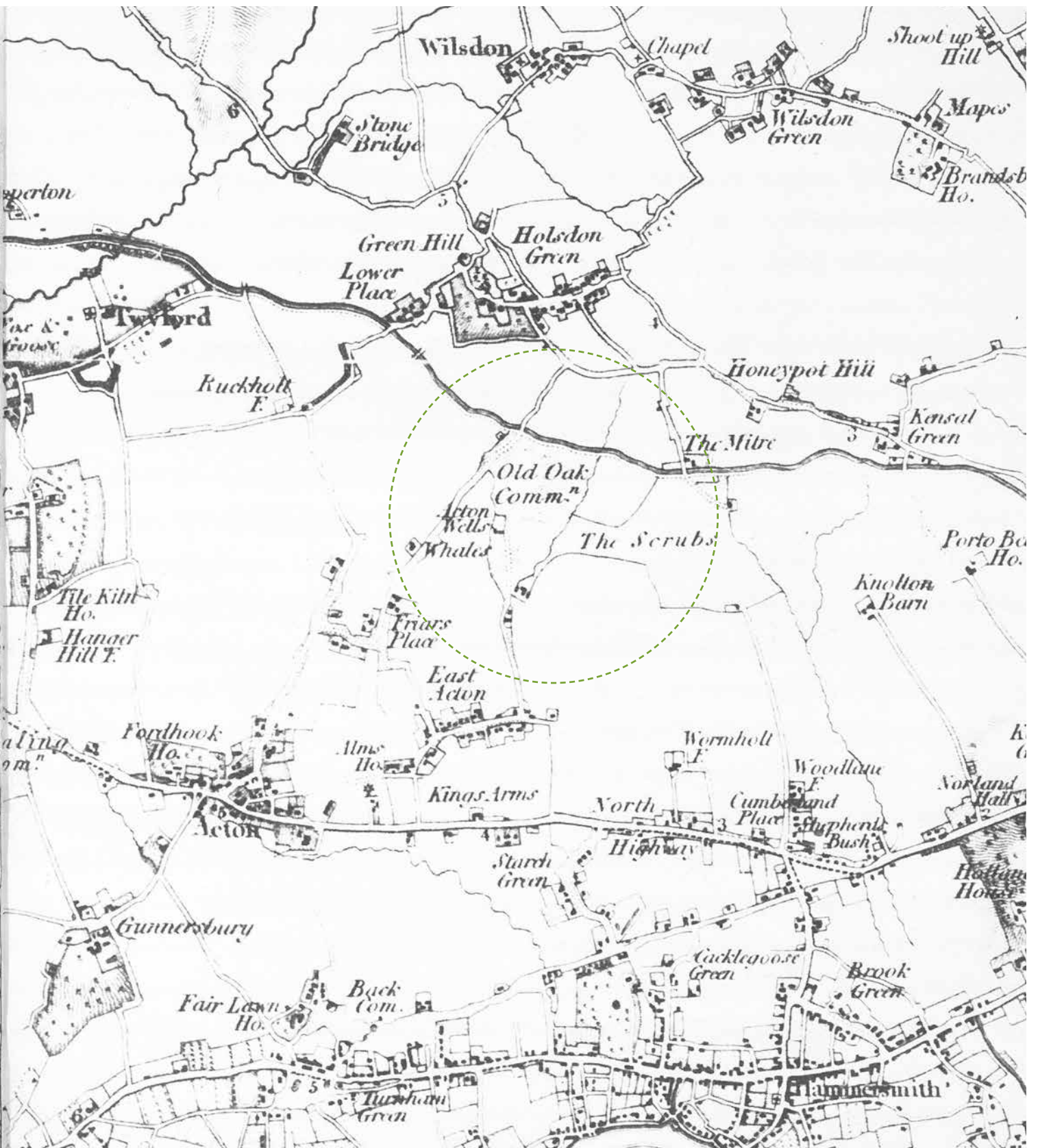
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1 Introduction





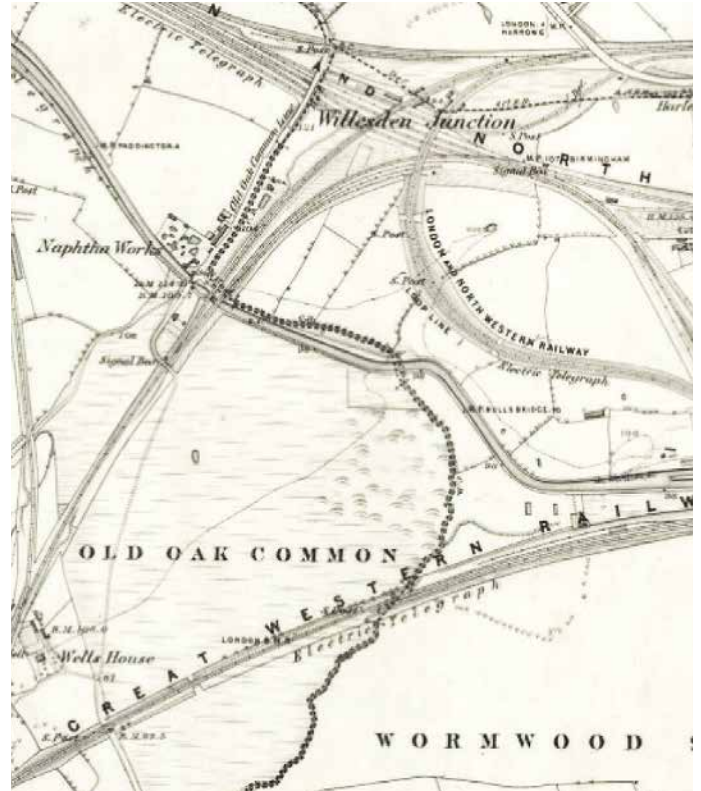
Summary

The Western Lands Planting Strategy takes a holistic view of the landscape character of the Old Oak Lane / Victoria Road corridor, and from this establishes a set of common approaches for framing landscape development within the local Old Oak and Park Royal Development Corporation (OPDC) area.

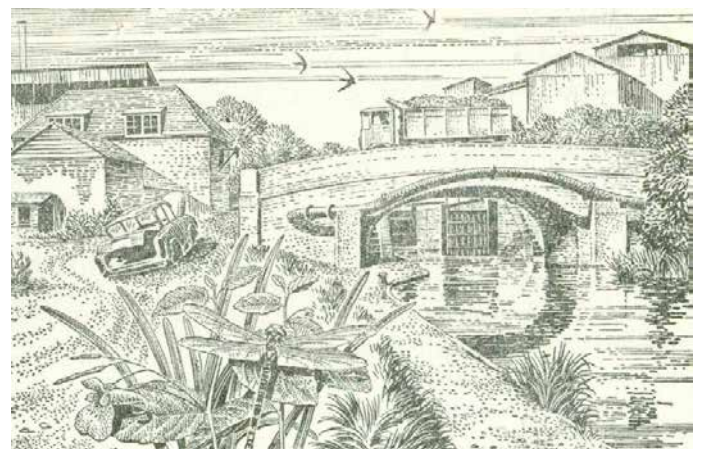
The strategy aims to bring the wider regional context of the landscape to the fore, using the local site-specific context to inform a set of guiding principles.

These principles will help to establish a more cohesive, pleasurable, and ecologically valuable approach to landscape and planting, building on the character of what already exists in the area. Suggestions for the practical application of these principles can be used throughout the local area to guide landscape approaches, inform projects, and identify opportunities, helping individual projects to become part of a wider positive transformation.

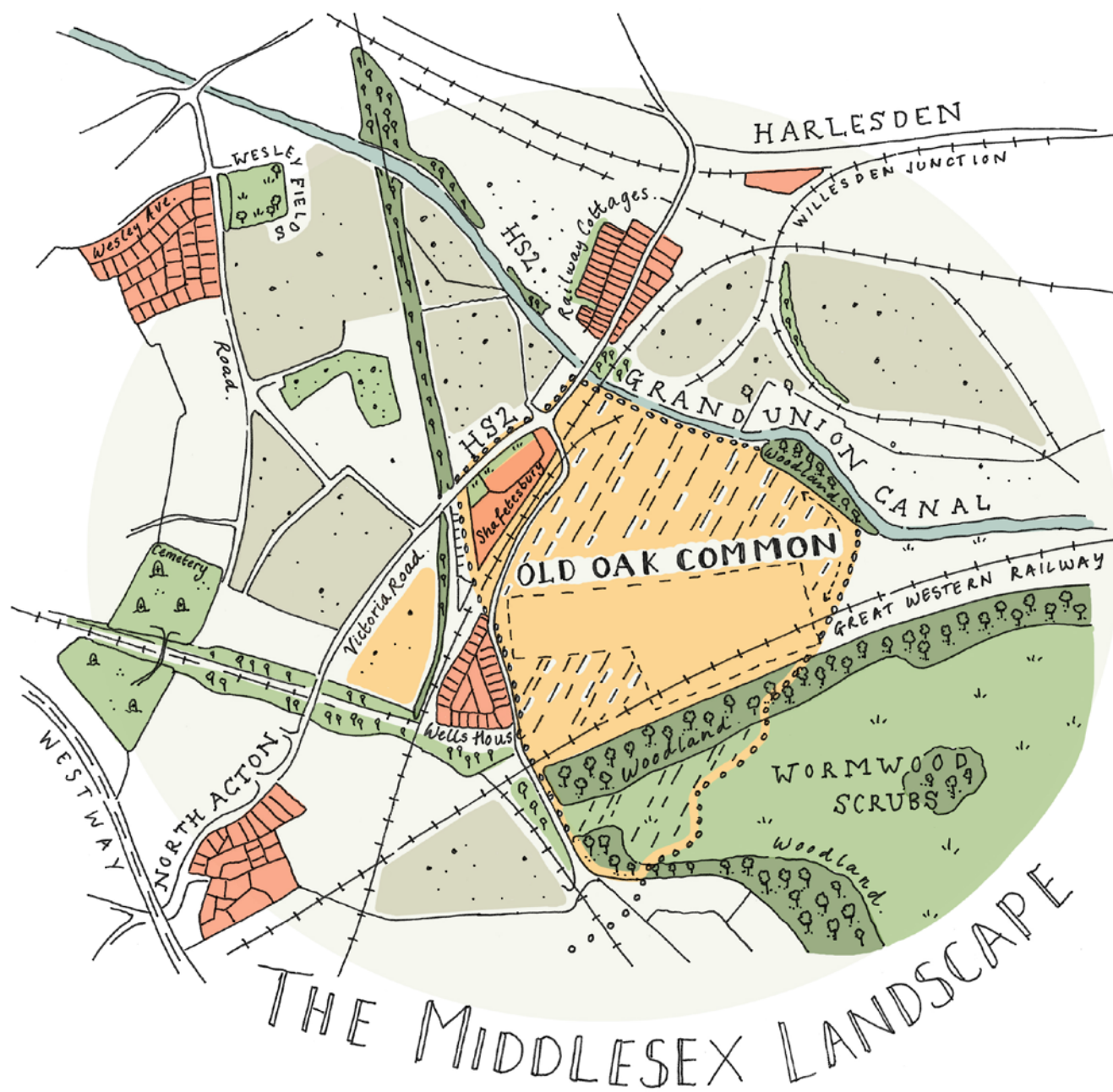
The study is structured to set out an overall ambition > **Chapter 1**, based on the value & setting of the existing landscape > **Chapter 2**. A set of guiding principles are established for the landscape of the area > **Chapter 3**, which are then translated into a common set of spatial types and applicable strategies, containing practical application ideas and indicative palettes > **Chapter 4**. Finally > **Chapter 5** gives examples of how the principles of the study can be included in developing projects within the local area.



1866 Ordnance Survey map of the eastern section of the OPDC area, showing the lost Old Oak Common area, now dominated by railway land and developed sites, but previously a landscape used by the local people for animal grazing and the like. From: Old Oak Outline Historic Area Assessment, OPDC Local Plan supporting study, 2016



Etching from first edition of Richard Mabey's 'The Unofficial Countryside' evoking a typical scene of urban 'countryside' in developed areas



Where are we?

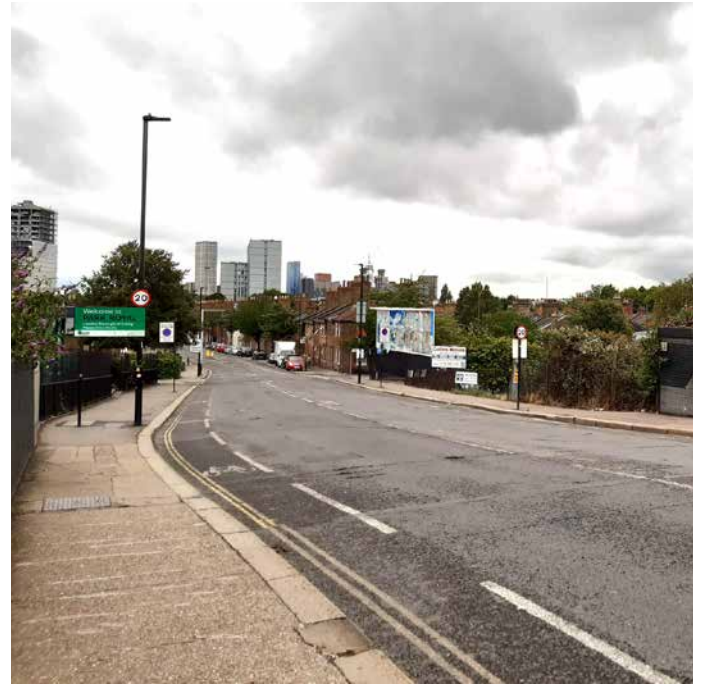
Victoria Road & Old Oak Lane

The current landscape of the area is dominated by a large and busy road; Old Oak Lane at the northern end, becoming Victoria Road in the southern section. This key transport corridor is dominated by heavy vehicles and forms one of the many 'cuts' across this landscape; from roads to railway lines, canal and river corridors.

It is a highly fragmented landscape, characterised by pockets of isolated uses that are poorly connected with their surroundings. This results in a lack of intimacy across the majority of the wider area, which only feels interrupted by some of the recent interventions, including community-driven gardens and public spaces around the Railway Cottages, or access improvements around the canal and Willesden Junction station.

Despite this, the area has many green pocket sites of high value to wildlife and connected by a diverse network of 'ecological corridors'; vegetated linear spaces that enable species movement between areas, providing undisturbed habitat, shelter and food sources.

With large scale change imminent, there is an opportunity to establish a more coherent landscape strategy for the area, rooted in its place, but making provision for a rich, diverse, joyful and ecologically valuable network of connected natural spaces.



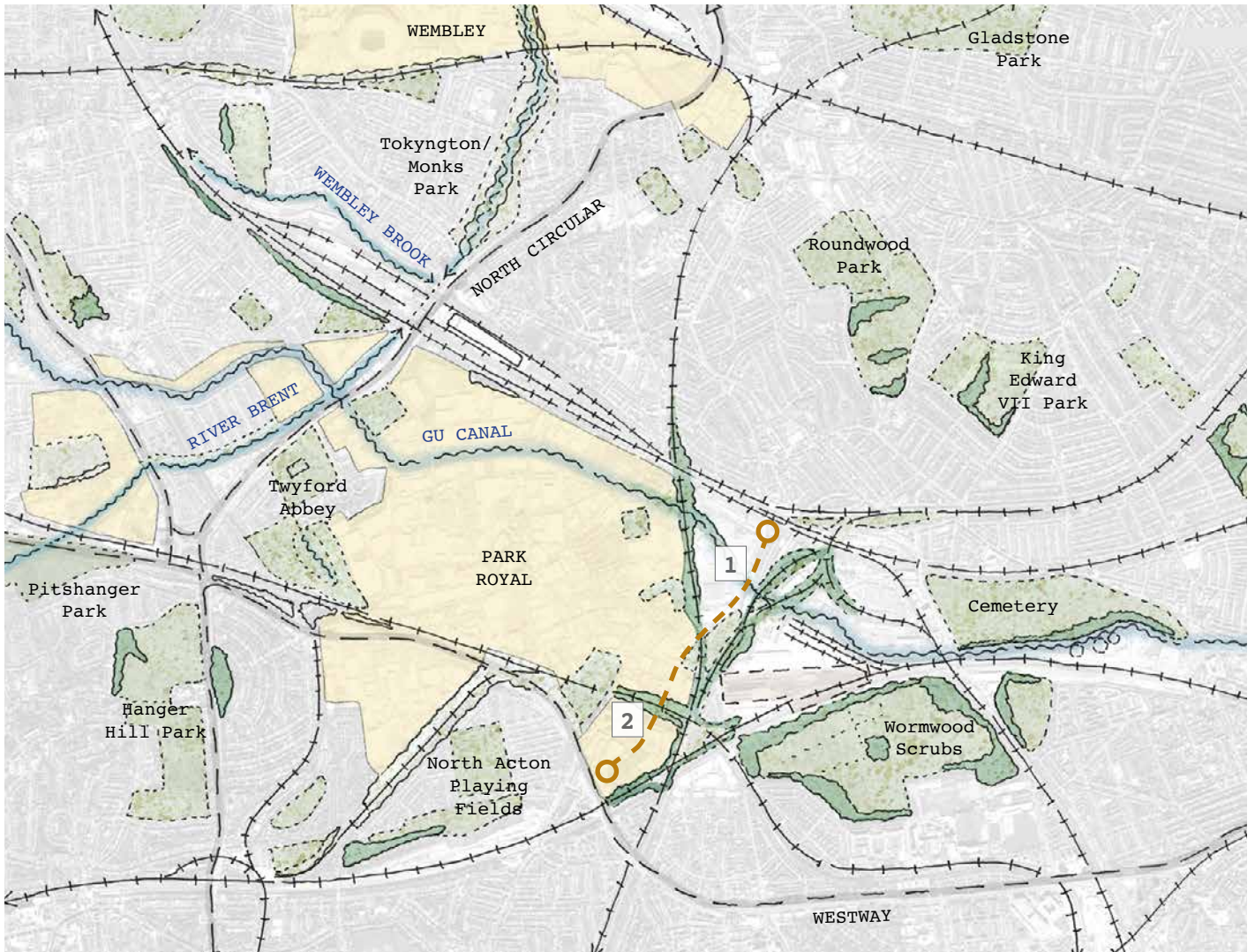
Old Oak Lane (North)

1



Victoria Road (South)

2



KEY



Waterways;
Grand Union canal, River Brent,
Wembley Brook



Railways;
Passenger & freight



Major road arteries;
Westway, North circular



Industrial areas



Open green space;
Parks, playing fields, cemeteries



Predominant tree belts
(indicative)



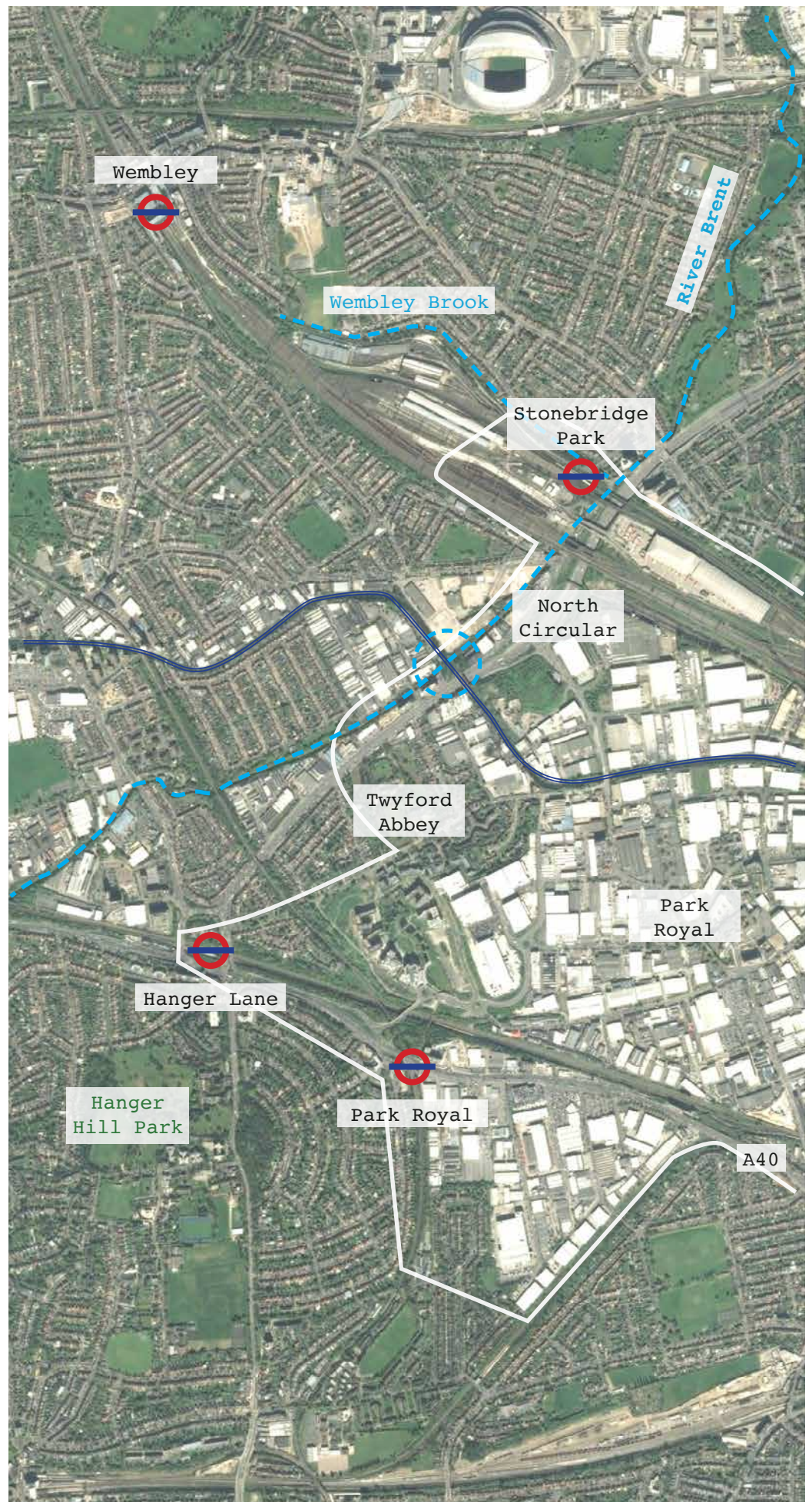
Victoria Road & Old Oak Lane

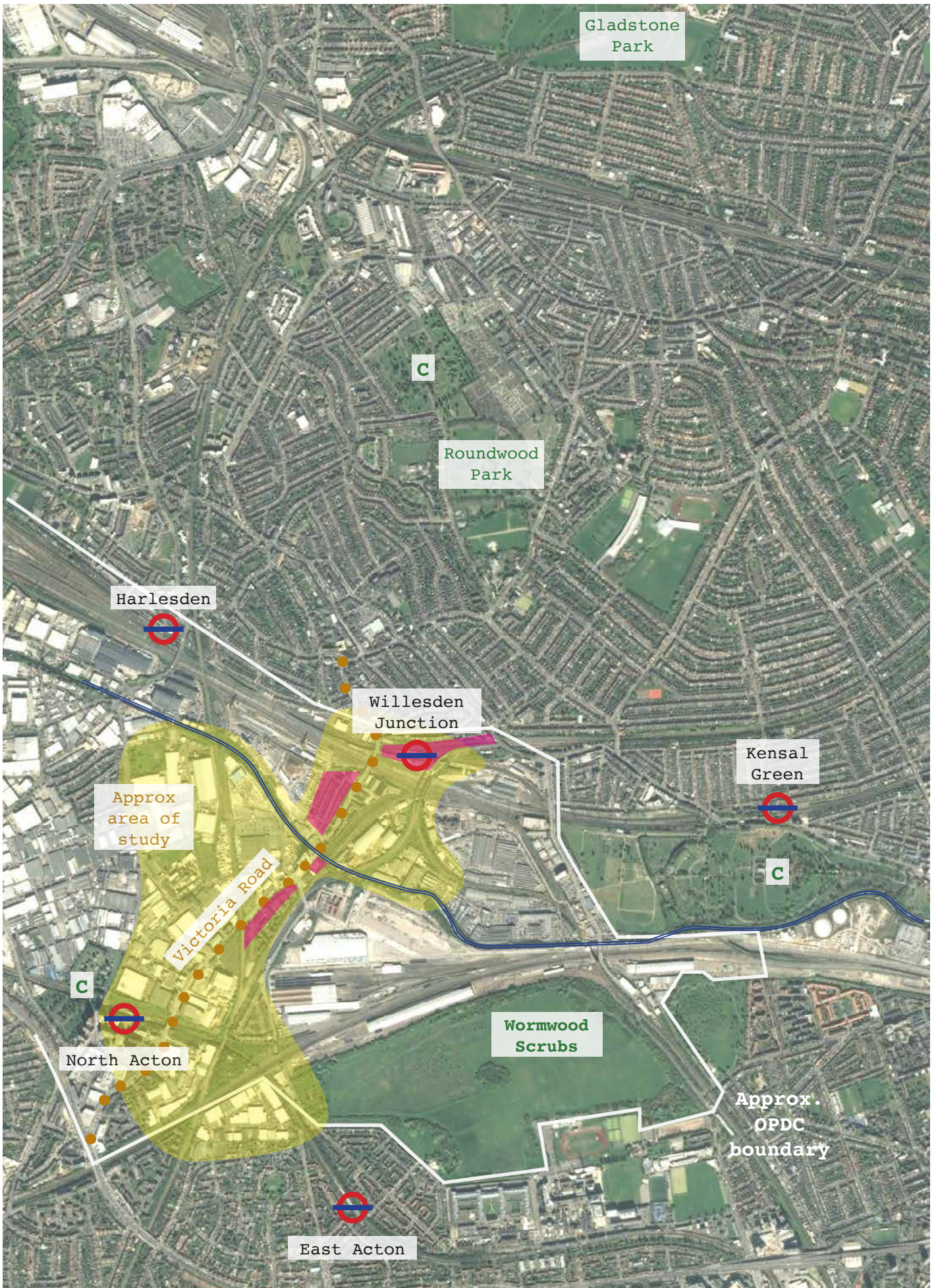
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Aerial Map

Indicating study area within the wider context of the former 'Middlesex Countryside'





What do we want to do?

Unlocking landscape potential

The purpose of this study is to define a set of approaches which can be used to positively influence the landscape and planting proposals that will be coming forward as part of the area's development. It asks how we can stitch together the existing landscape into a more coherent whole, create new spaces and improve connections, while appreciating the unique qualities of the place and protecting valuable habitat. Whether development comes via the local authority, developers, or communities, this study aims to provide an approach, rooted in the place, to achieve the following:

- > To acknowledge the potential of landscape & planting as transformative forces in developing character and identity within this area
- > To bring cohesion to the landscape & demonstrate the value of what is there
- > To celebrate the role that planting plays in the creation of an accessible landscape for people and wildlife.

The aims of the strategy are summarised as:

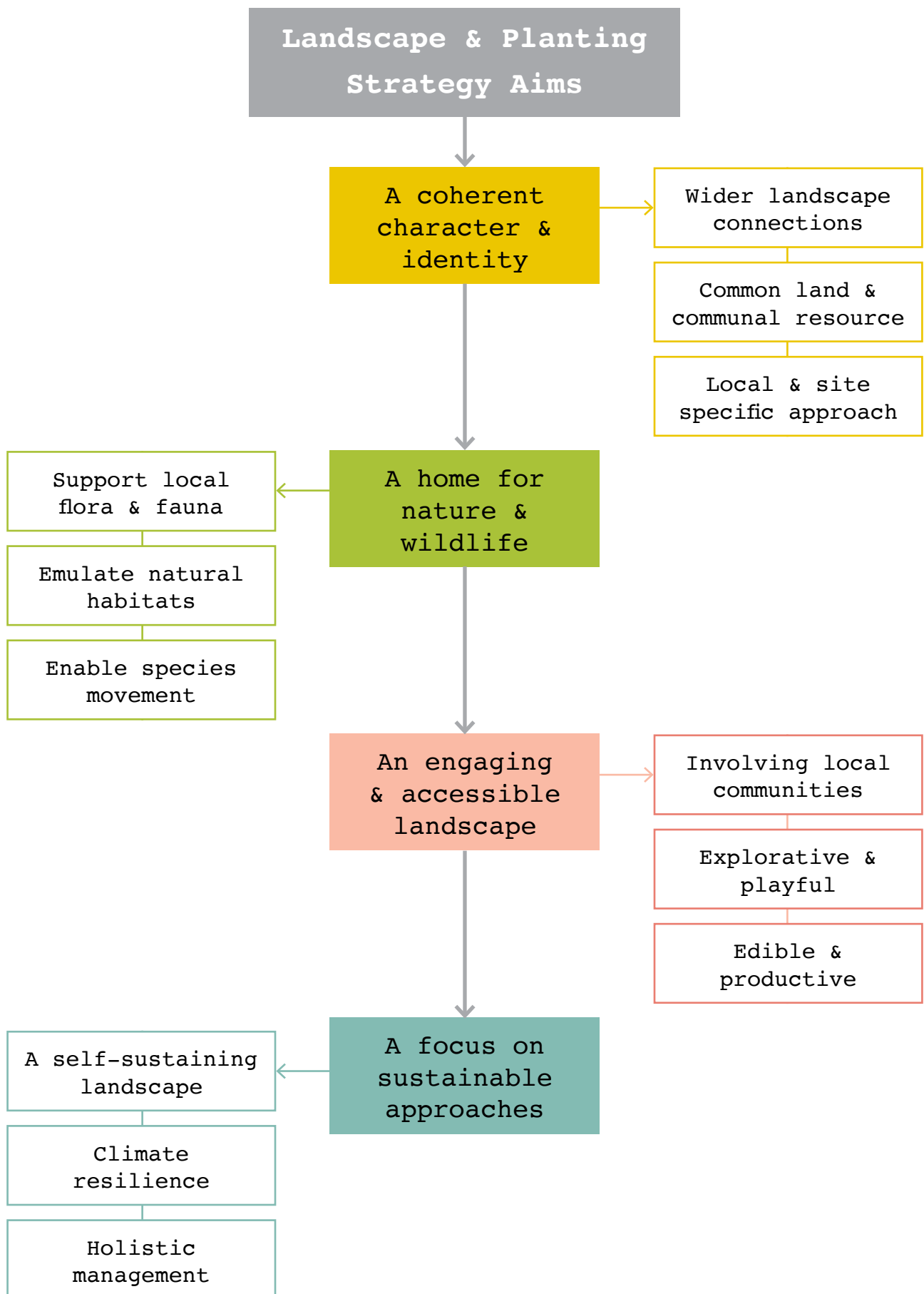
- A coherent characters & identity
- A home for nature & wildlife
- An engaging and accessible landscape
- A focus on sustainable approaches.



Grand Union canal corridor; a key movement route for people & wildlife through the area



Wormwood Scrubs; green open space, including remaining common land and a local nature reserve



How will we do this?

Landscape approach

> **Chapter 1** sets the scene for the study, giving a high-level overview of the location, aims and structure.

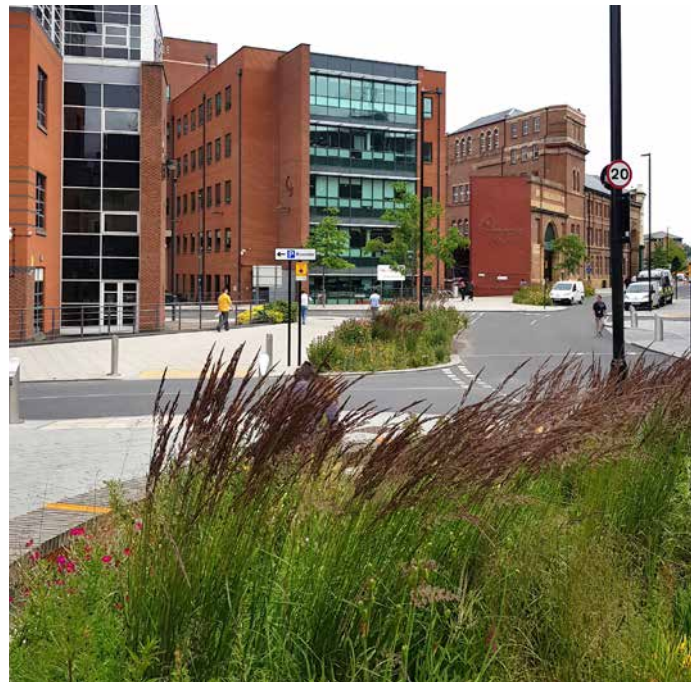
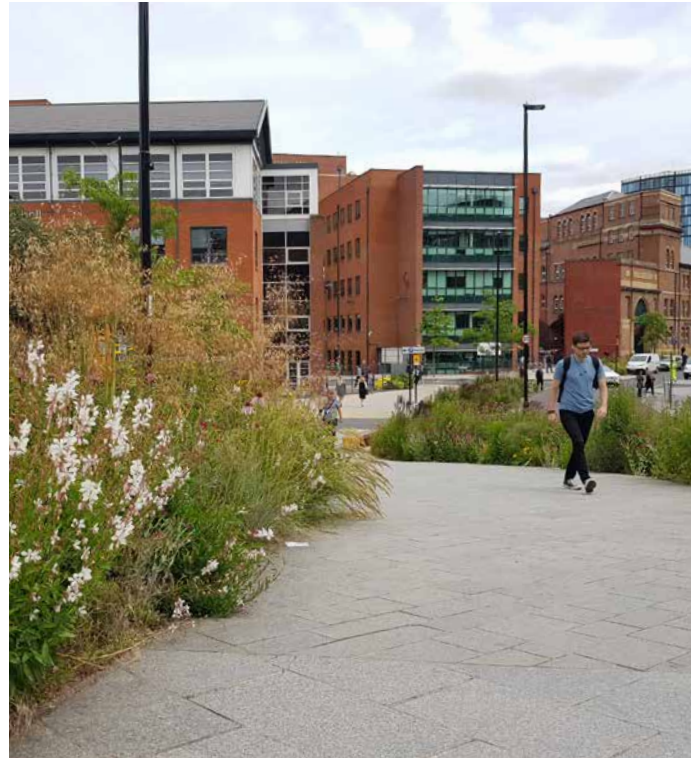
> **Chapter 2** explores the setting for the study; what the important features of the landscape are and what they mean for developing an approach to landscape and planting.

> **Chapter 3** establishes three guiding principles for landscape & planting along the Old Oak Lane / Victoria Road corridor. These are:

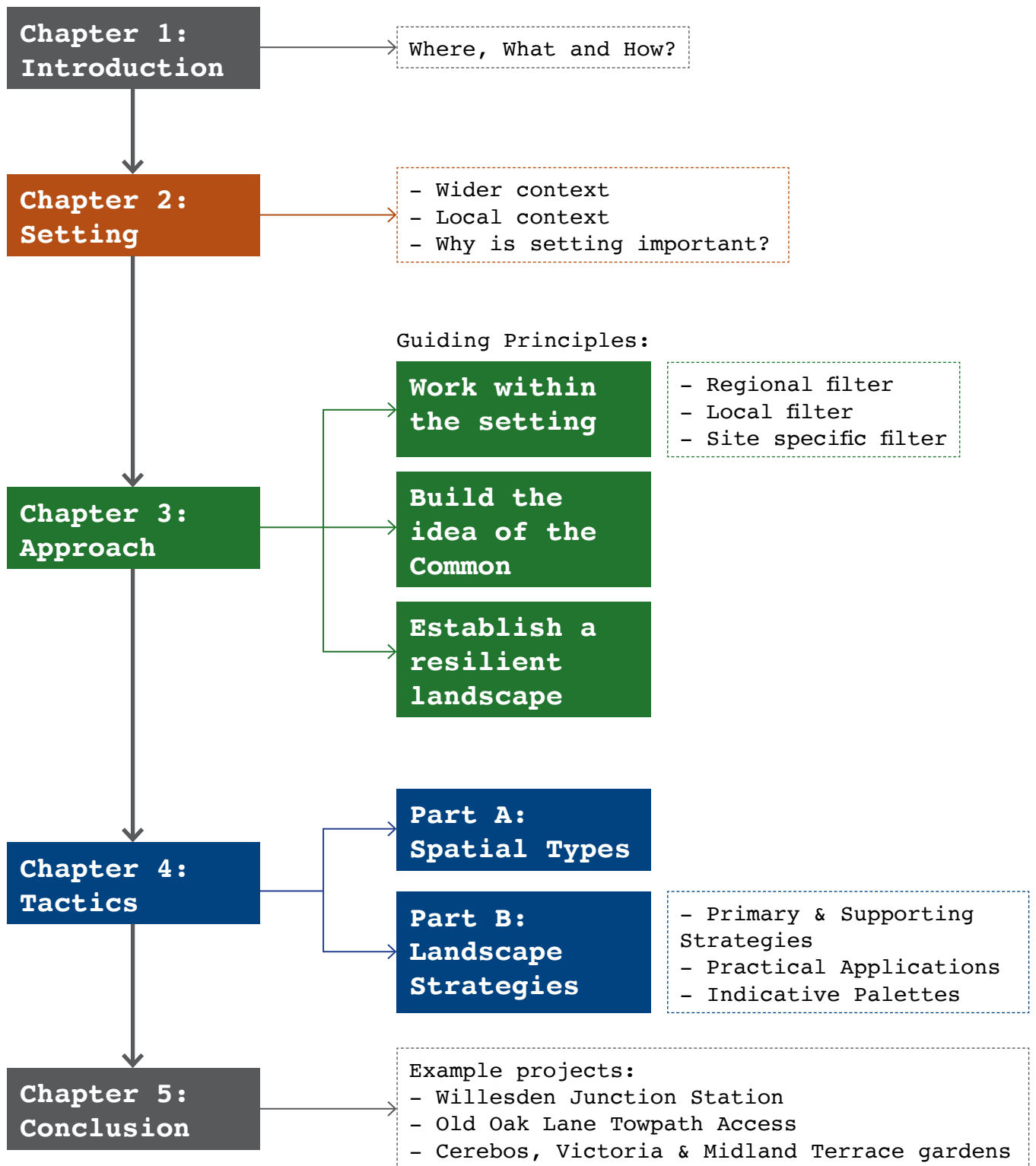
- **Work within the setting;**
rooting the landscape ideas in their surroundings while celebrating the unique qualities of the area
- **Build the idea of the Common;**
encouraging a collective sense of use and an accessible, inclusive approach for the landscape
- **Establish a resilient landscape;**
supporting a sustainable landscape to promote experiential and ecological richness.

> **Chapter 4** builds on the guiding principles, to establish a set of spatial types across the study area. A number of landscape strategies, which support the guiding principles, are outlined, with practical application ideas and indicative palettes. > **Chapter 4** is intended to be used as a 'toolbox' for the study area, demonstrating the ways in which a cohesive approach to landscape and planting can be applied.

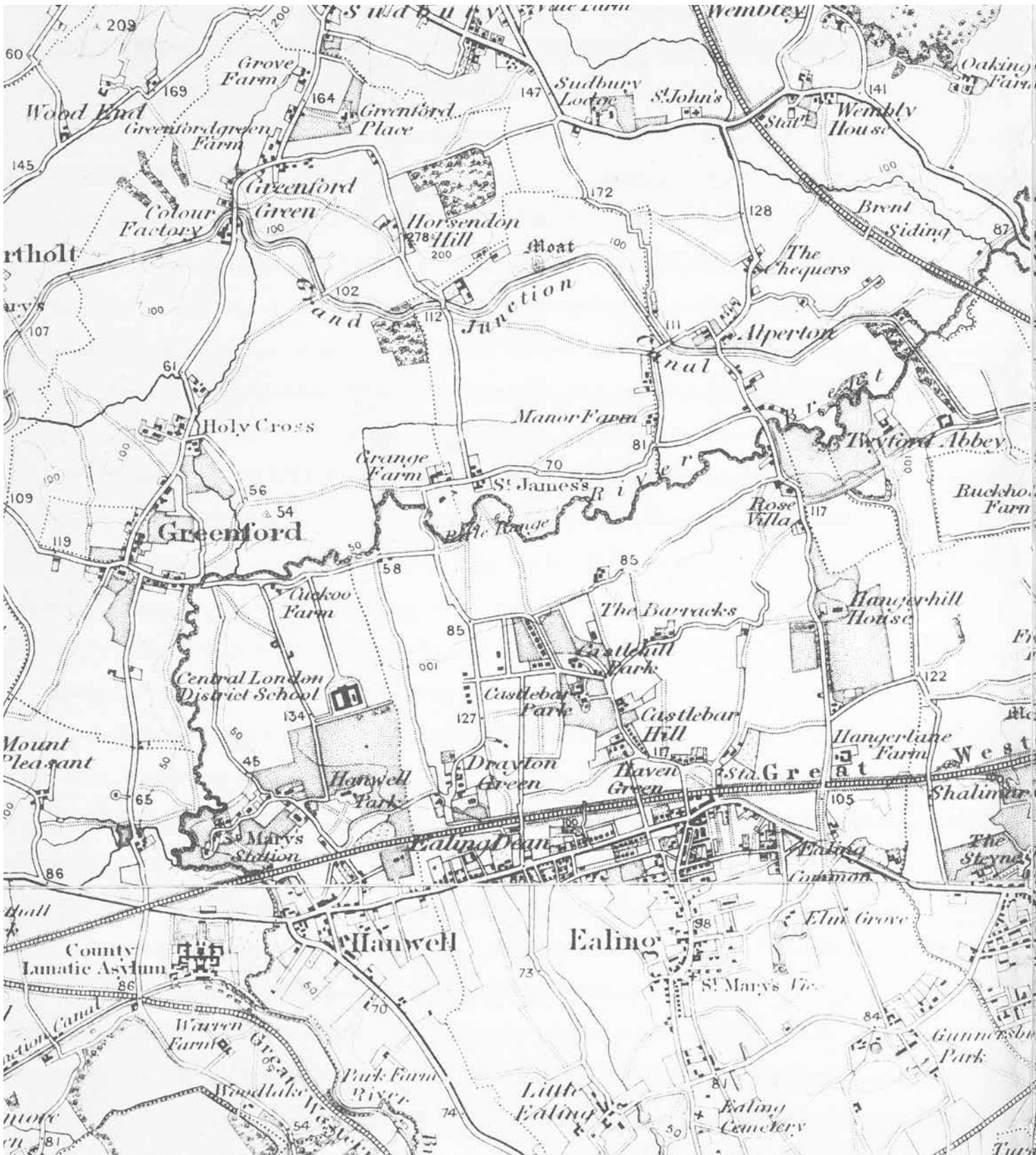
> **Chapter 5** concludes the study by giving examples of how the principles can be included in developing projects within the local area.



The transformative potential of landscape; the Sheffield 'Grey to Green' scheme where a road lane was given over to lushly planted pedestrian routes, using sustainable drainage principles



2 Setting



Surveyed 1861-1871, Published 1876-1877
 From The Village London Atlas: Changing
 Face of Greater London, 1822-1903



Landscape Influences

Why is 'Setting' important?

No site is a blank canvas, instead it sits within a context which influences it in a multitude of ways - and on which it in turn has an influence. Local and regional spatiality, geology, geography, history and culture are all contexts that are important to consider as part of the design process. Understanding the reasons why an area has developed in a specific way and being able to distil the character of place, enables an individual project to be successfully embedded within its surroundings, in a way that responds to and respects its setting, while contributing to a sensitive and thoughtful development of the area as a whole.

The study area along Victoria Road and Old Oak Lane is diverse, with a multitude of changing influences and characters, albeit currently visually dominated by industry and infrastructure. Underlying the dense urban fabric is a rich landscape story, which if understood and incorporated in future development can contribute to a powerful re-evaluation of the qualities of the existing urban landscape; a strengthening of identity; as well as the building of a more linked up, functional and readable landscape.

The following have been identified as key concepts for the understanding of the setting of the study area, and as such should be used to guide future landscape project within the area:

- > The geological and historic landscape of the region, summarised as 'The Middlesex Landscape'
- > The existing urban fabric of the local area, and the natural landscapes that continue to seep through the cracks of infrastructure, industry and development
- > The cultural context both on a regional and local level, & the shifting relationship with London



Panoramic views from Horsenden Hill make visible the geology of the region and reveal traces of a historic landscape

A Wider Outlook

The 'Middlesex Landscape' - a geological, geographical and historical understanding

The impact of the wider landscape on a site is sometimes hard to identify at first glance, especially within an urban setting. It is nonetheless important to begin at the regional scale when attempting to build an understanding of a local landscape, as one of the main influences on any site is the underlying geology - the make-up of the land. Bedrocks laid down over millennia result in specific soil types that influence what plants may grow and thrive, and the shape of the land, its topography, waters and structure, further steers the possible landscape development, both natural and man-made, thus directly influencing the turns of history.

We therefore begin our exploration with a wider outlook in both space and time - with Middlesex, the historic county that until 1965 covered the region in which Old Oak Common is situated. A mainly low-lying area, it is held between three rivers, the Thames to the south and the River Lea and River Colne to the east and west, and historically criss-crossed by numerous tributaries and small streams, many now covered over.

Through this landscape stretches a ridge formed on bedrock of predominantly London clay - the Hampstead Ridge - on which our study area lies. Reaching across the north-eastern outskirts of contemporary London, it forms a series of summits giving characteristic wide vistas across the landscape. This land was

once heavily wooded, the home of the great Forest of Middlesex, thought to have been dominated by oak, with wet woodland of alder and willow along rivers and streams. The area was gradually deforested, and land given over to agricultural use.

Until the 19th century Middlesex remained predominantly rural, a mosaic of fields, meadows, heaths and woods. A significant portion of land was used as commons - land where local people had a traditional right to graze their animals and in other ways take part of resources. Often dominated by gorse, heather and bracken these spaces provided vast habitat for a range of species of birds and other wildlife. Following the General Enclosure Act of 1801, the commons rapidly diminished, leaving only a few fragments, often remaining as open spaces today.

With the arrival of the railway the agricultural character of Middlesex quickly changed, and the region was eventually almost entirely swallowed up by the growth of London. From the open spaces remaining on the summits of the Hampstead Ridge, such as Hampstead Heath and Regents Park, as well as local examples such as Wormwood Scrubs and Horsenden Hill, one can still get a sense of the character of the historic landscape. The mosaic character to some degree remains - patches of woodland, grassland and heath, with hedgerow field boundaries and wide vistas from high points out over the otherwise fairly low-lying county of Middlesex, although fields and meadows have now largely given way to the residential areas and industry of north-eastern London.

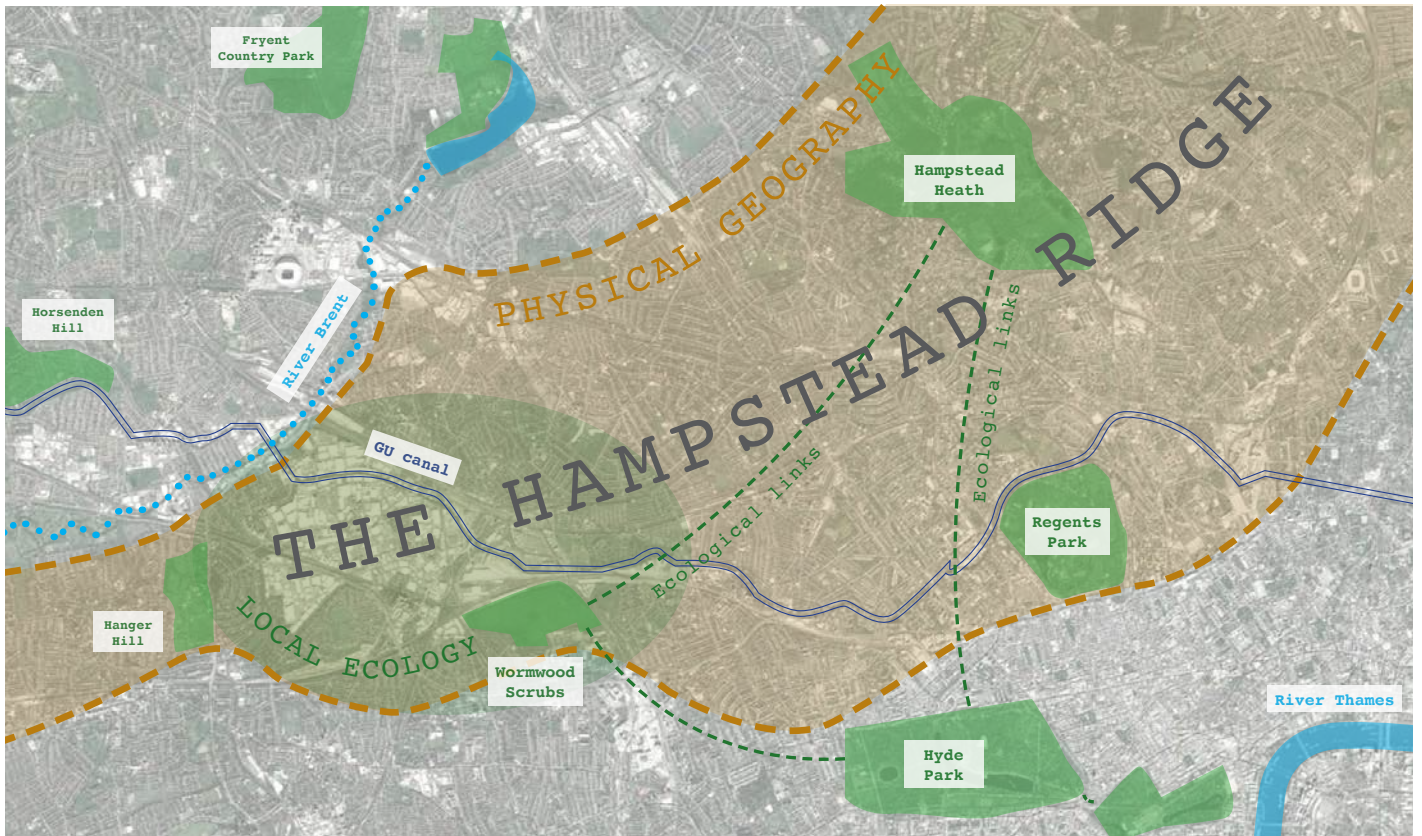


Diagram showing the geographical extent of the Hampstead Ridge; a series of summits across north-west London, with London clay as the dominant bedrock. Local ecology within the OPDC area is linked to a wider network of green open spaces via ecological movement routes and watercourses.



Fryent Country Park, long views across the landscape



Horsenden Hill, grassland, woodland and wide vistas

The Local Context

History and heritage – landscape development on the local scale

Old Oak Common, situated at the heart of the former Middlesex County, shares the region's over-arching landscape development. The study area was historically largely agricultural, a mix of woods, commons and farmland, with Old Oak Common and Wormwood Scrubs forming large commons for grazing, separated by the Stamford Brook.

As with the region as a whole it was the arrival of infrastructure that sparked urbanisation. The Paddington branch of the Grand Union Canal was opened in 1801, providing a valuable link into central London, but it was the construction of the Great Western Railway in 1838, followed by a number of other rail lines, that would come to truly reshape the area.

Numerous rail tracks with associated sidings, depots and shunting yards expanded across the landscape during the 19th century, eventually covering much of the old common land. Despite this the area remained fairly rural up until the turn of the century, with dairy and pig farms continuing to supply London with food. From the early 1900s the industrial expansion was however rapid.

Many traces of the historic landscape remains – today's Old Oak Lane follows the old alignment of a footpath through the lost Common and old field boundaries have impacted the pattern of urban development. In the wake of industry and infrastructure space has also unintentionally been made for a new type of nature – the 'urban wild' of road, rail and canal sidings.

Landscape development, all diagrams Allies & Morrison, *Old Oak and Park Royal Heritage Strategy* (2017)



1761, Old Oak Common and Wormwood Scrubs used for grazing, surrounded by arable farmland.



1905, railway land has since the arrival of the GWR in 1838 swallowed up much of Old Oak Common.



1961, Wormwood Scrubs has gained its current extents. Stamford Brook is by now covered over, thus joining the Scrubs with the remaining fragment of Old Oak Common.



Old Oak Common train depot, 1956



Haymaking by Old Oak Lane, 1908



Pastoral farming in Harlesden, early 20th century

The Local Context

Local landscape character today

The study area can in many ways feel fragmented. Cut up by large infrastructure corridors and with dominant industrial activity it may appear scattered and transitional – an edgelands, a mosaic, a set of corridors and patches linked by heavily trafficked roads. Movement of goods and people continues to shape the area, but the dominance of infrastructure has also created ‘gaps’ in the landscape where wildlife and plants can both roam and colonise.

On underused or abandoned land, in inaccessible stretches along the railways, on canal and road embankments, and in protected remnants of the historic rural landscape, valuable habitats have developed over time. An area that at first glance may seem grey and hard is in actual fact holding a rich set of wild and semi-wild spaces.

There are also residential areas found throughout the study area, with their associated pocket parks and gardens. Along with the large open space at Wormwood Scrubs these form a patchwork of managed greenspace with real value for the local community.

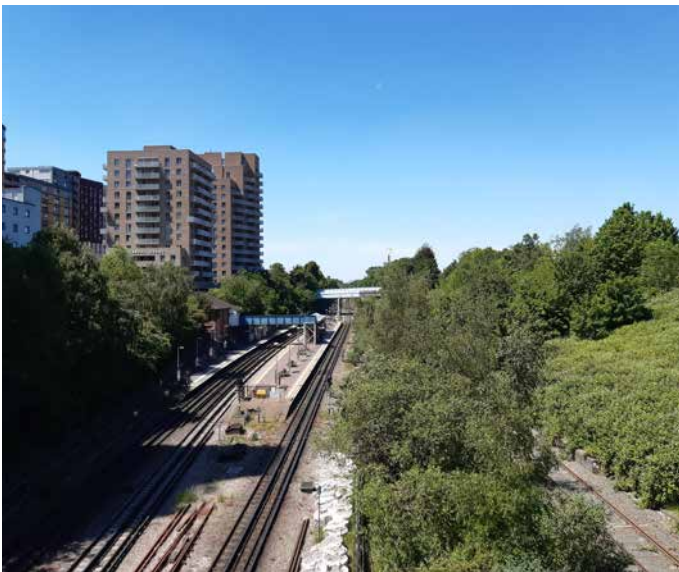
Apart from the managed parks and gardens the majority of the soft landscape within the study area is self-willed. A mosaic of planting types exist, found at different stages of ecological succession – from recently colonised ground dominated by ruderal plants; to mature dense and layered woods.

Being semi-wild and self-governing plant communities, these spaces can be perceived as weedy, unkempt and even unsafe. They are however important landscapes within the urban environment, providing valuable habitat for wild plants and animals. Of equal importance are the qualities they bring for people, providing seasonality, greenery and softening of an otherwise fairly unforgiving landscape, as well as buffering against pollution and noise.

Three habitat types in particular have been identified, that have a significant impact on the natural landscape on the local scale: the railway corridors, the Grand Union Canal and Wormwood Scrubs. These habitats are part of what makes the area special, forming a unique and valuable network of mature greenspace within the urban realm.



- Railway corridors
- Grand Union Canal
- Wormwood Scrubs



Examples of rich greenery alongside key infrastructure corridors:
 Wooded embankments along Victoria Road; greenery within railway corridor and vegetated sidings framing the towpath of The Grand Union Canal

The Local Context

Local habitats in detail

Railway Corridors

Fenced off and inaccessible to the public, the railways form relatively undisturbed green corridors. Reaching out in vast networks, they connect the rural and urban, allowing plants and animals from both worlds to migrate, colonise and mingle.

Within the low-nutrient, free draining substrates of the tracks and sidings, self-governing plant communities have established over time, a mix of native and non-native species able to thrive in the man-made environment. They form mosaic landscapes – a mix of bare ground, areas of colonising herbs and grasses, scrub, and even mature woodland on underused sections of the network. The cyclical and fairly limited maintenance allows for continuous ecological succession at different stages of development. Although often perceived as a 'wasteland', it is a landscape that holds immense ecological value – with much designated as Sites of Borough Importance for Nature Conservation.

The Grand Union Canal

The Paddington Branch of the Grand Union Canal forms an important blue and green corridor through the study area for both land and water living species. A Site of Metropolitan Importance for Nature Conservation, long stretches of the canal are lined with mature woodland and scrub, providing fairly undisturbed habitat for birds, bats and invertebrates. Despite some problems with fly-tipping

and impact from adjacent industry, the canal and its wooded embankments create important habitat as well as movement corridors for a range of animals and plants. The canal also creates a valuable green link for cycling and walking.

Wormwood Scrubs

Wormwood Scrubs is the largest local remnant of the historic rural landscape, and also forms the largest greenspace in the area. It provides a mix of habitat types including oak woodland, scrub and acid grassland. Part of the area is designated as a local nature reserve. The relatively dense and semi-wild vegetation here supports a wide range of species, including nesting and migratory birds, invertebrates and reptiles.

A large section of the Scrubs is maintained as mowed grass for sport fields, but despite this the character of the space is more wild than tamed, and therefore cannot be easily categorised as a public 'park'.



Winchat at Wormwood Scrubs, Urban Birder



Key habitats within the study area:
Wormwood Scrubs, The Grand Union Canal and the extensive railway landscape

The Local Context

Parks and gardens

Aside from Wormwood Scrubs, the managed green spaces within the local area are all relatively small, but nonetheless form an important part of the landscape for people living, working and travelling through the area.

Some are community driven and managed spaces, found mainly within the existing residential clusters in the study area. Examples are the shared alleyways at the Railway Cottages, the community planters at Willesden Junction Station, and the Crescent allotments to the south of the study area towards Acton.

These cultivated gardens and allotments often include fruit trees and other edible plants in combination with ornamental planting. These spaces complement the private gardens in the area, providing shared space for residents and passer-bys to enjoy, but also some level of habitat value for wildlife, giving foraging opportunities for birds and insects through the inclusion of flowering and fruiting species.

More formal greenspaces also exist, such as the small parks of Victoria, Midlands and Cerebos Gardens along Victoria Road. Although limited in size they create valuable pockets of green space within the urban landscape, with lawns, shrub and tree planting with opportunities for play and engagement.

Acton Cemetery forms a valuable open space within the wider local context. Opened in 1895 it has a fairly traditional Victorian layout – although divided in two by rail tracks. It is designated a Site of Local Importance for Nature Conservation, and mainly covered in mown semi-improved neutral grassland, but with a good presence of large mature trees.

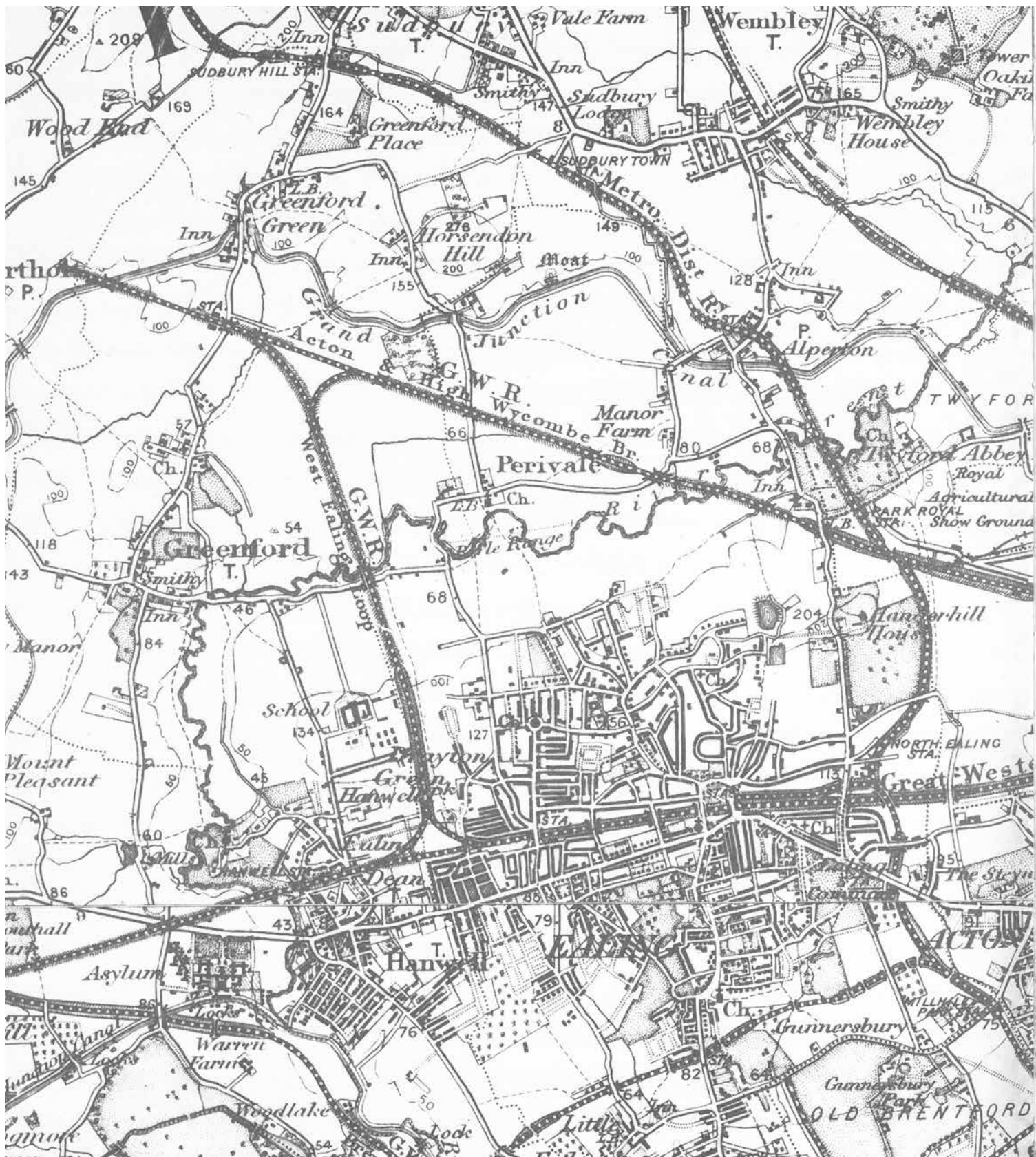


Acton Cemetery



Top: Railway Cottages, communal alleys
 Bottom left: Victoria Gardens
 Bottom right: Community planter at Willesden Junction Station

3 Approach



[illegible]

Landscape Approach

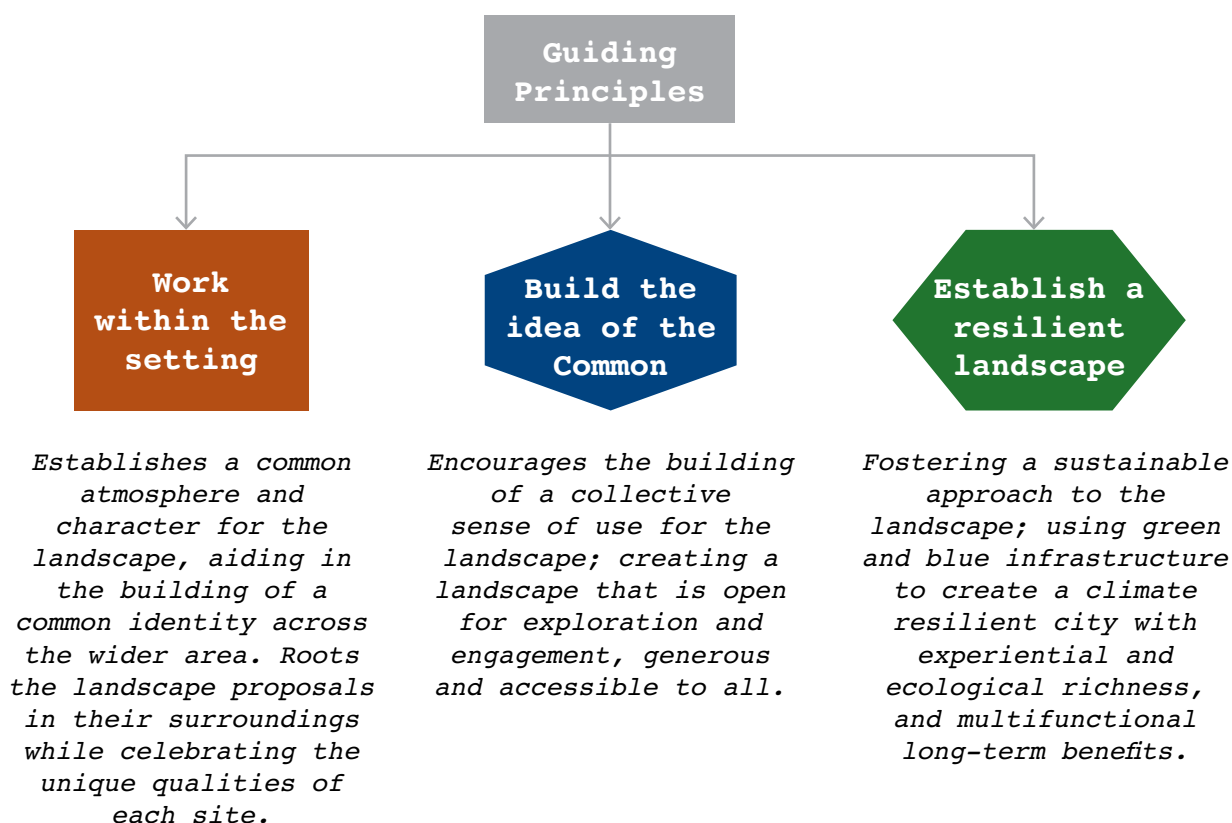
> Guiding Principles

With large scale change imminent it is key to establish a set of principles that enable a sensitive and positive transformation of the area around Victoria Road and Old Oak Lane. These guiding principles together aim to guide the overarching approach to future landscape development in the area: to **work within the setting**, to **build the idea of the common** and to **establish a resilient landscape**.

These principles have been informed by the development of the landscape through time and the strategies needed for it to be a place where both people and nature can thrive in the future. To achieve a coherent, enjoyable and sustainable landscape, new projects should seek to respond to a wide set of influences: The wider setting, the sense of old Middlesex, its agrarian

patchwork of fields, woods and scrubs; the local setting, a result of the cut and thrust of industry and infrastructure; the immediate sites in all their variety; the influence of Old Oak Common, now one of many landscape ghosts and traces, and the important notion of land in which everybody has a stakeholding, including wildlife; as well as the critical influence of climate change, requiring a landscape of resilience, inclusivity, adaptability and care.

By embracing these often ambiguous, sometimes conflicting and overlapping concepts, a rich, diverse, enjoyable and healthy landscape can be wrought from the powerful changes that are currently underway.





'Grey to Green' public realm re-invention - Sheffield
(Sheffield City Council, Nigel Dunnett, Robert Bray Associates)

Guiding Principles

Work Within the Setting

> Summary

The first of the guiding principles is to *work within the setting*, seen as a strategy to enable the development of a common atmosphere, character and identity for the area. Through the study of the surroundings and the incorporation of important characteristics identified, an individual project can be designed in a way that ensures that it becomes a valuable puzzle piece within a larger whole.

The 'setting' ranges from the very large scale of the wider regional landscape to the very local context of the site; and from the visible physical characteristics to a sense of time and atmosphere. Three *landscape filters* can be identified; that when applied to a project give clues to guide the design:

> The Regional filter

Design clues from the wider landscape of the Hampstead Ridge and 'Middlesex' landscape, used to distil a common character for all projects within the study area: an atmosphere or feel, with its own specific textures, planting types and overarching principles. It is both something fairly conceptual and loose, and something that can result in very concrete practical design applications.

> The Local filter

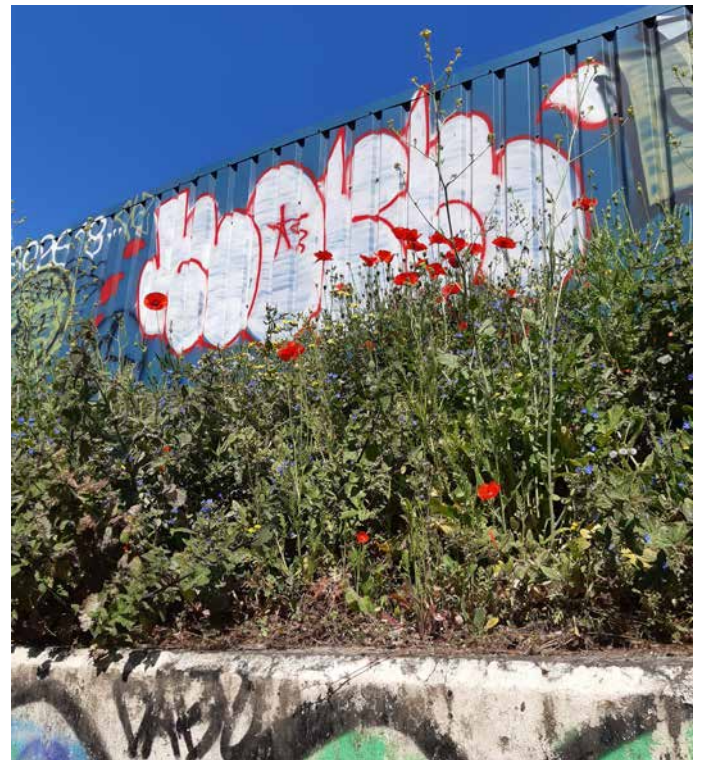
Design clues from the local landscape found around the project site. Examining the local landscape character, land type and habitats gives more detailed design clues that can be used to further develop the characteristics identified from the

regional scale. Depending on the project location the number of influencing characteristics may vary.

> The Site Specific filter

The specific conditions within the site itself gives the final set of design clues. The site specific conditions is what gives the project its unique flavour, that allows for the building of a very local identity within the context of the larger setting.

Seeking influences from all scales, the regional, the local and the site specific, enables the creation of a network of sites that have a common identity while still celebrating the specifics of each individual space.



Existing features and plants within a site can be incorporated within or give inspiration to a new design. Hythe Road Industrial area.



Top: Horsenden Hill, a space where the wider landscape character – its geology, atmosphere and history, is still visible.

Bottom: The Grand Union Canal, a character landscape within the local setting.

> Work Within the Setting

Regional Filter

The geology, geography and history of the region (described in *Chapter 2*) form the underlying influence for all sites. Old maps as well as surviving remnants such as Horsenden Hill and Wormwood Scrubs speak of the historic landscape, giving key characteristics to guide future projects. Important concepts are:

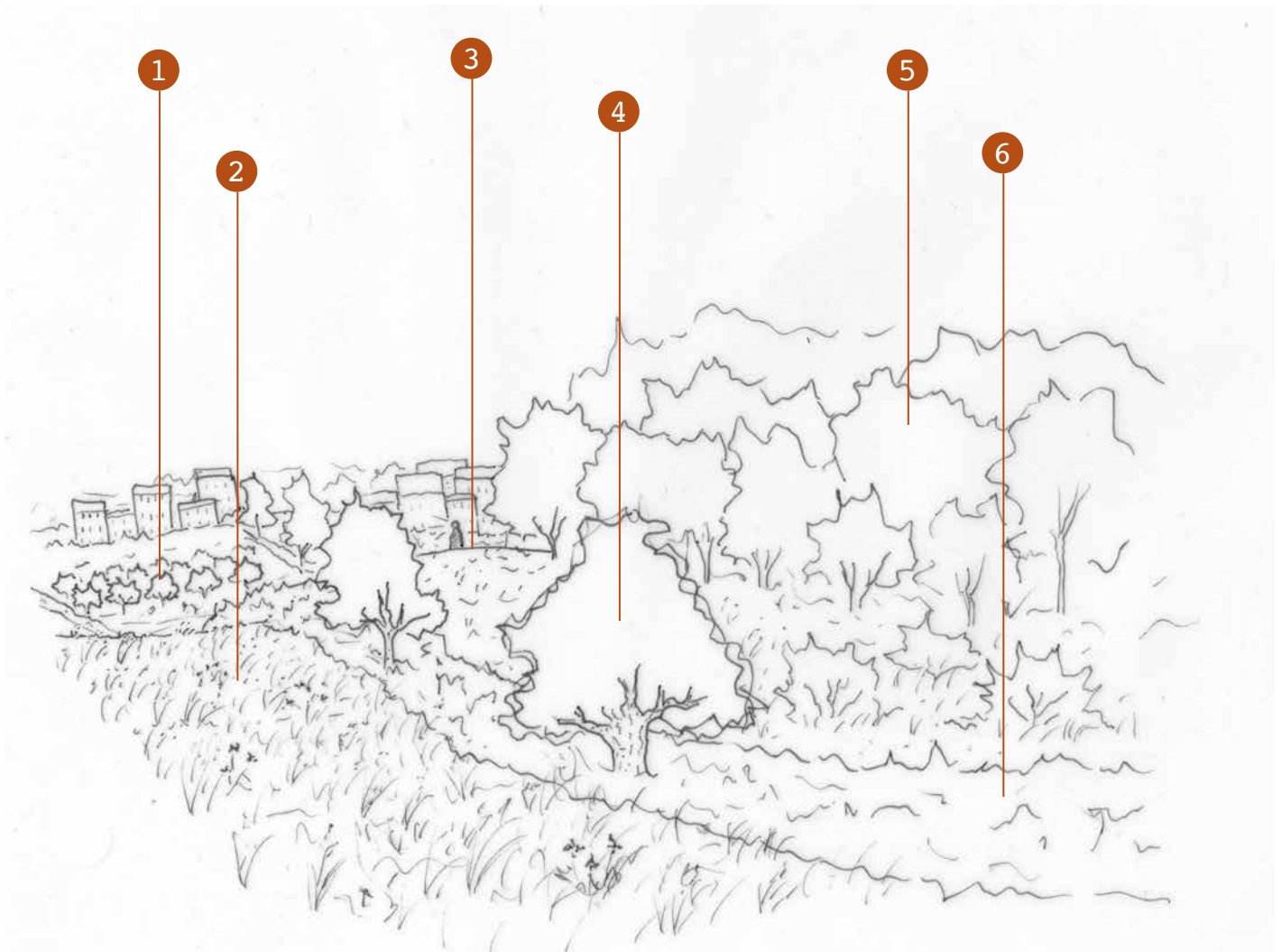
> Capture the character: naturalistic, rural and varied.

> Make room for the wild: create landscapes for biodiversity.

> Productive landscapes: include edible plants in reference to agricultural past.

Design clues - wider landscape

- 1 Productive landscapes, orchards and fields
- 2 Open land; meadows, grassland and heath
- 3 Wide vistas from high points
- 4 Large mature trees
- 5 Patches of woodland and scrub
- 6 Mixed native hedgerows





Layered naturalistic plantings, including trees, shrubs and herbaceous perennials



Incorporate or mimic characteristic rural planting types, e.g. wildflower meadows



Include plants that provide food and shelter for a range of wildlife and through the year



Enable understanding and appreciation of ecologically rich landscapes



Include edible plants, e.g. fruit trees and soft fruit shrubs, as part of planting schemes



Reflect agricultural heritage and enable community engagement

> Work Within the Setting

Local Filter

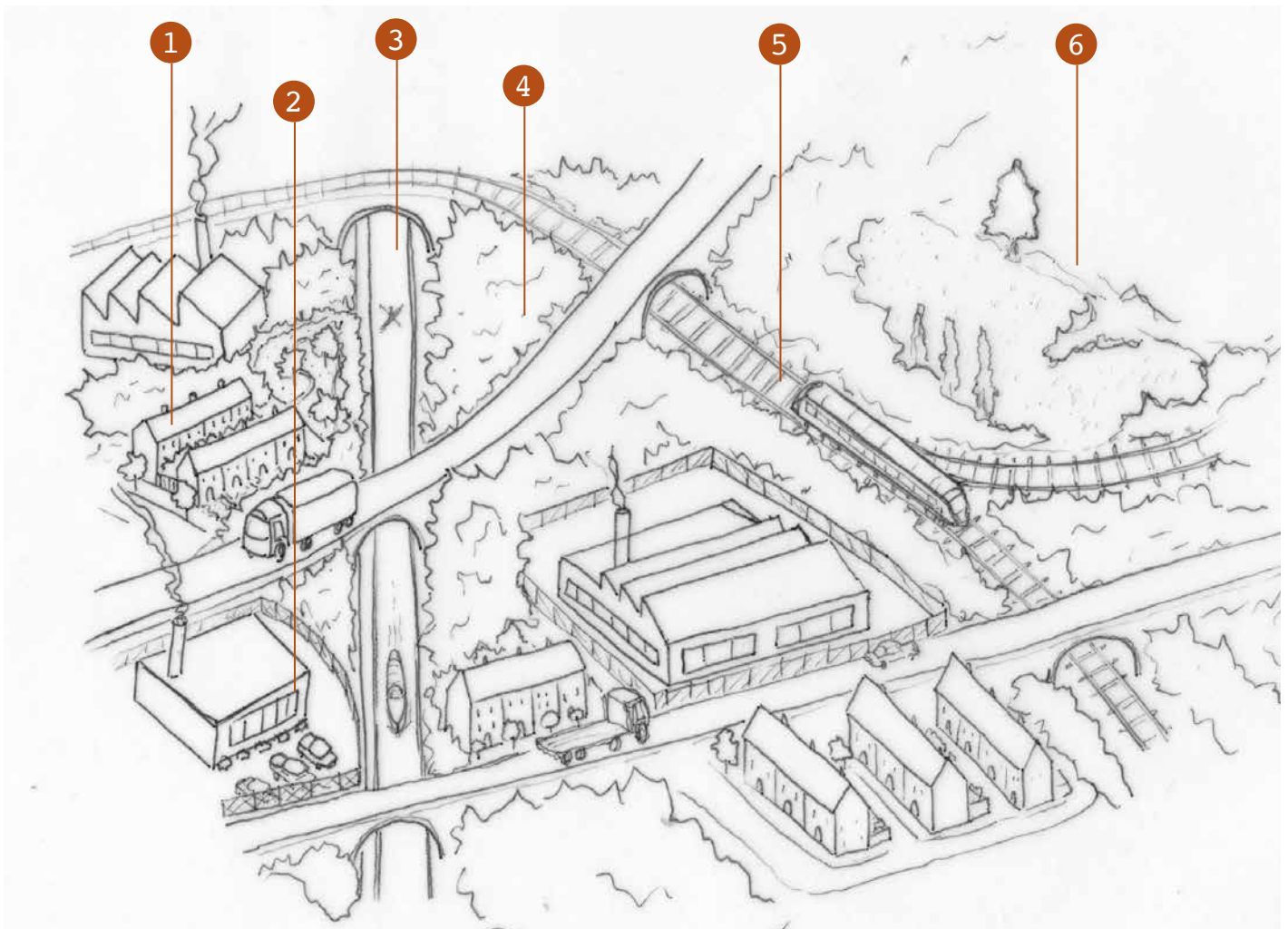
Being a diverse area the relevant considerations on the local scale may vary. A couple of common themes emerge however:

> 'Urban wild', ecologically rich self-willed plant communities present across the area. New projects should seek to extend existing habitats; create naturalistic plantings; and encourage engagement while protecting existing habitat values.

> Existing communities with their gardens, shared spaces and parks. Often mixing ornamental and productive planting, these can be used as another source of inspiration.

Design clues - local landscape

- 1 Residential clusters and gardens
- 2 Industry and infrastructure
- 3 Local waterways
- 4 Wooded embankments
- 5 Railway infrastructure corridors
- 6 Local green spaces





Plant large trees where space allows it, including native species where possible



Extend local habitat, using plants appropriate for the setting and specific wildlife present



Mix ornamental and edible plants, inspired by community gardens



Include the quirky and floral in suitable locations, inspired by historic railway gardens



Buffer and protect existing habitats, while encouraging engagement and learning



Join up gaps in the existing green network, in ways that benefit both people and wildlife

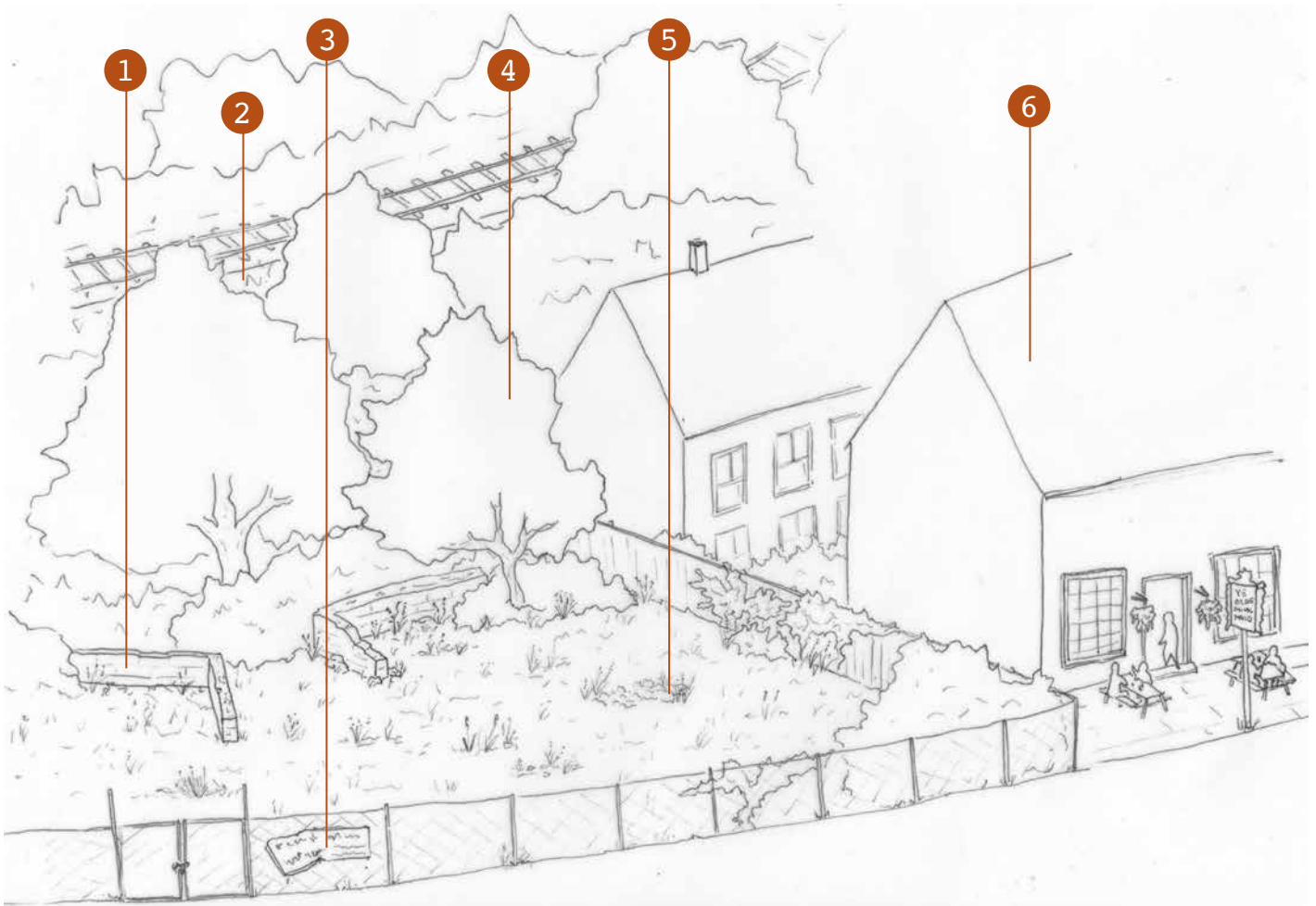
> Work Within the Setting Site Specific Filter

A study of the existing conditions within and immediately bordering the site provides the final layer of design clues. This includes:

- > Exploring site history, eg. land use and historic communities, considering what can be referenced or linked to within the new design.
- > Valuing the existing: editing and retaining rather than removing – eg. working with existing soils, rather than importing topsoil; retaining existing planting; and incorporating existing features where possible.
- > Explore adjacencies: provide buffer as required, and actively seek to create links to existing spaces, habitats and communities.

Design clues - site specific

- 1 Remaining fragments
- 2 Habitat connections
- 3 Site history
- 4 Existing planting
- 5 Existing physical conditions including soil and aggregates
- 6 Adjacencies, including potential engagement with local community





Retain and protect existing planting where possible, especially mature trees



Existing aggregates or soils can form the setting for specific planting types



Site history can be referenced conceptually through thematic planting



Historic land use can be made visible through the incorporation of remaining features



Consider the adjacencies: buffer against industry, roads and infrastructure

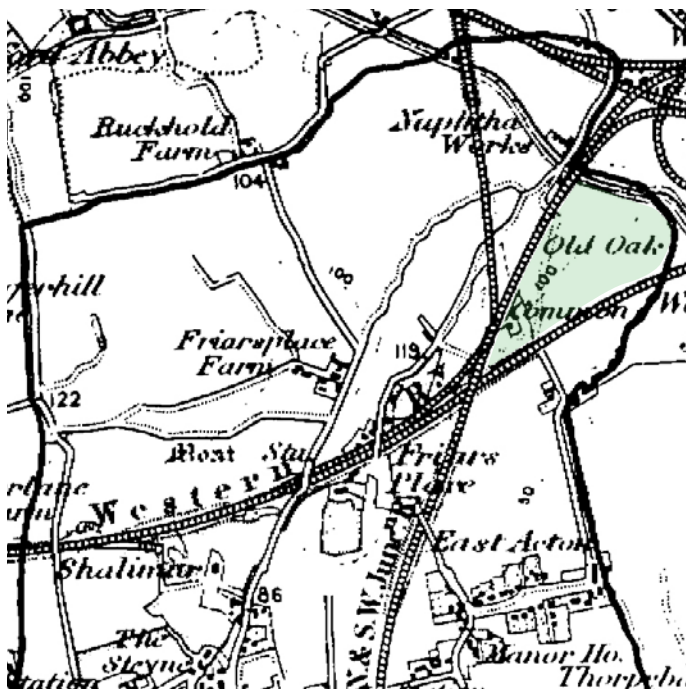


Consider the adjacencies: open links to neighbouring sites and engage local community

> Build the Idea of the Common Summary

The second guiding principle picks up on the traditional rights for local people to utilise and take part of resources within the historic commons. Used as inspiration for a contemporary concept of 'common land', it encourages a more democratic use of land, the idea that people have a stakeholding in their local landscapes; as well as the building of a sense of community in an area that is due to undergo large scale transformation.

The idea of the 'common' can be used in a number of ways. All new development should strive to create inclusive, open-ended landscapes with opportunities for exploration and engagement; and projects should as far as possible be open and accessible both to the local community and the wider public, inviting people in and encouraging participation.



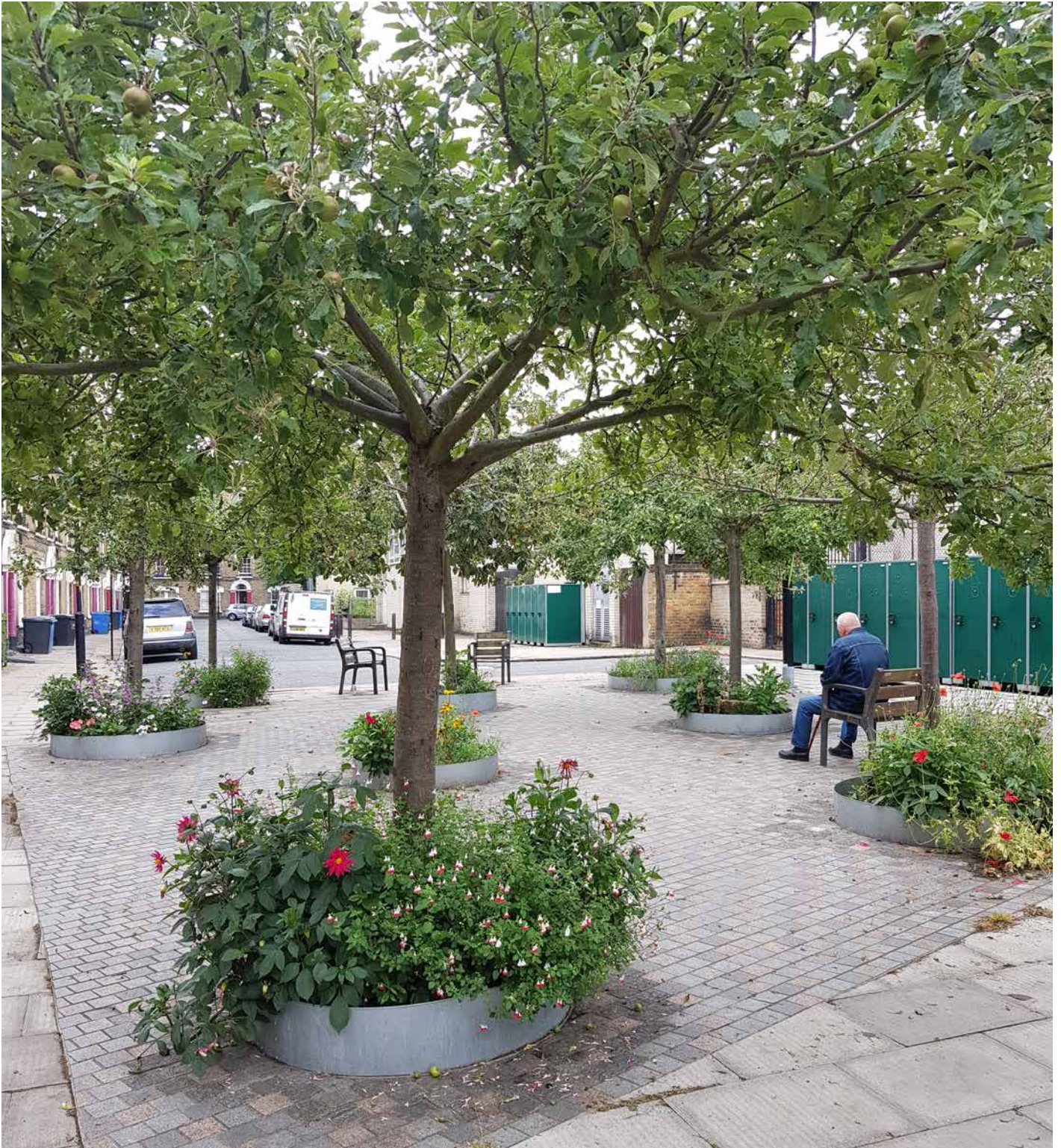
Old Oak Common – a lost landscape. The principles of a space where local people have a stakeholding can however be retained.

With a large presence of semi-wild habitats in the local area it is important to find ways to make these spaces feel inclusive, allowing for nature to exist in the city on its own terms while also acknowledging that naturalistic planting can sometimes be perceived as weedy or unkempt. Communicative interpretation and other 'visual cues' can be utilised in creative ways to build understanding, showing management and design intent.

The inclusion of edible plants, natural play and other forms of practical engagement are key concepts, as these often acts as stepping stones to a deeper appreciation and connection with local landscapes and local people. Existing community gardens and green spaces need to be protected, embraced and better linked, and further green spaces with true public value added.



Woodland Garden at the Railway Cottages, providing space for both people and wildlife



'The Abundant Amelia', Amelia Street
LB Southwark

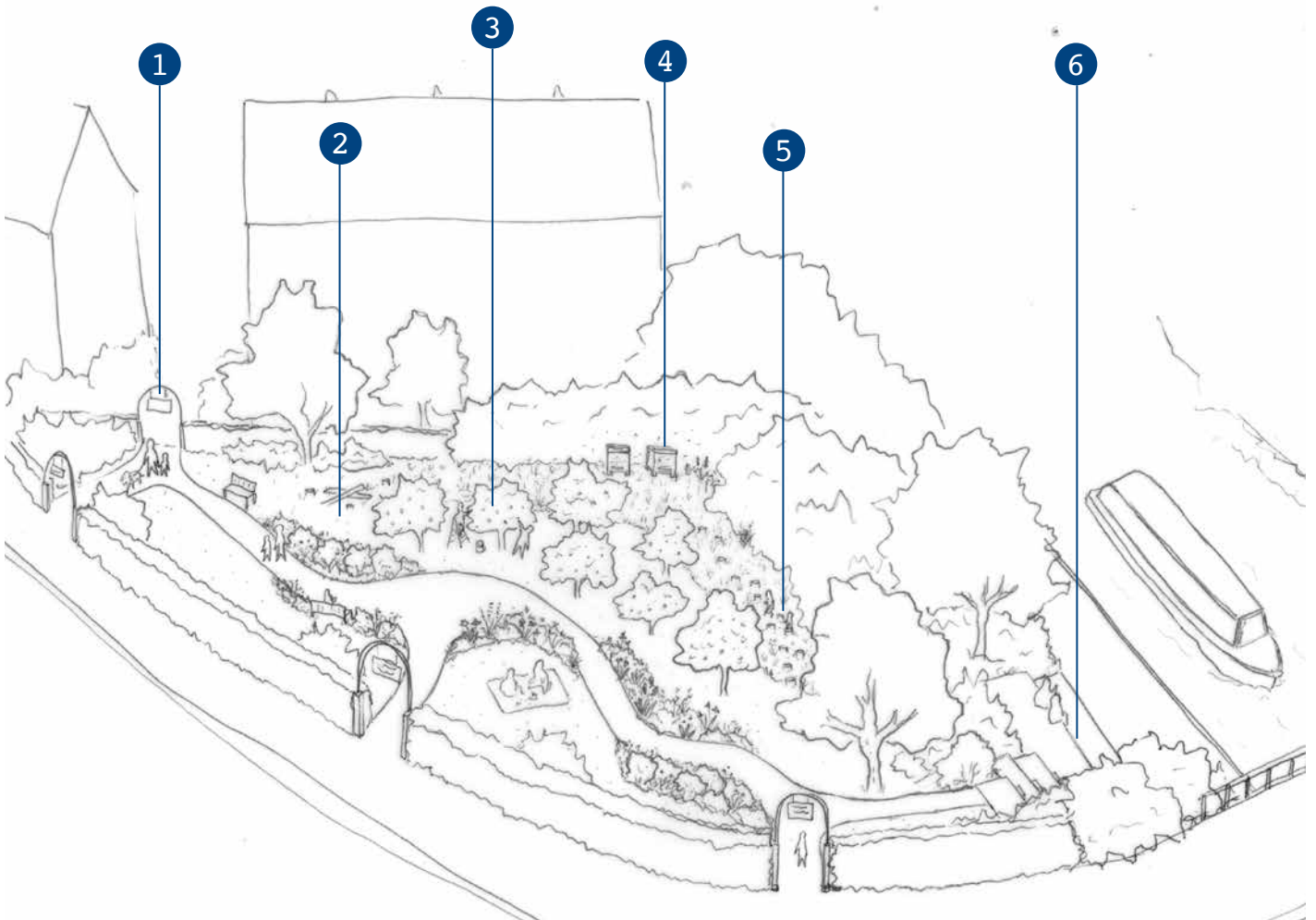
> Build the Idea of the Common Design Clues

With the aim to build a network of local spaces that maximises the social value of the landscape, the following considerations are important:

- > Create spaces that are welcoming and openly accessible to all, clearly signalling that engagement and lingering is encouraged and welcome
- > Allow spaces to be playful and explorative, avoid heavy programming
- > Include food for free, incorporating a diverse range of edible plants for both people and wildlife
- > Encourage appreciation of biodiverse landscapes, while including a variety of planting types where possible, to ensure there are spaces for everyone to enjoy.

Design clues - 'the Common'

- 1 Welcoming and openly accessible
- 2 Blend areas and uses, allowing for ambiguity
- 3 Include edible planting, encourage engagement
- 4 Encourage appreciation of biodiversity and wildlife
- 5 Explorative and playful
- 6 Links to adjacent sites, form connections





Welcoming and openly accessible to all



Food for free, including edible plants in planting schemes



Unprogrammed, playful and explorative



Incorporate spaces for wildlife, inviting people to appreciate such sites



Consider sensory qualities of plants, such as scent, sound and tactility



Seek active engagement with local communities and local artists

> Establish a Resilient Landscape Summary

The third guiding principle focuses on the potential of planting to positively contribute towards the creation of more resilient cities. Urban landscapes increasingly need to be hard working; providing not only pleasant green space for people to enjoy, but also aiding in the mitigation of the effects of climate change, such as minimising the risk for flooding; providing space for biodiversity and wildlife; and contributing to shelter, shade and cooling during periods of extreme heat.

As the area around Victoria Road and Old Oak Lane increasingly becomes more densely developed and built up, it is important that existing and future green spaces are designed for longevity and adaptability.

Establishing sustainable multifunctional spaces which add to a wider network of green and blue infrastructure; integrating water management; building robust plant communities through the use of suitable species for specific site conditions; and the protection and extension of habitats are all important concepts.

This can be done in ways that build naturalness and complexity, increasing the capacity of the landscape to deal with potential effects of climate change as well as providing ecological and experiential richness.



Wildflower verges through consolidated management;
Durham County Council



Water strategies as joyful pieces;
QEOP, Stratford

Establish a
resilient
landscape



'Grey to Green' - Sheffield
(Sheffield City Council)

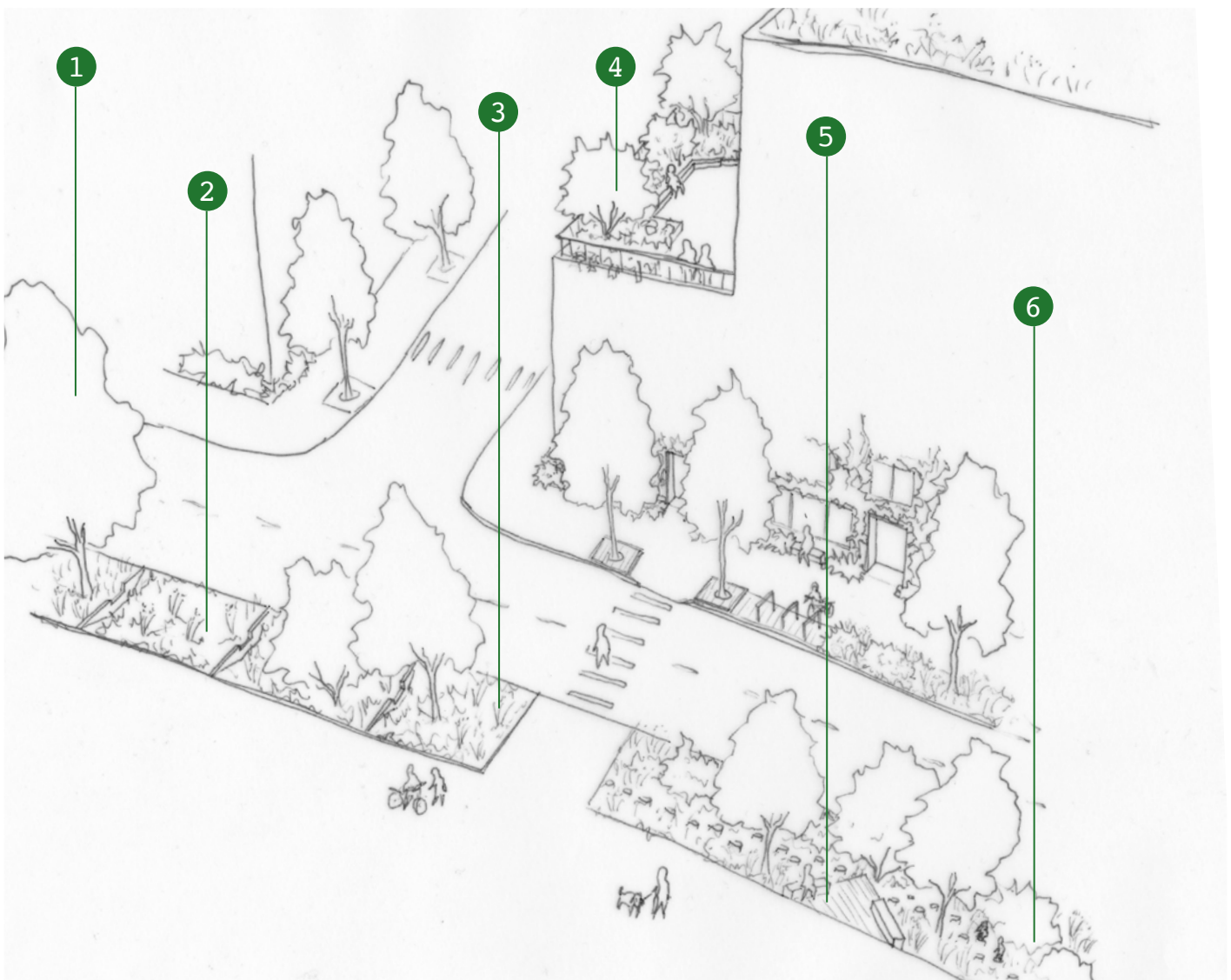
> Establish a Resilient Landscape Design Clues

Designing for climate resilience and adaptability includes the following:

- > Integrate water management, making it an enjoyable feature
- > Design robust low maintenance plant communities with high biodiversity as well as experiential values
- > Utilise all available space and prioritise larger green landscapes. These make the biggest contribution to climate resilience, habitat value & the mental well-being of people
- > Make room for trees, giving them sufficient space to grow large and old.

Design clues - Resilient landscape

- 1 Trees as a key component
- 2 Green & blue network, integrated water management
- 3 Robust low maintenance planting; right plant, right place
- 4 Utilise all available space
- 5 Create connections & engagement
- 6 Diverse and ecologically rich



Establish a
resilient
landscape



Integrated water management



Robust low maintenance planting



Trees as a key component



Ecologically rich, biodiverse landscapes



Buffer and shelter against pollution and noise



Utilise all available space

Landscape Approach

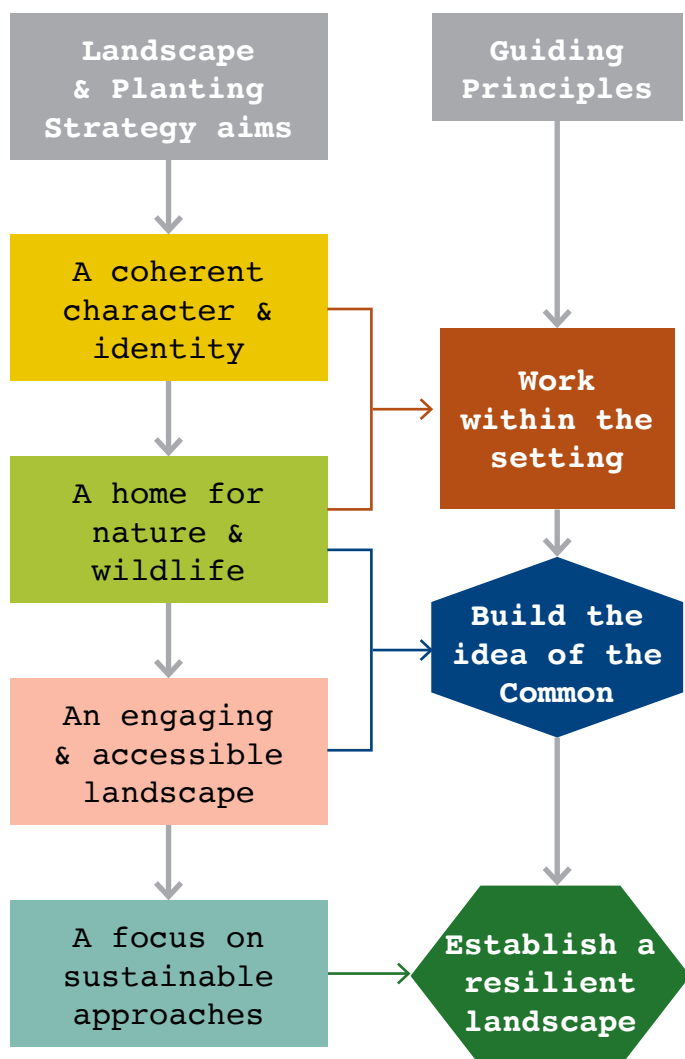
Key Strategic Objectives

The three guiding principles together form a framework to guide the overarching approach to future landscape development of the area, and provide ways in which to achieve the aims of this study.

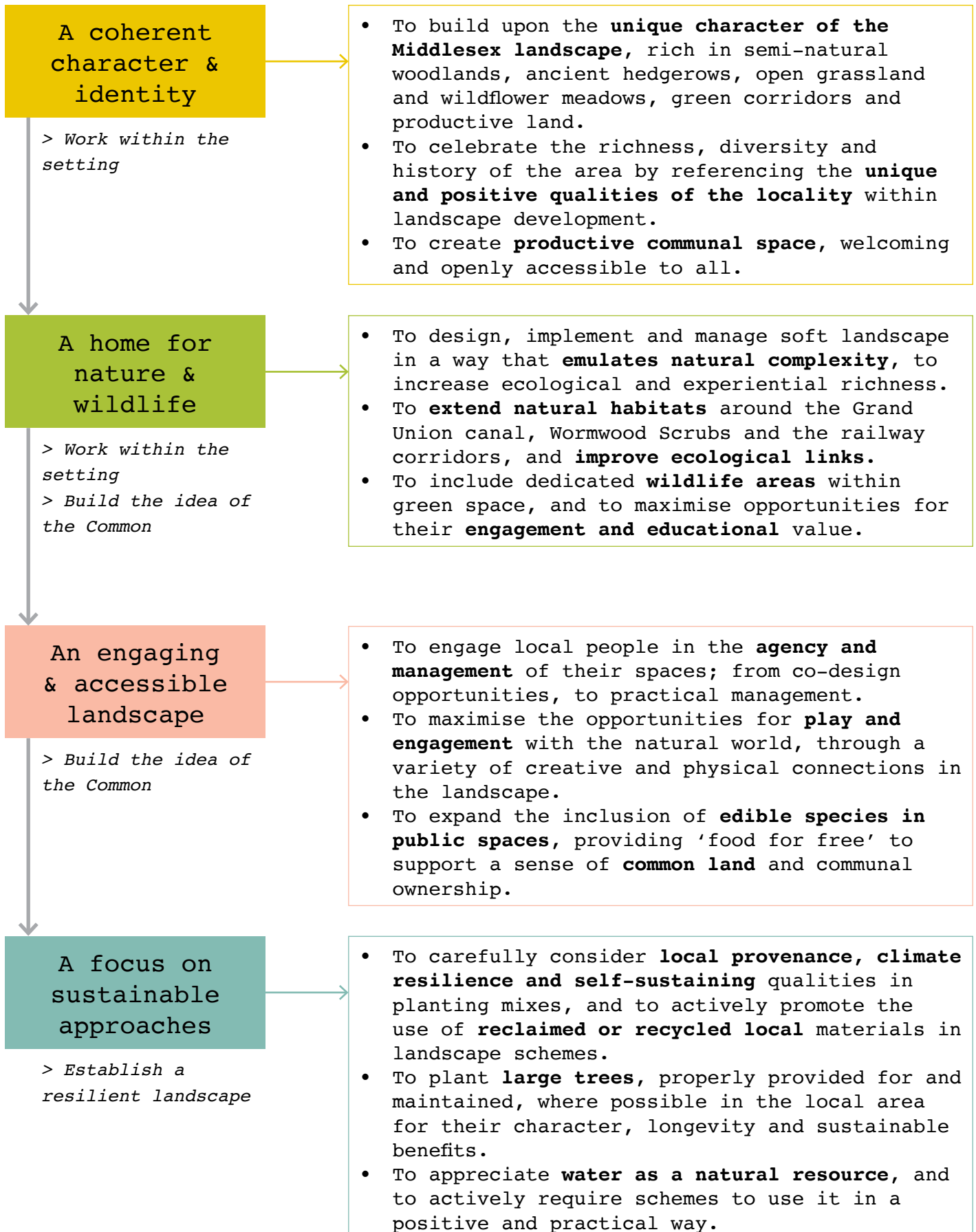
Considering how the guiding principles can be applied across the study area, the following key strategic objectives can be distilled:

By embracing the concepts of the guiding principles, a rich, diverse, enjoyable and healthy landscape can emerge from changes currently underway.

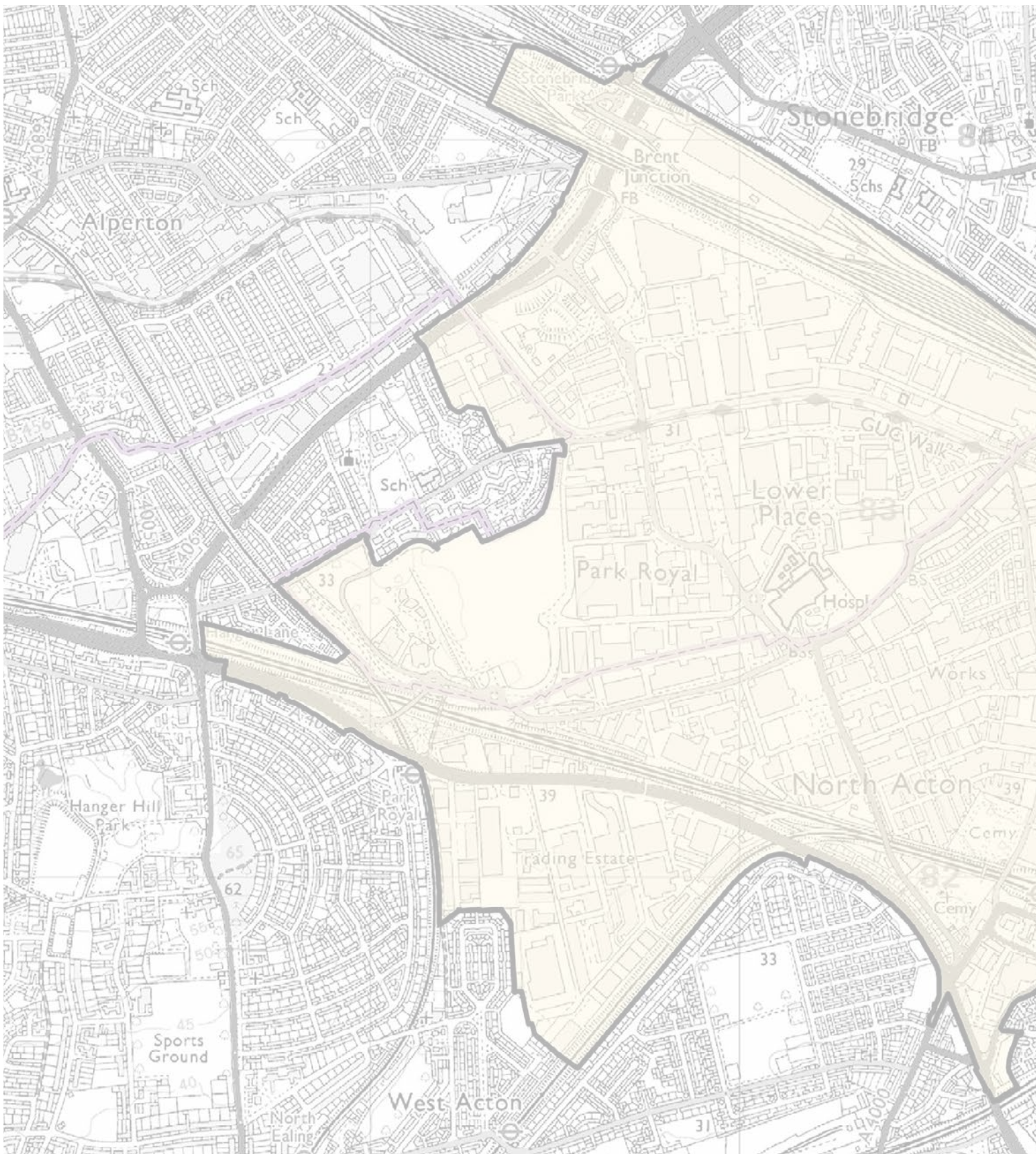
Each of the guiding principles supports the 4 key aims of the study:



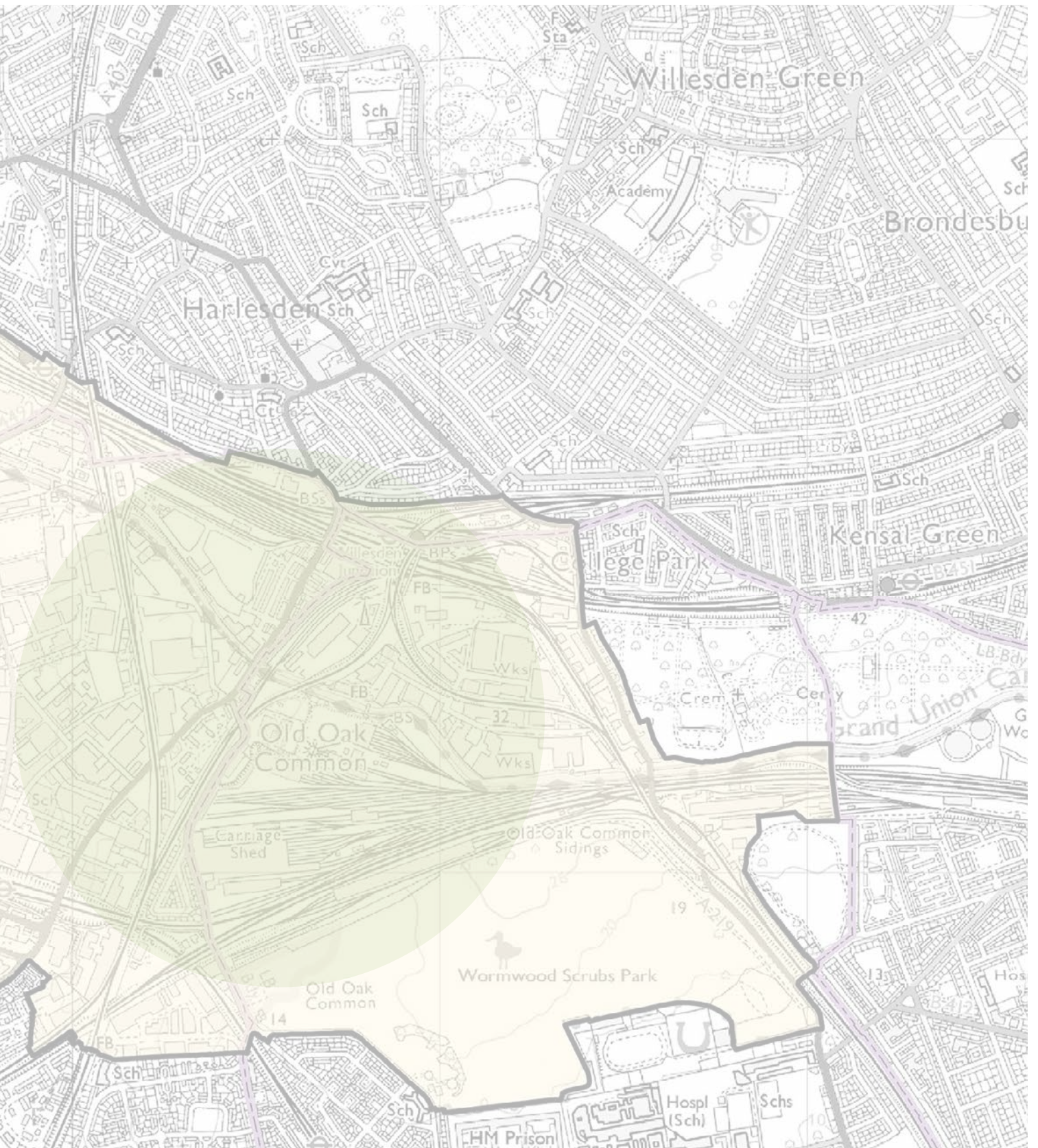
Key Strategic Objectives



4 Tactics



Map referred to in the Old Oak and Park Royal Development Corporation (Establishment) Order 2015



Tactics

> Types & Strategies

Chapter 4: Tactics, is about the practical application of the guiding principles and qualities outlined in Chapter 3.

This Chapter:

- *takes the qualities of the three guiding principles*
- *considers how these could be implemented across the study area*
- *suggests practical application of the design clues*

To achieve the above, this Chapter is split into 2 parts, containing:

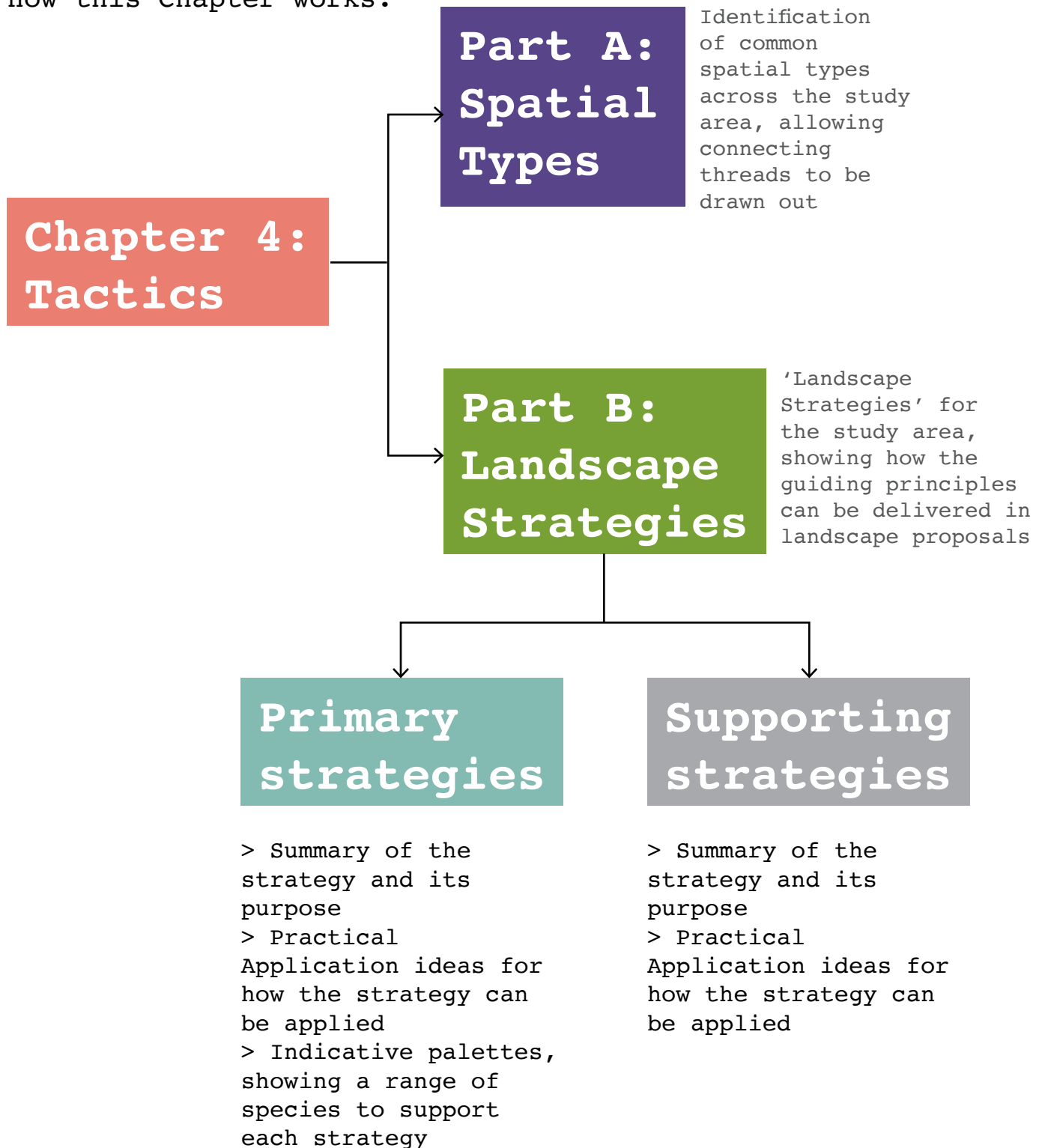
Part A: Spatial Types

- Identified spatial types across the study area, allowing common threads to be drawn out.

Part B: Landscape strategies

- Practical ideas for how to implement the 'design clues' of Chapter 3
- 3 primary landscape strategies, taking the qualities of the guiding principles and showing ways in which the ideas could be applied to sites in the area, giving practical ideas and indicative palettes.
- 3 supporting landscape strategies, giving further detail on habitats, networks and management opportunities.

How this Chapter works:



Part A

> Spatial Types

A number of spatial types have been identified across the study area.

These types are established through:

- physical characteristics
- relationship to surroundings
- accessibility
- dominant character
- contribution to wider networks.

From this analysis, a number of spatial types have been defined:

- Spaces
- Borders & entrances
- Connections

Landscape Strategies:

- Each spatial type can be an opportunity for the Landscape Strategies identified in *Part B* of this Chapter.
- Suggestions for applicable strategies are noted on the type, according to the following key symbols:

 1 Natural Planting Groups - p. 68

 2 Resilient Planting Mixes - p.78

 3 Food for Free - p.88

 4 Rich Habitats - p.96

 5 Green & Blue Networks - p.100

 6 Access & Management - p.104

> Spaces

- Accessible Open spaces

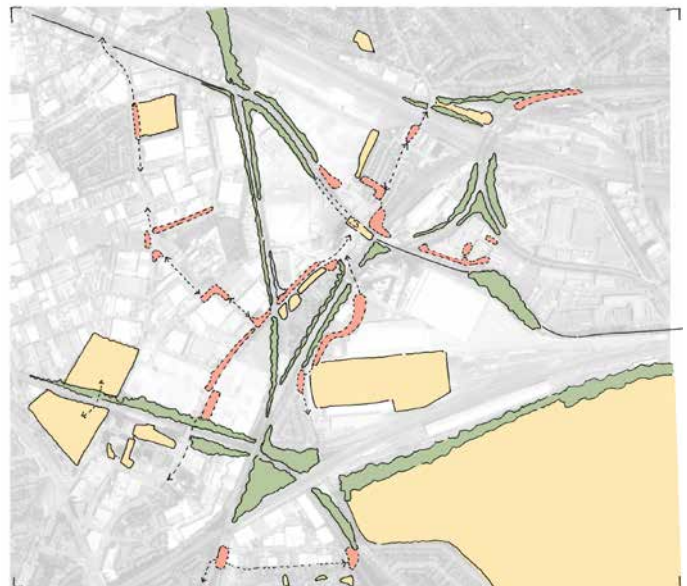
eg. squares, parks, gardens

- Inaccessible Green Spaces

eg. dense vegetation, ecological islands & corridors

- Pocket/linking spaces

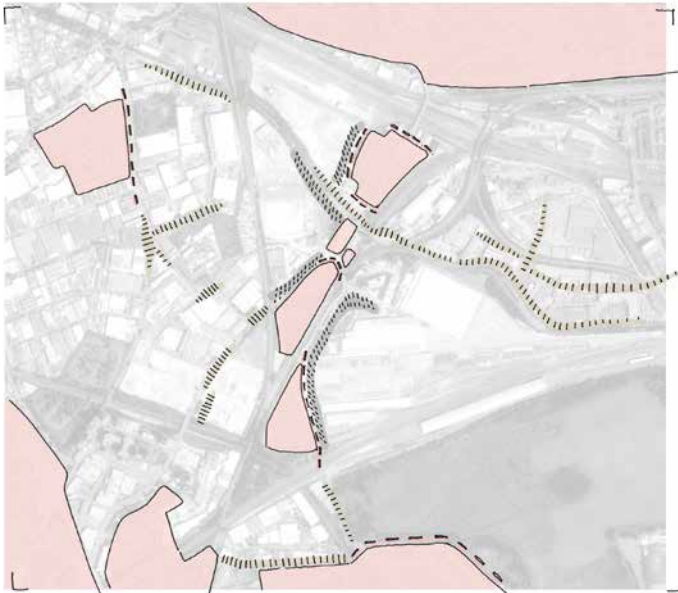
eg. leftover spaces, linking spaces



Type example: Open accessible public space (Wormwood Scrubs)

> Borders & entrances

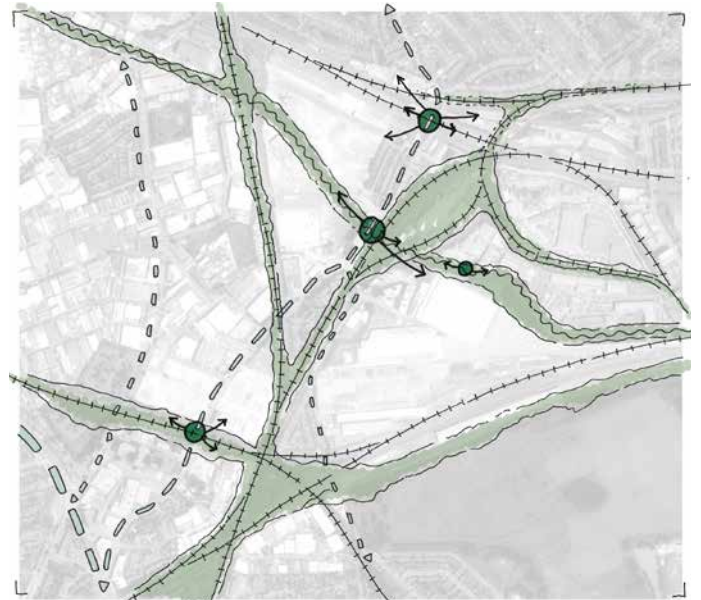
- **Residential clusters borders & entrances**
eg. housing collections, residential streets, shared living
- **Commercial borders & edges**
eg. Industrial estates, business premises, studios
- **Development site borders & boundaries**
eg. HS2 works sites, development plots, operational sites



Type example: Residential clusters & borders
(Railway Cottages, Old Oak Lane)

> Connections

- **Viewpoints & vistas**
eg. highpoints, views, moments of connection to the wider landscape
- **Ecological corridors**
eg. heavily vegetated connections allowing species movement
- **Movement corridors**
eg. primary movement corridors for pedestrians, cycles & transport



Type example: Heavily vegetated corridors
(Railway lineside at North Acton)

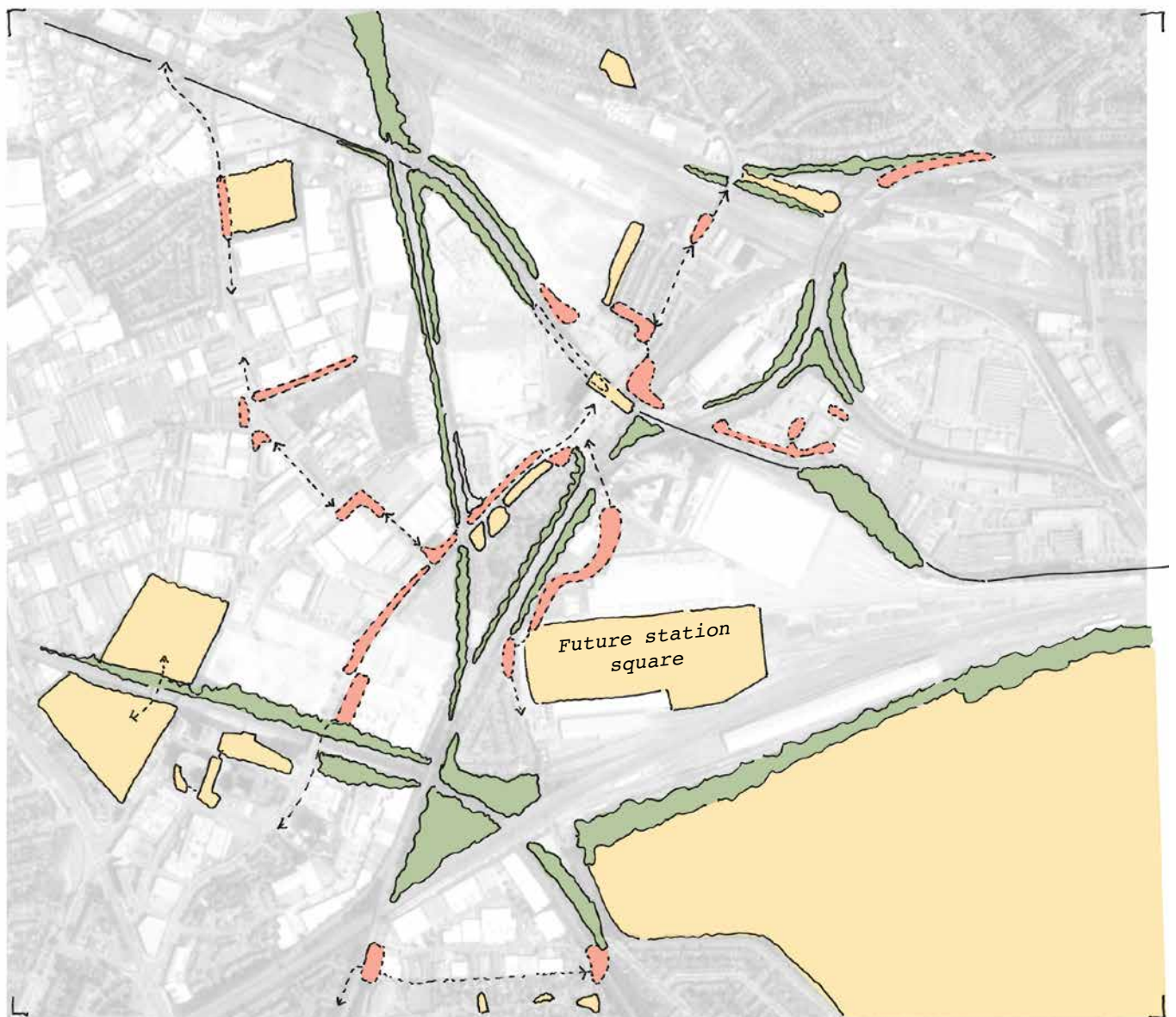
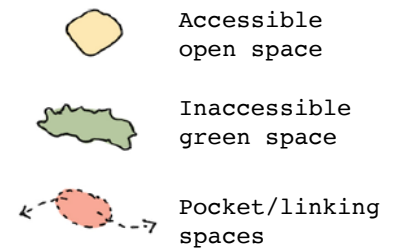
A: Spatial Types

> Spaces

'Spaces' are distinct areas within the study site. They can be formed of both hard (eg. paving) and soft (eg. planting) landscape, and can be either standalone spaces, or part of a wider connected network.

They fall into 3 main categories:

- Accessible Open spaces
- Inaccessible Green spaces
- Pocket / linking spaces



- Accessible Open spaces

eg. squares, parks, gardens

> These are spaces easily accessible by people and wildlife, characterised by an open and inviting quality. They can have a combination of hard and soft landscape, and form part of the network of accessible space across the local area.



Type examples:



Public squares
(Railway Cottages, Old Oak Lane)



Public gardens
(Cerebos, Victoria & Midland Terrace gardens, Victoria Road)

- Inaccessible Green Spaces

eg. dense vegetation, ecological islands & corridors

> These are green spaces with trees & planting that are inaccessible to humans. They form a valuable ecological asset, helping species movement and providing natural & environmental benefits such as shelter and habitat.



Type examples:



Railway lineside verges and vegetated areas
(Hythe Road)



Inaccessible green areas with dense, layered planting
(adjacent to canal)

- Pocket/linking spaces

eg. leftover spaces, linking spaces

> These are currently under-utilised areas, which have potential to be transformed into more valuable assets to the local area. They could form part of the open space network, or contribute to the planting story across the site. They can form links with other spaces and connections across the area.



Type examples:



Pocket spaces among clusters of other uses (eg. commercial)
(Hythe Road)



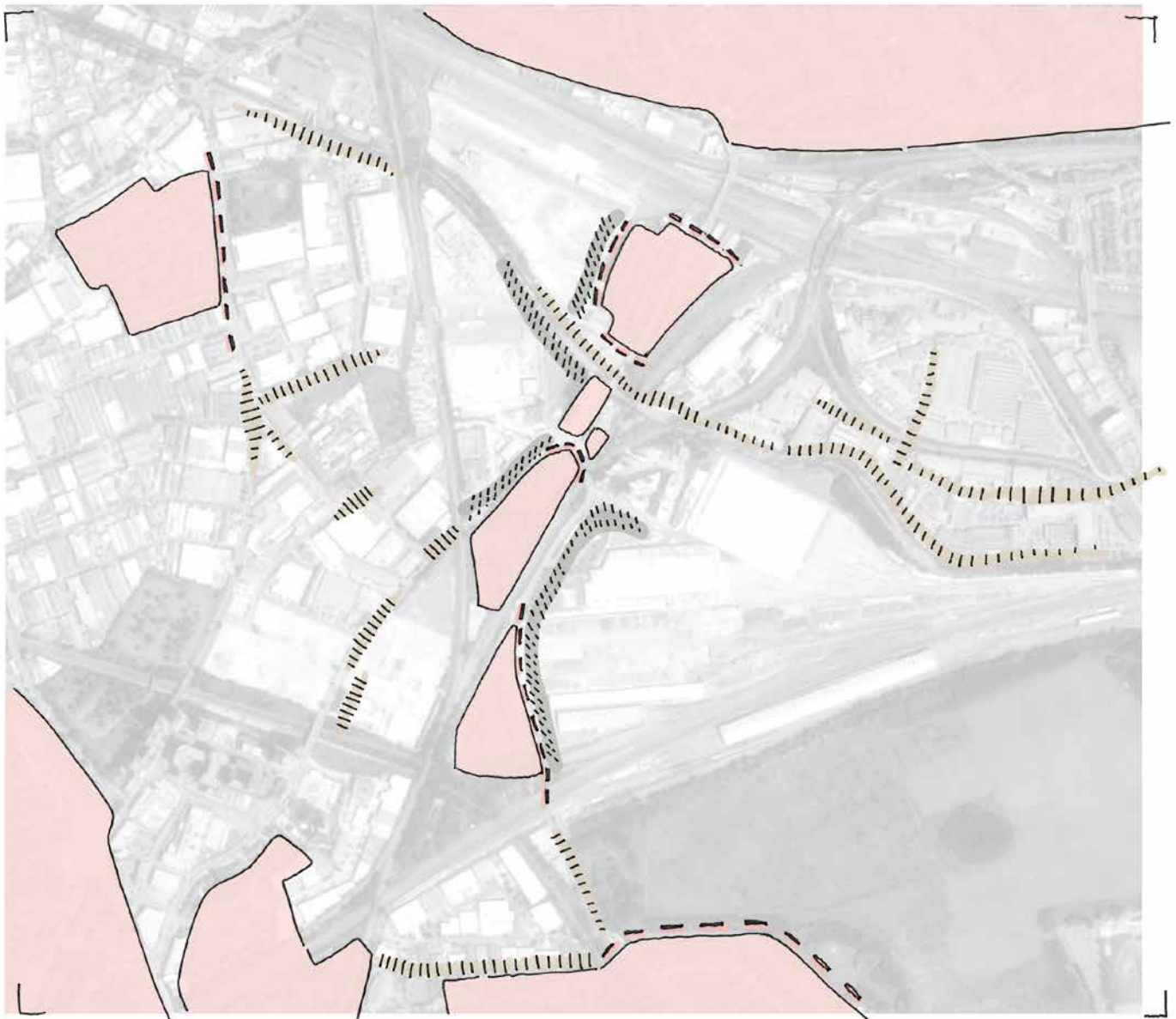
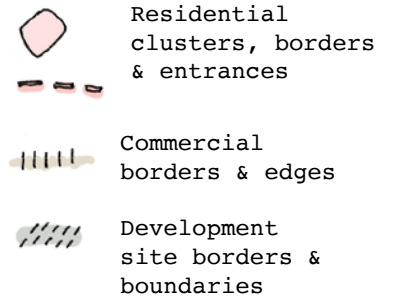
'Leftover' spaces along key routes & movement corridors
(Old Oak Lane railway bridge)

> Borders & Entrances

'Borders & Entrances' are threshold spaces that mark a change in either the use or character of an area. They occur on transition in the landscape, and can often be improved to pinpoint this change.

They fall into 3 main categories:

- Residential clusters, borders & entrances
- Commercial borders & entrances
- Development sites borders & entrances



- Residential clusters borders & entrances
eg. housing collections, residential streets, shared living

> A number of residential 'clusters' are present throughout the OPDC area, with many within the study area. These include public and private space, gardens and shared spaces. Entrances and borders play a vital part in identifying these areas.



Type examples:



Residential clusters
(Railway Cottages)



Residential street entrances
(Wells House Road)

- Commercial borders & edges
eg. Industrial estates, business premises, studios

> 'Industry' of some form is a key part of the history of the local area, with a wide range of uses from industrial, to offices, warehouses and studio spaces. Their borders with neighbouring uses could be improved to better integrate with the wider area.



Type examples:



Soft borders within industrial areas
(Volt Avenue)



Hard border within industrial areas
(Hythe Road)

- Development site borders & boundaries
eg. HS2 works sites, development plots, operational sites

> These areas often have a transient timescale, with a current use and potential future change of use. Meanwhile, or short term, opportunities could be found for these sites. Their borders can offer value to the local area.



Type example:



Significant borders with adjacent development sites
(HS2 land on Victoria Road)

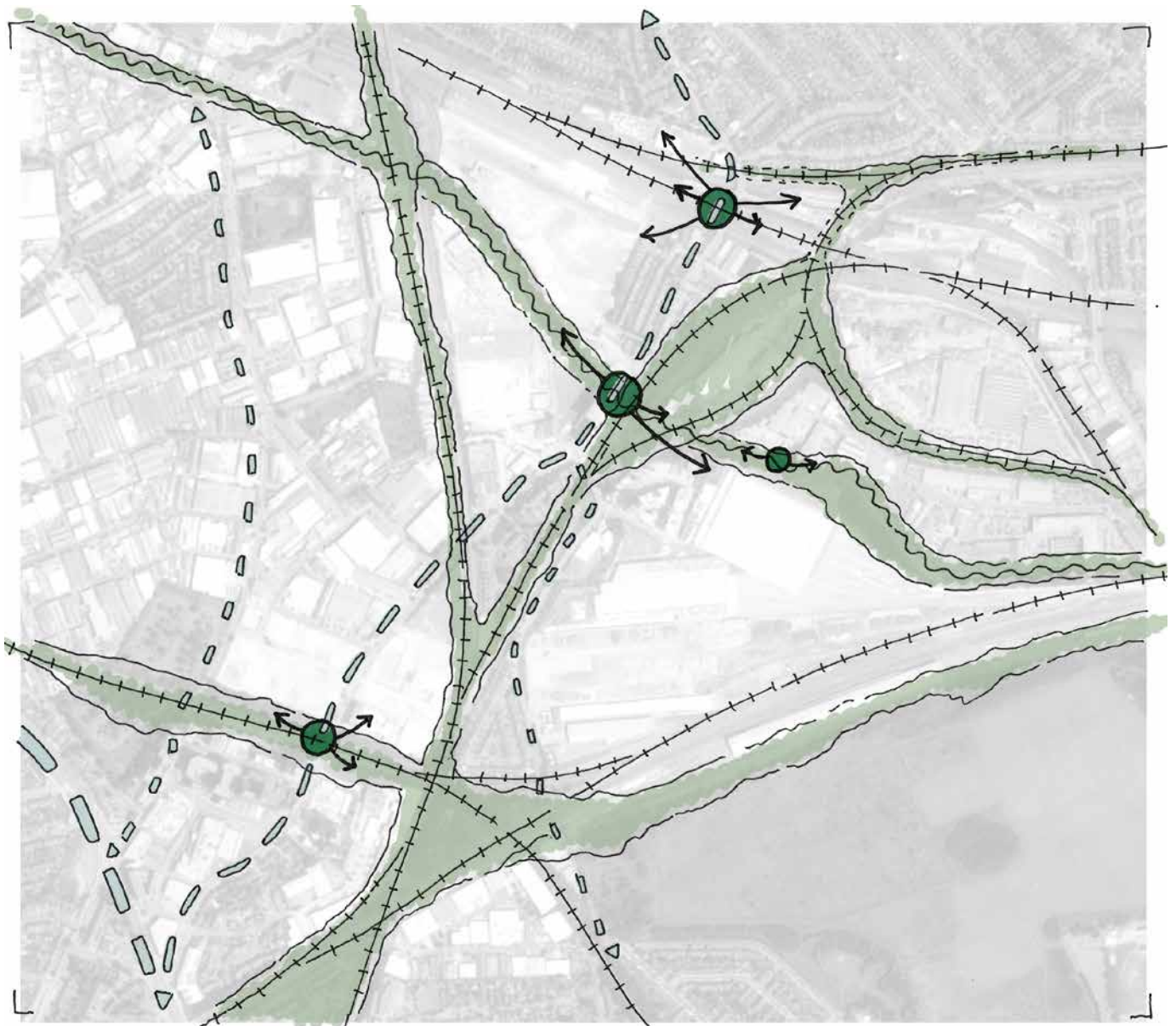
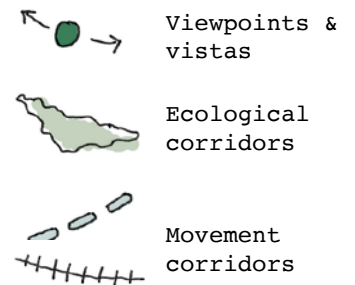
A: Spatial Types

> Connections

'Connections' link up areas to create a wider network of movement across the study site. This movement supports humans, wildlife and transport, forming a key part of the area's identity and ecological richness.

They fall into 3 main categories:

- Viewpoints & vistas
- Ecological corridors
- Movement corridors



- Viewpoints & vistas
eg. *highpoints, views, moments of connection to the wider landscape*

> These are particular points within the local area that offer a vantage point to the wider landscape and context. They provide a sense of scale and setting to the local area, and help to connect this landscape with the wider setting of the *Regional filter*.



Type examples:



Vantage points from transport bridges – (Old Oak Lane, near Willesden Junction station)



Vistas giving a sense of wider connections (Canal footbridge)

- Ecological corridors
eg. *heavily vegetated connections allowing species movement*

> A number of heavily vegetated ecological corridors are present within the site, which allow species movement across the local area. The corridors are identified as providing some of the borough's most important wildlife habitats.



Type examples:



Generous and highly vegetated railway corridors (Acton station)



A variety of scales and habitat types (Grand Union canal)

- Movement corridors
eg. *primary movement corridors for pedestrians, cycles & transport*

> A number of Primary movement routes for pedestrian, cyclists, vehicles and transport modes can be identified across the local area. An improved landscape approach could help to make these corridors more hospitable.



Type examples:



Green canal corridor (Grand Union canal)



Transport corridors – Road and Rail (Victoria Road)

Part B

> Landscape Strategies

In order to establish the three guiding principles (to work within the setting, to build the idea of the common, and to establish a resilient landscape), we have identified a number of 'Landscape Strategies', for the study area.

These strategies provide a practical application of the 'design clues' contained within Chapter 3, offering ideas for how landscape techniques might be applied to establish the broader aim of this study.

Contained within the strategies are a number of practical ideas for how they can be implemented, giving suggestions for design elements, management approaches or plant species that can be used to help establish the strategy.

There are three primary strategies, which can be directly applied in landscape projects to help achieve the overall ambition for landscape character, accessibility and resilience. Three supporting strategies are offered to guide approaches on a more strategic scale.



Natural planting structure framing un-programmed space open space and community growing areas; Brent Meadow Orchard, Hanwell



Rich & textural planting, with sustainable drainage features and engaging play trails; Australia Road, White City

There are three 'Primary Strategies' taking into account the guiding principles, that can be initiated across spaces and opportunities to enhance a landscape approach within the study area:

- > **Natural Planting Groups** - pages 68-77
- > **Resilient Planting Mixes** - pages 78-87
- > **Food for Free** - pages 88-95

Guiding Principles:



Primary Strategies:



Supporting Strategies:

Three 'Supporting Strategies' have been identified to guide approaches on a more strategic scale:

- > **Rich Habitats** - pages 96-99
- > **Green & Blue Network** - pages 100-103
- > **Access & Management** - pages 104-107

Landscape Strategies

> Overview

Primary Strategies:



Summary:

- Take inspiration from nature
- Use a multi-layered planting approach
- Emphasise structure & seasonality

Practical Application:

- The Value of Trees
- Multi-layered Planting
- Retain a Sense of 'Wildness'

Indicative palette:

- Species suggestions



Summary:

- Establish robust & resilient planting
- Use natural geological characteristics
- Planting to celebrate local character

Practical Application:

- Rich and Diverse Planting
- Self-sustaining Environments
- Visual & physical engagement

Indicative palette:

- Species suggestions



Summary:

- Integrate food for humans & wildlife
- An open & accessible landscape
- Engagement & awareness of the natural environment

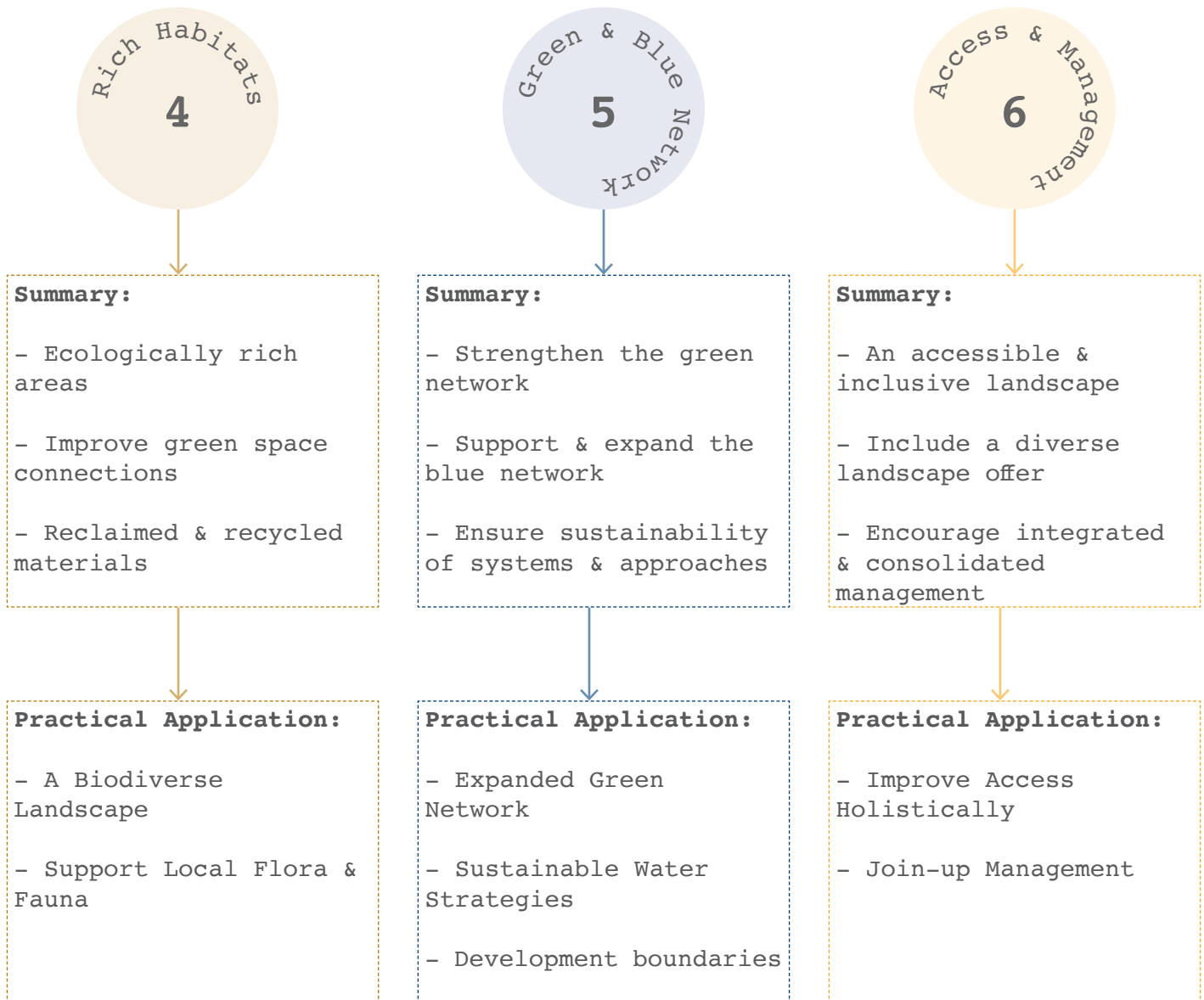
Practical Application:

- An Edible Landscape
- Productive Common Spaces

Indicative palette:

- Species suggestions

Supporting Strategies:



Natural Planting Groups

> Summary

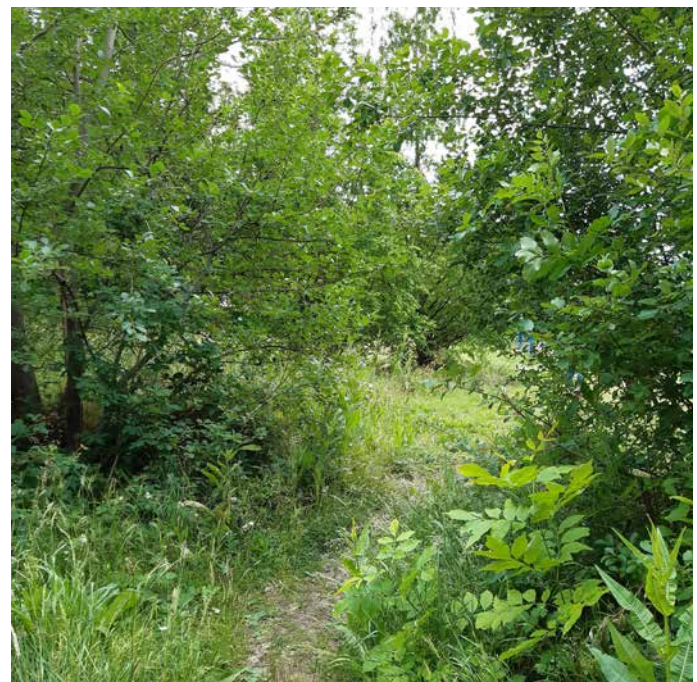
'**Natural Planting Groups**' is about taking inspiration from nature to achieve complexity in natural environments and create rich landscapes for both humans and wildlife.

The primary concepts are:

- To take **inspiration from nature** in forming planting groups, and to emulate natural habitats to provide rich environments
- To establish a **multi-layered planting approach**, encouraging beneficial relationships and sustainable colonies
- To provide good **structure & seasonal qualities** across all planting mixes, providing year-round value for shelter, nesting, food sources and joy
- To establish a **relaxed and naturalistic character** for the planting, tying into the principles established in Chapter 3
- To retain a **sense of 'wildness'** within the area, helping to retain and celebrate its innate qualities and richness, and encourage an **exploratory landscape**.

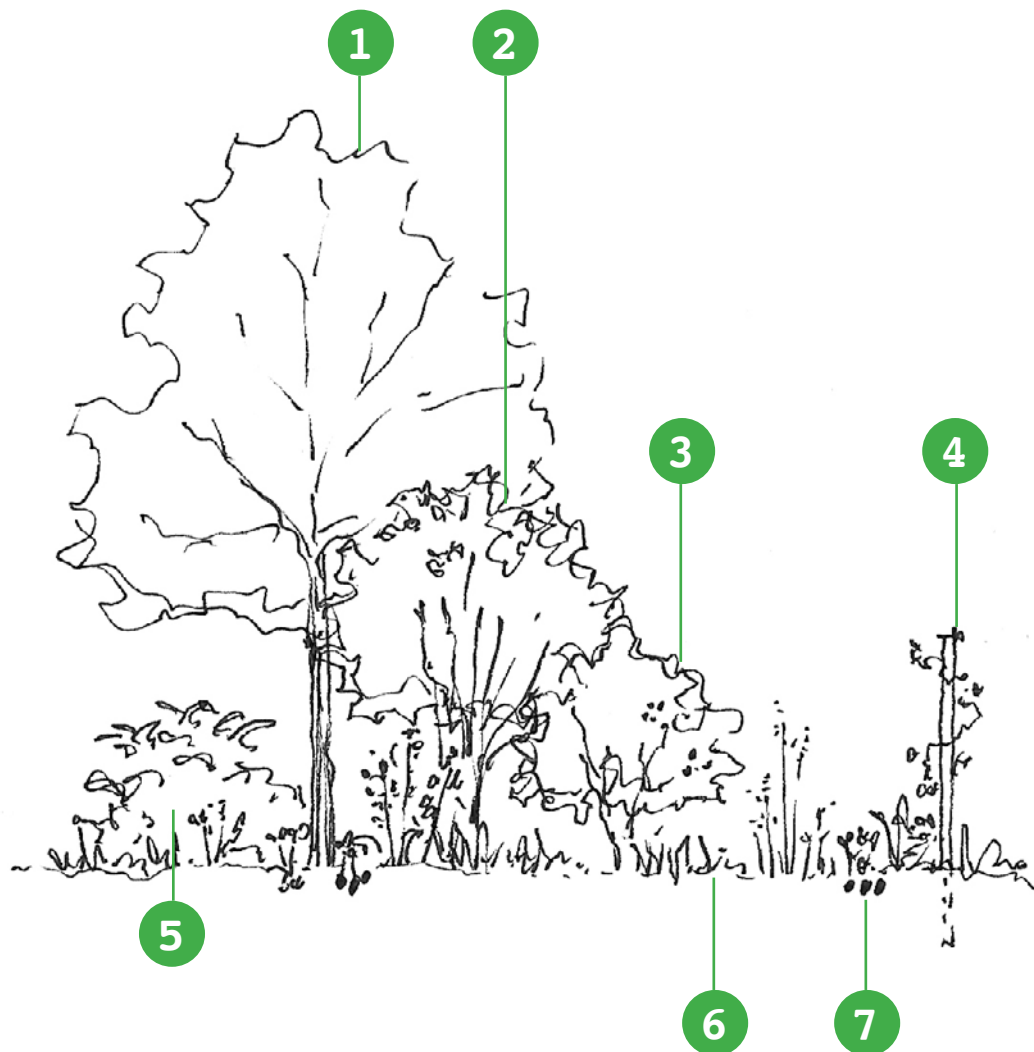


Rich and multi-layered planting emulating natural complexity; Stephenson Street garden



Playful trails through planting offer a sense of exploration & discovery; Wesley Playing Fields

Concepts diagram



- 1 Large Trees**
 - Provide shade & shelter
 - Establish character
 - High ecological value
- 2 Small Trees**
 - Give structure & seasonality
 - Provide habitat variation
 - Source of flowers, fruit, berries and hips
- 3 Shrub layer**
 - Joyful colour, scent, texture and edible qualities
 - Engaging qualities at human eye height
 - Provides grounding for larger tree species
- 4 Climbers**
 - Opportunity for scent & colour in the urban environment
 - Provide valuable habitat on vertical surfaces
 - Can be used to establish soft borders, with greater benefit to wildlife
- 5 Herbaceous layer**
 - Herbaceous layer of flowering perennials, tactile grasses, and intricate ferns to provide character and seasonal change
 - Contributes to the floristic character of an area, using planting to bring joy and engagement
- 6 Groundcover layer**
 - Robust groundcover to provide year-round coverage & habitat value
 - Robust species, including evergreens, to cope with urban environment and exploratory landscape
- 7 Bulb layer**
 - Bulb layer brings enhanced seasonal qualities, giving flowers at often bare times of the year
 - Include native species to support development and range

Natural Planting Groups

> Practical Application

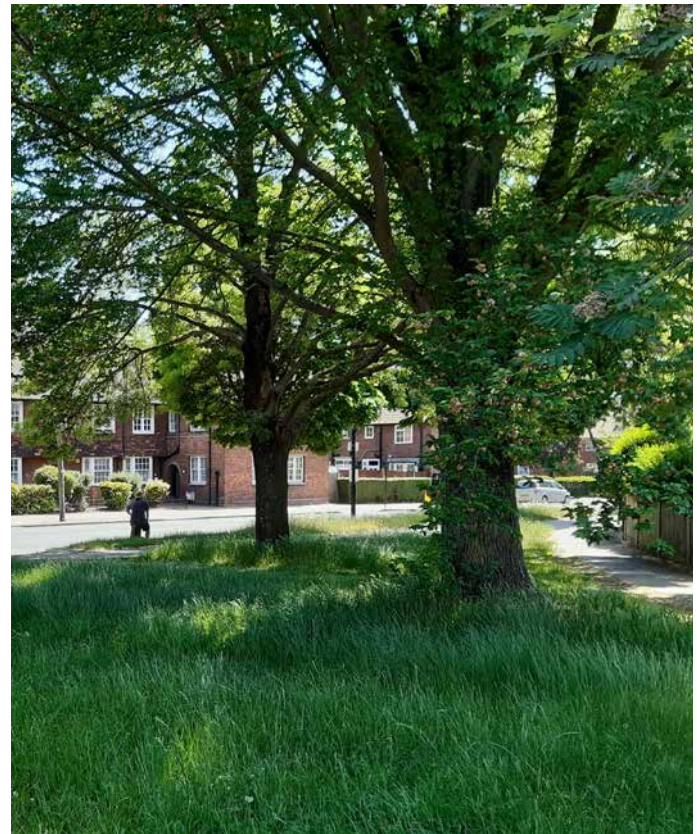
The Value of Trees

Large & Mature Trees

- Larger open spaces provide opportunities to plant and establish large-growing and long-lived trees.
- Large trees provide many advantages over smaller species, such as improved air quality, increased shade & shelter, greater rainfall interception and take up, and significantly higher ecological value.
- Large country trees are key to enhancing the character of the wider Middlesex Countryside.
- Retaining existing mature trees where possible and making provisions within new proposals for the continued health & vitality, ensures their character and value is maintained as a valuable local resource.

How to implement the idea:

- Consider ultimate size of tree
- Consider size of tree when planting; large trees tend to have more instant impact, but can be more difficult to establish
- Ensure adequate rooting volume and proper tree pit design, engage specialist
- Consider whether existing trees require anti-compaction protection to root zones.



Plant trees able and allowed to grow large, with adequate space and provision for their needs; Greens along Old Oak Common Lane

Benefits:

- Natural character
- Shade & shelter
- Urban cooling
- Rainwater interception
- Beneficial plant relationships

Considerations:

- Adjacent utility runs
- Maintenance and aftercare
- Allow sufficient space to grow

Tree Groupings

- Instead of planting single tree specimens, groups or collections of trees can be considered where space allows.
- Groups of trees have the benefit of more instant impact, within the streetscape or within an open space.
- Planting in groups allows trees to share rooting volume and increases space efficiency
- Groups also allow beneficial soil systems to develop, improving health and increasing longevity of the trees.



Street tree 'collections' in the East Village, Stratford, East London

Tree-lined streets

- Planting trees along streets helps to create healthier places, that are more pleasant for humans, wildlife and for the next generation.
- Consider using trees with spectacular seasonal benefits, such as flowering cherries, to liven up dull streets.
- Using large, country trees helps to bring the 'regional filter' of the Middlesex landscape to the fore, and provide a resource for future generations.



Large oak tree as visual & character marker along Old Oak Lane

Diversification & local sourcing

- Carefully selecting the right tree species for the location, considering their suitability for the urban environment and the local landscape character, can help to build a robust tree population for a local area.
- Advocating the diversification of tree species reinforces resilience and offers resistance to disease and pest outbreaks.
- Furthermore, the local sourcing of trees can support local economies and reduce carbon emissions associated with significant landscape works.



Careful selection of new tree species to reinforce local landscape character in Lyon, France

Natural Planting Groups

> Practical Application

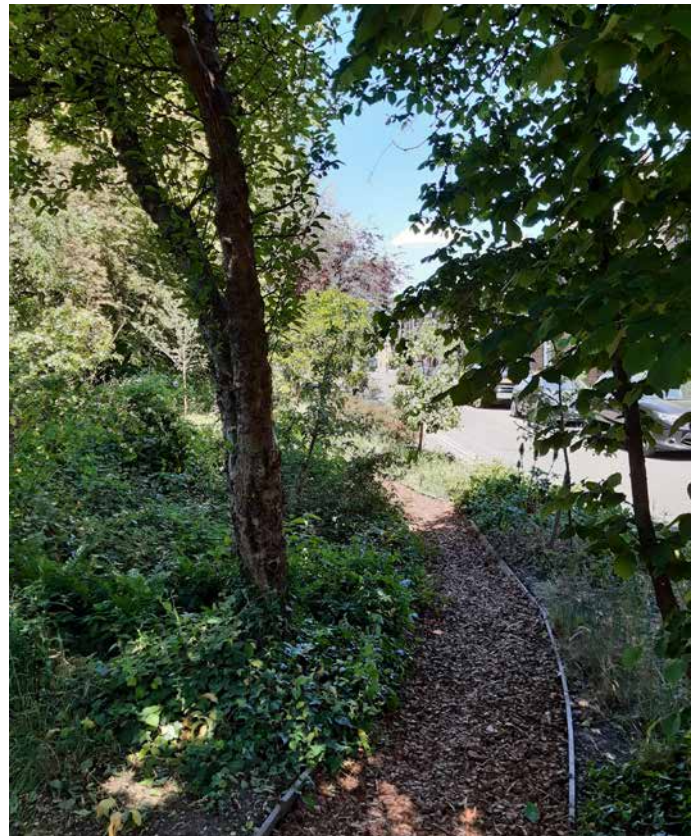
Create Multi-layered Planting

Layered & Naturalistic

- Creating layered & naturalistic planting groups emphasises a relaxed and natural feel.
- Emulating the richness and complexity found in natural environments enables planting areas to support a wide variety of wildlife.
- There is a positive relationship between wildlife-rich spaces, and people's health and well-being; so that environments that are good for wildlife are also good for people.
- Grouping planting allows shared rooting volume and allows beneficial soil systems to develop improving the overall health of plants and increasing longevity.

How to implement the idea:

- Approach the design of planting schemes with the idea of multi-layering in mind
- Take inspiration from natural environments; for example, woodlands and scrub
- Use appropriate species for the effect, giving careful consideration to ultimate size and density
- Consider planting adjacencies and what plants will ultimately need; for example, planting next to large trees will require shade and drought tolerant plants.



Rich and multi-layered planting within a woodland garden; Stephenson Street garden, OPDC

Benefits:

- Natural character
- Positive influence on health & wellbeing
- Rich habitat and food source for wildlife

Considerations:

- Management strategies
- Planting adjacencies (eg. cross-pollination)

Soft borders

- Using soft boundaries, such as hedges including native, fruiting & flowering plants, provides protection, demarcates space, and gives greater amenity and wildlife value to the local area.

- Hedgerows are a dominant characteristic of the wider Middlesex Countryside, which can be reflected in the OPDC area.

- Hedgerows are rich environments, supporting a variety of species, and giving opportunities for foraging, harvesting and wildlife-spotting.



Mixed native hedgerows in Wormwood Scrubs, including native species

Structure & seasonality

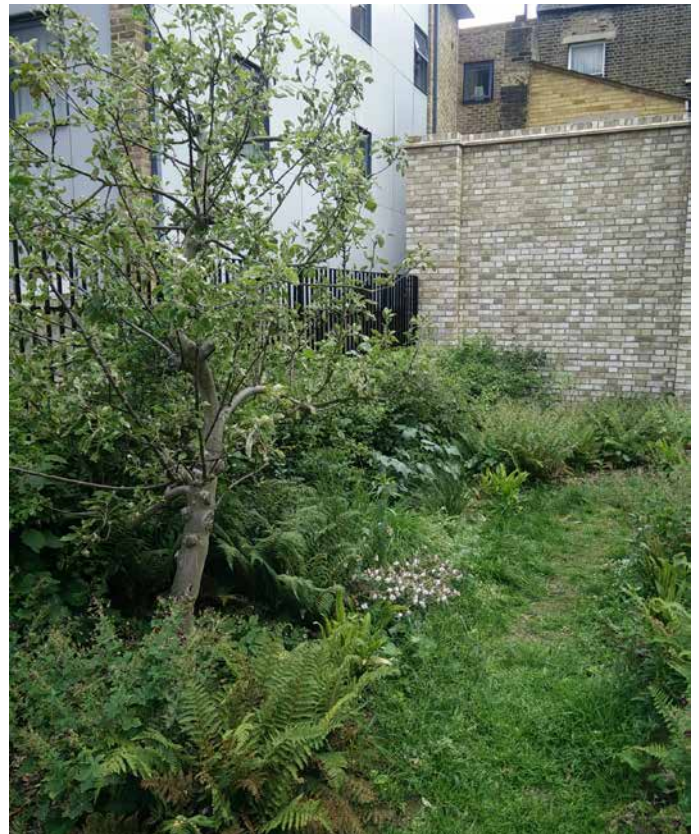
- In order to design and implement naturalistic, multi-layered planting, a variety of different layers, characters, coverages and specific qualities should be included.

- Try to design with the whole year in mind, not only the spring/summer flowering season.

- Ensure that planting mixes include a good portion of evergreen and winter foliage/flower interest - more detail on this can be found in the 'Resilient Planting Mixes' strategy.

- In order to achieve a good mix of structure and seasonality within planting areas, consider including the following:

- > Deciduous small trees and multi-stem shrubs with interesting form & branch shape for sculptural winter interest
- > Evergreen small trees and shrubs, such as Pines, for texture and foliage through winter months
- > A range of flowering bulbs, from mid-winter to late summer
- > Flowering plants with a wide seasonal range, from early spring to autumn, providing visual interest and ecological value throughout the year
- Further detail on species suggestions can be found in the 'Palette' section



A fruiting tree with shrub layer and herbaceous perennial groundcover next to a short mown path for access; Wansey Street, LB Southwark

Natural Planting Groups

> Practical Application

Retain a sense of 'Wildness'

Locally relevant species

- A number of highly significant environments are present within the local area, including the Grand Union canal, Wormwood Scrubs and the Railway corridors.
- Extending the character of existing green spaces has the potential to valuably support local flora and fauna, extending their influence and addressing issues of biodiversity enhancement and resilient populations.
- Selecting appropriate species from the palettes of these areas to include within new development can help them become integral pieces of the local landscape, continuing the spirit and characteristics while offering valuable resource to an increased population.

How to implement the idea:

- Consider a naturalistic planting approach, including species that reflect the local character.
- Take inspiration from the species found within the local vicinity; those growing naturally will often be well suited to their environment.
- Devise and implement a maintenance regime to suit, allowing plants to grow tall, flower and set seed to further naturalise within the area.
- Help people to see the character and ecological value of 'wild' spaces.



Border planting along the Grand Union canal, with a natural abundance and managed by a relaxed maintenance regime

Benefits:

- Natural character
- Feeling close to nature
- Benefits for both humans and wildlife
- Habitat creation & opportunities for wildlife spotting

Considerations:

- Management strategies to not appear 'unkempt'
- Potential species dominance.

Exploratory landscape

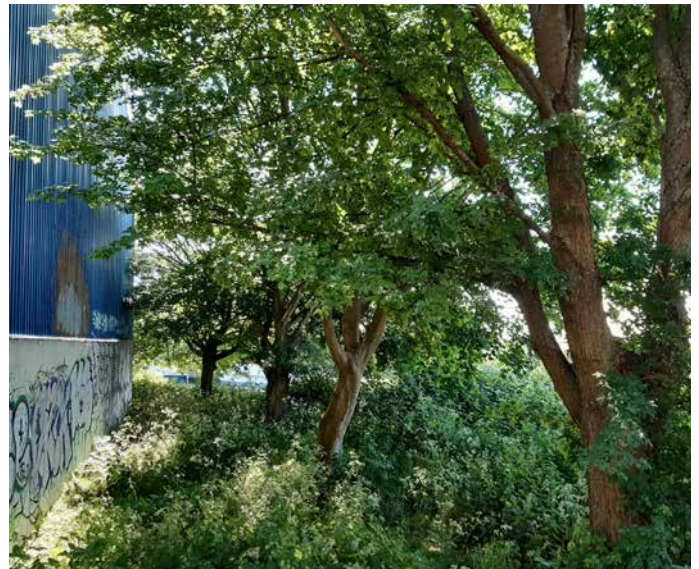
- 'Wildness' can take the form of engaging and inviting natural spaces within landscape areas.
- These enticing routes and trails can offer opportunities for play and engagement, encouraging a sense of adventure and spirited play.
- Their inclusion in public open space (eg. parks and recreation grounds) appeals to all ages and abilities, encouraging a greater appreciation of the natural world and the wider landscape character of the area.



Exploratory path with natural character; Wesley Playing Fields

Light touch management

- Considering the management of green spaces can bring a sense of gentle 'wildness' through allowing areas to establish their own ecosystems.
- This supports the natural processes of succession, creating a rich variety of habitats and supporting the existing complex eco-systems of the area, including the canal corridor and Wormwood Scrubs.
- There is also the potential to save on maintenance commitments - more detail on this can be found in the 'Access & Management' strategy.



Trees with naturalised understorey vegetation along the canal in Hythe Road estate

Retain inaccessible green space

- Inaccessible green spaces are a key spatial type. Undisturbed sites provide essential habitat and play an important role in breeding & nesting.
 - In establishing a landscape character, it is vital that wildlife is seen as equal stakeholders to humans in the landscape.
 - This means that while developing the natural landscape of the area, it is vital to retain areas accessible only to wildlife.
- Further detail can be found in the 'Rich Habitats' strategy.



Rich habitats provided in accessible green space adjacent to the canal and railway lines

Natural Planting Groups

> Indicative Palette

A palette to achieve multi-layered, naturalistic planting groups, offering multiple benefits for humans & wildlife, and giving room for the wild and natural.

(N) - Native UK species
* - pictured species



Large 'country' trees

- Large trees that can grow to a good size, with a broad canopy giving shade & shelter and supporting a wide range of wildlife.

Example species:

Oak - **Quercus robur* (N), *Q. petraea*, *Q. palustris*

Field maple - *Acer campestre* (N)

Hornbeam - *Carpinus betulus* (N)

Birch - *Betula pendula* (N), *B. pubescens*

Alder - *Alnus glutinosa* (N)

Scot's pine - *Pinus sylvestris* (N)

Black poplar - *Populus nigra* (N)



Companion blossom / fruiting trees

- Smaller trees acting as companion species, with a focus on character and habit, providing a range of benefits from flowers to fruit to leaf colour.

Example species:

Cherries - *Prunus* sp. eg. **Prunus avium* (N)

Rowan - *Sorbus aucuparia* (N)

Crab apple - *Malus sylvestris* (N)

Magnolia - *Magnolia x loebneri* 'Merril'

Golden alder - *Alnus incana* 'Aurea'

> consider multi-stem specimens for character



Native & beneficial shrubs

- Shrubs and small trees to provide structure within planting areas and interest at human scale, with a focus on native & ecological benefit such as berrying species.

Example species:

Guellder rose - **Viburnum opulus* (N)

Hawthorn - *Crataegus monogyna* (N)

Hazel - *Coryllus avellana* (N)

Dogwood - *Cornus sanguinea* (N)

Holly - *Ilex aquifolium* (N)

> consider multi-stem specimens for character



Scented / flowering climbers

- Climbing plants for vertical faces, combining flowering and fruiting varieties, with sensory stimulations such as scent, varied foliage and habitat value

Example species:

Honeysuckle - **Lonicera periclymenum* (N)

Traveller's joy - *Clematis vitalba* (N)

Hops - *Humulus lupulus* (N)

Jasmine - *Trachelospernum jasminoides*

Climbing hydrangea - *Hydrangea subsp. petiolaris*

Ivy - *Hedera helix* (N)



Planting for the senses

- Planting to provide good year-round coverage with seasonal variety, appealing to the senses and with a naturalistic, relaxed character.

Example species:

Tufted hair grass - **Deschampsia cespitosa* (N)

Snowy woodrush - *Luzula nivea* (N)

Wild strawberry - *Fragaria vesca* (N)

Sweet woodruff - *Galium odoratum* (N)

Soft shield fern - *Polystichum setiferum* (N)

Ox-eye daisy - *Leucathemum vulgare* (N)



Bulbs for seasonal interest

- Bulb layer, planted in drifts throughout planting areas, providing seasonal dynamism and repeat flowering on a yearly cycle.

Example species:

Daffodils - **Narcissus pseudonarcissus* (N), *N. poeticus*, *N. cyclamineus*

Bluebells - *Hyacinthoides non-scripta* (N)

Snowdrops - *Galanthus nivalis* (N), *G. elwesii*

Snakes head fritillary - *Fritillaria meleagris* (N)

Cyclamen - *Cyclamen hederifolium*



Room for the wild and natural...

- Respond to the qualities of the place by including a sense of the wild and natural.

Example species:

Dog rose - **Rosa canina* (N)

Blackthorn - *Prunus spinosa* (N)

Wild pear - *Pyrus pyraster*

Wild blackberry/raspberry - *Rubus fruticosus*, *Rubus idaeus* (N)

Foxglove - *Digitalis purpurea* (N)

Wild carrot/parsnip - *Daucus carota*, *Pastinaca sativa* (N)

Resilient Planting Mixes

> Summary

‘**Resilient Planting Mixes**’ is about establishing sustainable and resilient planting mixes, to ensure robustness, richness and benefit to humans and wildlife throughout the landscape area.

The primary concepts are:

- To establish **robust, resilient and rich** planting mixes, using a combination of beneficial species
- To use the natural characteristics of the **soil and geology** to improve climate resilience on predominantly urban soils
- To achieve **year-round interest and cover**, providing benefits for visual amenity, planting engagement and ecological richness
- To ensure planting areas support a **diverse range of wildlife**, from birds & bats, to small mammals, plus reptiles, invertebrates, bees and butterflies, at all life stages
- To improve both **physical and visual engagement** with landscape, using planting to celebrate identity and character through the local area

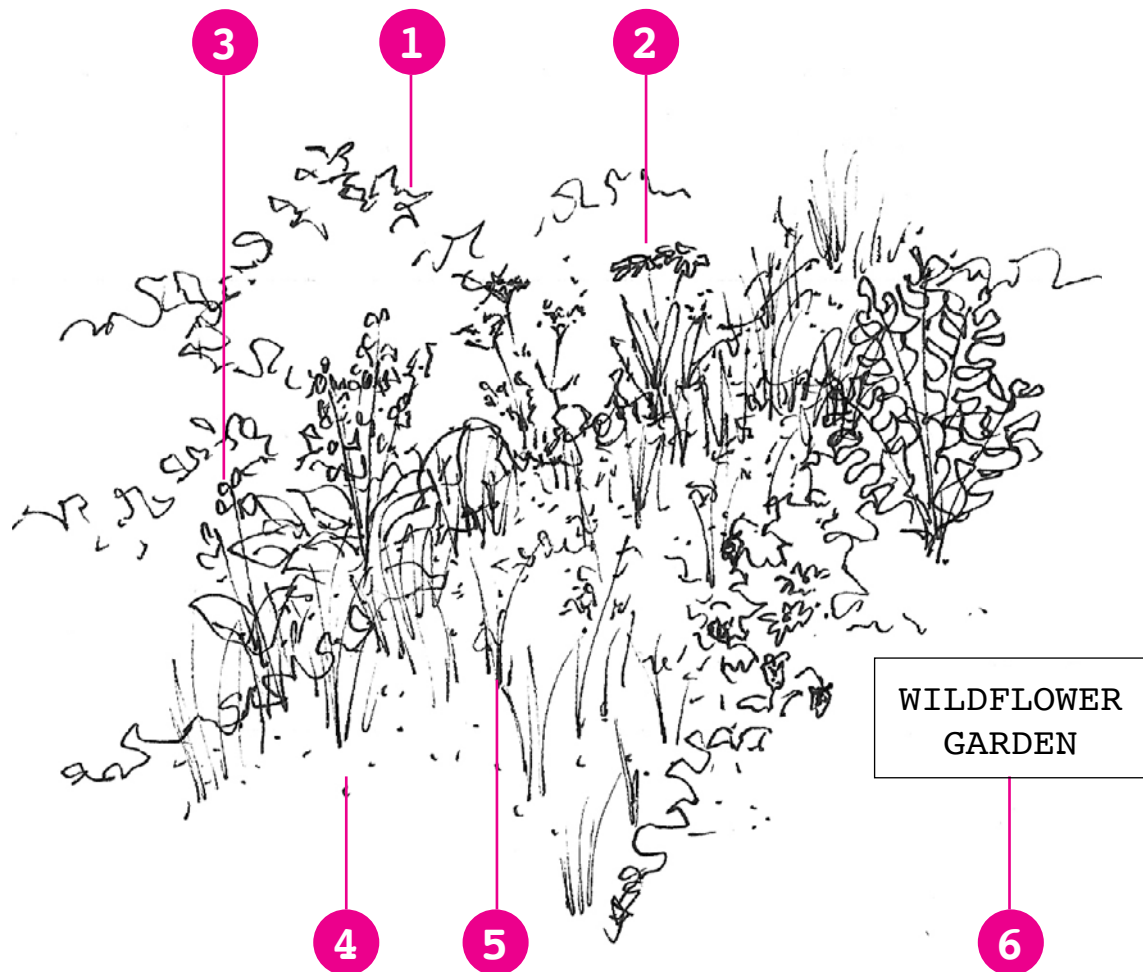


Rain gardens and wet/drought tolerant planting in Sheffield



Wildflower meadow planting, including annual and perennial species, in Fleetwood

Concepts diagram



1 Mix evergreen & deciduous species

- Give year-round interest to planting
- Provide cover for all life stages of wildlife
- Avoid a 'bare' appearance in winter

2 Include a range of planting types

- Use a mix of hardy annuals & perennials to ensure benefits from both
- Use both native and beneficial non-native species to ensure biodiversity value and climate resilience

3 Ensure food sources for all life stages

- Pollen and nectar rich plants
- Specific food source plants
- Coverage during winter months

4 Soils & geology

- Acknowledge soil type & make adjustments where necessary
- Consider the underlying geology and how this affects landscape
- Consider proposals & management regimes carefully for urban soils

5 Make provision for self-sustaining plant communities

- Include hardy annuals in mixes
- Allow plants to flower and set seed before cutting
- Utilise potential for periods of high impact (eg. flowering meadows)

6 Improve engagement with planting

- Use planting to reinforce local identities
- Encourage greater physical and visual accessibility via interpretation and 'high-impact' planting

Resilient Planting Mixes

> Practical Application

Rich & Diverse Planting

Plant Communities

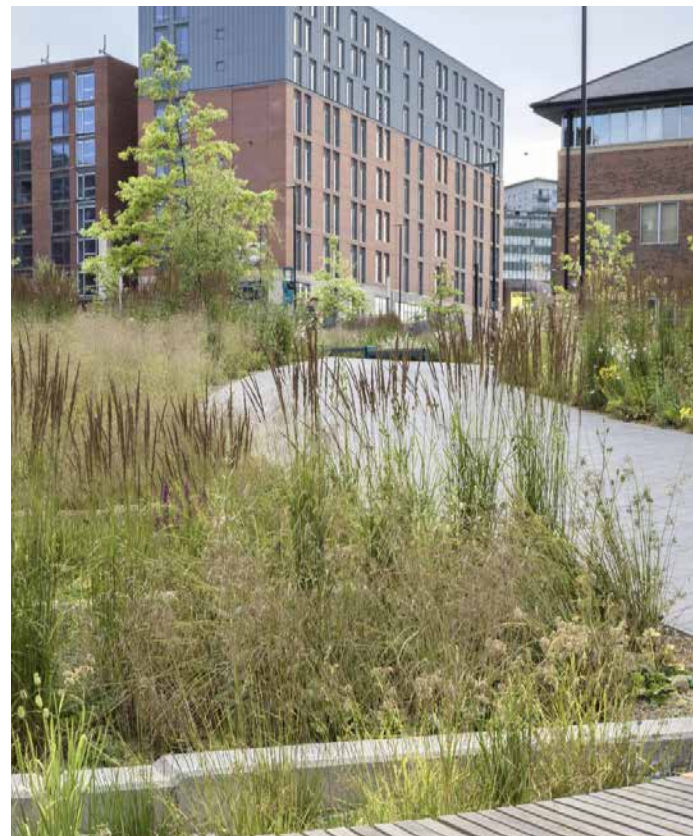
- Key to establishing resilient, ecologically beneficial and attractive 'plant communities' is to carefully consider the species mix.

- Including a variety of species, of varying habits and heights, and with different seasonal qualities can support the establishment of planting that not only looks attractive, but contributes to wider biodiversity and avoids a mono-cultural appearance.

- These plant communities are highly beneficial for wildlife at all life stages & requirements - more detail can be found in the 'Rich Habitats' strategy.

How to implement the idea:

- Include a wide variety of plant species, considering seasonality, flowering & seeding, native plants and adaptability to climate change .
- Establish beneficial relationships between plants, wildlife and humans to help support plant communities; examples include relationships between plants (like pollination partners), between plants and animals (like larvae food source plants), and between plants and humans (like growing and cultivation).



A variety of textures, species, colours and flowers with good ground coverage along a new pedestrian route in Sheffield city centre

Benefits:

- Attractive and resilient planting
- Experiential and ecological richness
- Beneficial relationships
- Avoid a mono-cultural appearance

Considerations:

- Management strategies
- Consider the potential for certain species to become dominant, according to situation/conditions

Evergreen & Deciduous

- Evergreen species that retain their foliage through all seasons provide useful coverage during winter. They can be particularly useful in public places, helping to deter litter and trampling.
- Deciduous species provide visual interest and seasonal changes throughout the year. They give opportunities for spectacular colour, blossom or scent.
- Planting mixes should include both types to harness the qualities of each.



Deciduous trees with an evergreen understorey provides interest throughout the year

Native & Non-native

What does 'native' mean?

- Some plants are classed as 'native' meaning they occur naturally in Britain and have not been introduced from elsewhere.
- Native plants are often of high value to wildlife and can support a range of animal and insect species, however non-native plants with decorative qualities can also be beneficial for ecology.
- Mixing natives and beneficial non-natives contributes to rich plant mixes.



Natural meadows in Wormwood Scrubs left to self-seed and managed lightly

Annual & Perennial

What is an annual?

- An annual is a plant that grows on a yearly cycle. Although the parent plant dies, annuals often self-seed.

What is a perennial?

- A perennial plant is one that lives longer than two years. They often flower reliably and grow larger each year.
- Including a portion of annuals and biennials within a perennial-base planting mix can result in a good show of flower and enhance the self-sustaining qualities of the landscape.



Relaxed, low maintenance meadow under infrastructure elements

Resilient Planting Mixes > Practical Application

Self-sustaining environments

Soils & Geology

– Part of achieving resilient planting is to consider the medium in which the planting grows.

– Understanding the local geology, bedrock and formation type is a useful place to start; much of the OPDC area is formed of London Clay, which is broadly characterised as having poor infiltration and being slightly calcareous – for more detail on how the underlying soils & geology affect the local area, refer to *Chapter 2*.

– This affects planting in providing a particular texture, pH level, and nutrient levels within the soil.

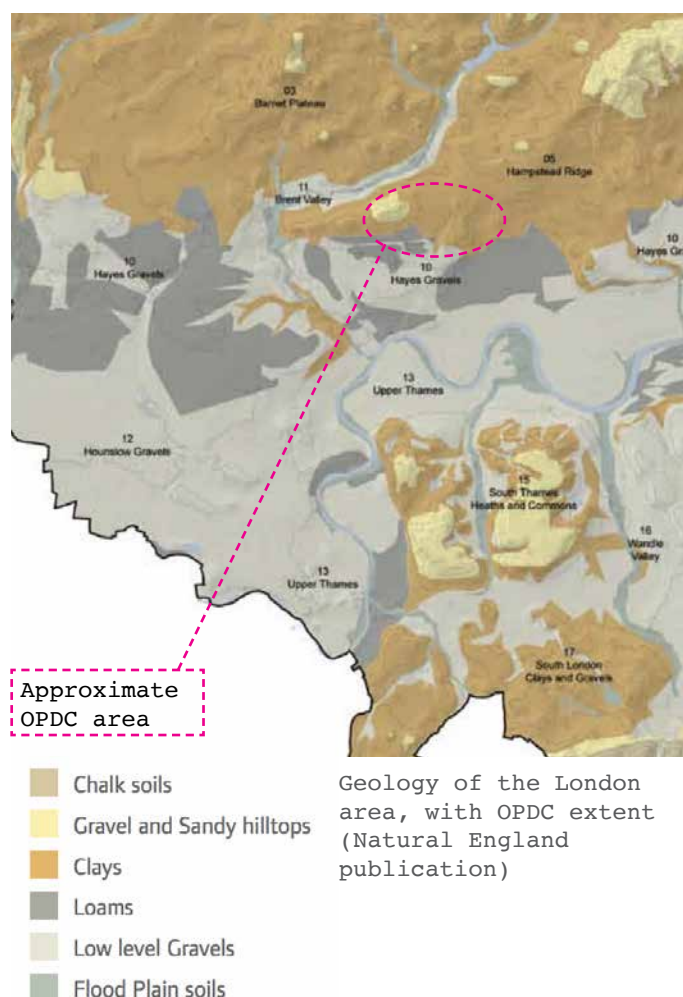
– Considering the soil condition carefully when specifying planting can help support plant communities and reduce maintenance commitments.

How to implement the idea:

– Before planting, carry out soil testing to ascertain infiltration rates, texture, pH and nutrient levels etc.

– Match planting to soil type, or consider whether additions may be required to ameliorate the soil.

– Begin preparations early for highly-specific planting types like meadows to achieve the best chance of success.



Benefits:

- Site specific planting
- Lower maintenance commitments
- Increased sustainability

Considerations:

- Knowledge and/or equipment for soil testing; however some can be done with basic kits and observation.

Climate resilience

- Key to any landscape scheme is to address issues of climate resilience and sustainability, given the current environmental challenges.
- Ensuring a good mix of both drought-tolerant plants and those able to cope with water inundation, plus the ability to cope with rising temperatures will aid resilience.
- Opportunities to include recycled or reclaimed materials to form specific growing mediums can be explored, incorporating waste or by-products, and using water sustainably.



Planting in Sheffield using a substrate containing crushed quarry waste, sand and recycled compost

Areas of meadow

- Wildflower and grass-mix meadows can be a useful way to improve the resilience, ecological value, and visual amenity for larger landscape areas with relative ease and in a short timescale.
- They have the potential to provide 'first step' opportunities for sites, providing a rapid transformation of neglected or 'leftover' spaces.
- There is potential for meadow areas to be integrated into wider development strategies; for example, green roofs on new developments could use seed mixes collected from the local area (more detail on rooftop greening can be found in the 'Green & Blue Networks' strategy).
- Areas of grasses and wildflowers could also be used to support community activities, such as wildlife gardening, bee-keeping or habitat creation.
- Meadows require appropriate maintenance regimes; although these are different to existing intensive management techniques such as mowing and weed spraying, they are not often onerous and can be done once a year at the appropriate time.



Wildflower meadow created as a public resource and attenuation area in Fleetwood, Lancashire

Resilient Planting Mixes

> Practical Application

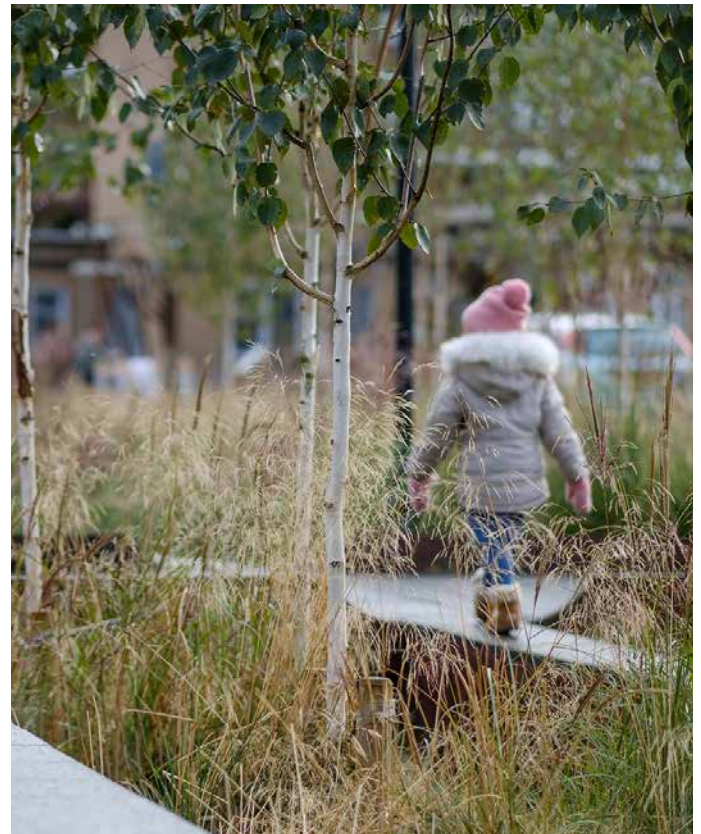
Visual & Physical Engagement

Playful, Engaging & Robust

- Where planting is included within public open spaces, it has the potential to be playful and engaging for a wide range of people.
- Planting with a variety of tactile qualities, leaf shapes, flower colours, scents and edible berries can be immensely appealing to a diverse audience.
- The potential of tying into educative and informative strategies can engage people young and old with the natural environment, improving accessibility and an inclusive landscape.
- Above all, integrating a sense of fun and joy within the landscape can be truly transformative for all ages and abilities.

How to implement the idea:

- Include a variety of planting types; leaf shapes, flower colours, scents and edible berries
- Consider routes through planting areas, not just around the edges
- Balance robustness and quality with a playful sense of fun and joy



A playful and engaging route through highly tactile planting in Australia Road, White City

Benefits:

- Experiential richness
- An inclusive and accessible landscape
- Educative potential

Considerations:

- Robust species to deter trampling
- Adjacencies of use eg. next to schools or parks

Reinforcing Identity

- The current mix of the area means there are residential clusters in the middle of areas of mixed-use, including industrial and commercial.
- By using generous planting areas to celebrate the entrances to these residential clusters, their identity can be enriched and celebrated, helping to integrate the local area.
- Integrating sustainable features, or including locally relevant species, can further define these important entrances and thresholds.



Character planting at the entrance to Wells House Road, Old Oak Common Lane

High Impact planting

- In a number of cases, borders and edges have existing short mown grass, subject to intensive mowing regimes and offering little visual interest.
- By changing the approach to these areas, annual planting mixes, such as sunflower fields or wildflower borders, could be established, bringing high impact colour and vibrancy.
- Placing an unexpected highlight (eg. a splash of colour) within the landscape can be a powerful tool to engage communities, on a temporary or more permanent basis.



A temporary field of annual sunflowers in Thamesmead, South London

Planting Interpretation

- Areas of green space include planting to support particular species, eg. butterflies in Wormwood Scrubs.
- By including interpretation on this type of planting, its purpose and benefit can be communicated to a wider audience.
- Interpretation can be an opportunity for engaging, creative, or collaborative design and installation, working with designers or local interest groups.



Signage to inform the public about specific wildlife in Wormwood Scrubs

Resilient Planting Mixes

> Indicative Palette

A palette to achieve resilience in planting mixes, building year-round cover and character, and integrating a self-sustaining and ecologically rich planting approach.

(N) - Native UK species
* - pictured species



Evergreen or year-round shrubs

- Structural planting with an evergreen, year-round or early season interest, providing consistent coverage and valuable habitat through winter months.

Example species - evergreen:

Holly - **Ilex aquifolium* (N)

Sweet box - *Sarcococca confusa*, *S. hookeriana*

Bodnant viburnum - *Viburnum x bodnantense*

Heavenly bamboo - *Nandina domestica*

Oregon grape - *Mahonia aquifolium*, *M. x media*



Example species - year-round or winter interest:

Beech - **Fagus sylvatica* (N)

Dogwood - *Cornus sanguinea* (N), *C. alba*

'Sibirica'; *Cornus mas* (Cornelian cherry)



Fruiting / flowering shrubs

- Structural planting showcasing dynamic seasonal change, decorative qualities, and rich sensory appeal, while providing amenity and ecological benefits.

Example species:

Snowy mespile - **Amelanchier lamarckii*, *A. canadensis*

Currants - **Ribes sanguineum* (N), *R. rubrum*, *R. nigrum*, *R. uva-crispa*

Guelder rose - *Viburnum opulus* (N)

Rugosa rose - *Rosa rugosa*

Wild rose - *Rosa moyesii*

Spindle - *Euonymous europaeus* (N)

Star magnolia - *Magnolia stellata*

Oak leaved hydrangea - *Hydrangea quercifolia*





Character perennials

- Perennial plants giving a characterful display through the seasons, focussing on visual, tactile and sensory interest to create joyful spaces.

Example species:

Coneflower - *Echinacea purpurea*

Purple moor grass - *Molinia caerulea* (N)

Black-eye susan - *Rudbeckia fulgida*

Michaelmas daisy - *Aster cordifolia*, *A. divaricatus*

Soft shield fern - *Polystichum setiferum*

Hellebore - *Helleborus foetidus*



Hardy annuals / biannuals

- Annual and biannual plants, often self-seeding, that naturalise within planting schemes and bring self-sustaining benefits to mixes, improving robustness and resilience.

Example species:

Bishop's flower - *Ammi majus*

Poppy - *Papaver* sp.

Marigold - *Calendula* sp.

Foxglove - *Digitalis purpurea* (N),
D. grandiflora cv.

Sunflower - *Helianthus* sp.



Beneficial species

- Plants with a particular benefit to wildlife, providing pollen, nectar, berries, food sources at different life stages, or habitat value.

Example species:

Bee balm - *Monarda didyma*

Betony - *Stachys officinalis* (N)

Meadowsweet - *Filipendula ulmaria* (N)

Ox-eye daisy - *Leucanthemum vulgare* (N)

Primrose - *Primula vulgaris* (N)

Oregano - *Oreganum vulgare*

Globe thistle - *Echinops ritro*



Consider the locally relevant...

- Support local flora & fauna by including locally relevant species in planting mixes.

Example species:

Teasel - *Dipsacus fullonum* (N) (Brimstone butterfly)

Pussy willow - *Salix caprea* (N) (Purple Emperor butterfly)

Mature oak trees - *Quercus* sp. (sometimes N)
(Purple hairstreak butterfly)

Ivy - *Hedera helix* (N) (birds including owls)

Hawthorn/Blackthorn - *Crataegus monogyna* / *Prunus spinosa* (N) (birds including Dunnock)

Food for Free

> Summary

'Food for Free' is about including edible, fruiting, berrying and flowering species that are accessible to all in the landscape, encouraging interaction with a sustaining natural environment.

The primary concepts are:

- To establish an **edible landscape**, rich in sustenance for both humans and wildlife, and free for all.

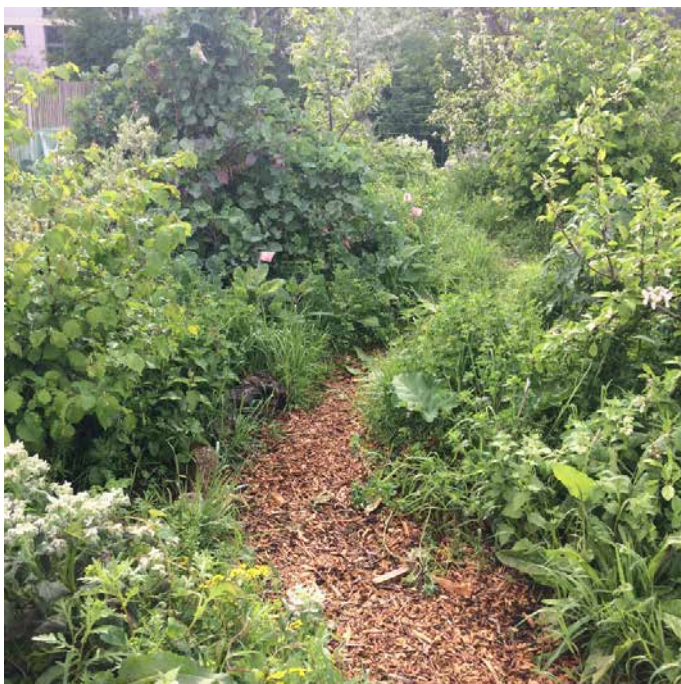
- To encourage inclusion of a wide **variety of edible species** within planting mixes, from trees to shrubs and herbaceous plants, and including fruit, nuts, seed, berries, hips, edible leaves and flowers.

- To use edible planting to increase **engagement and awareness of the natural environment**, wildlife reliant

on plant food sources, and bring people together both young and old.

- To relate the **free and communal process** of 'pick and eat' planting back to the history of the local area as common land.

- To use edible planting to enrich **local community identities** and forge new links between people with communal activities.

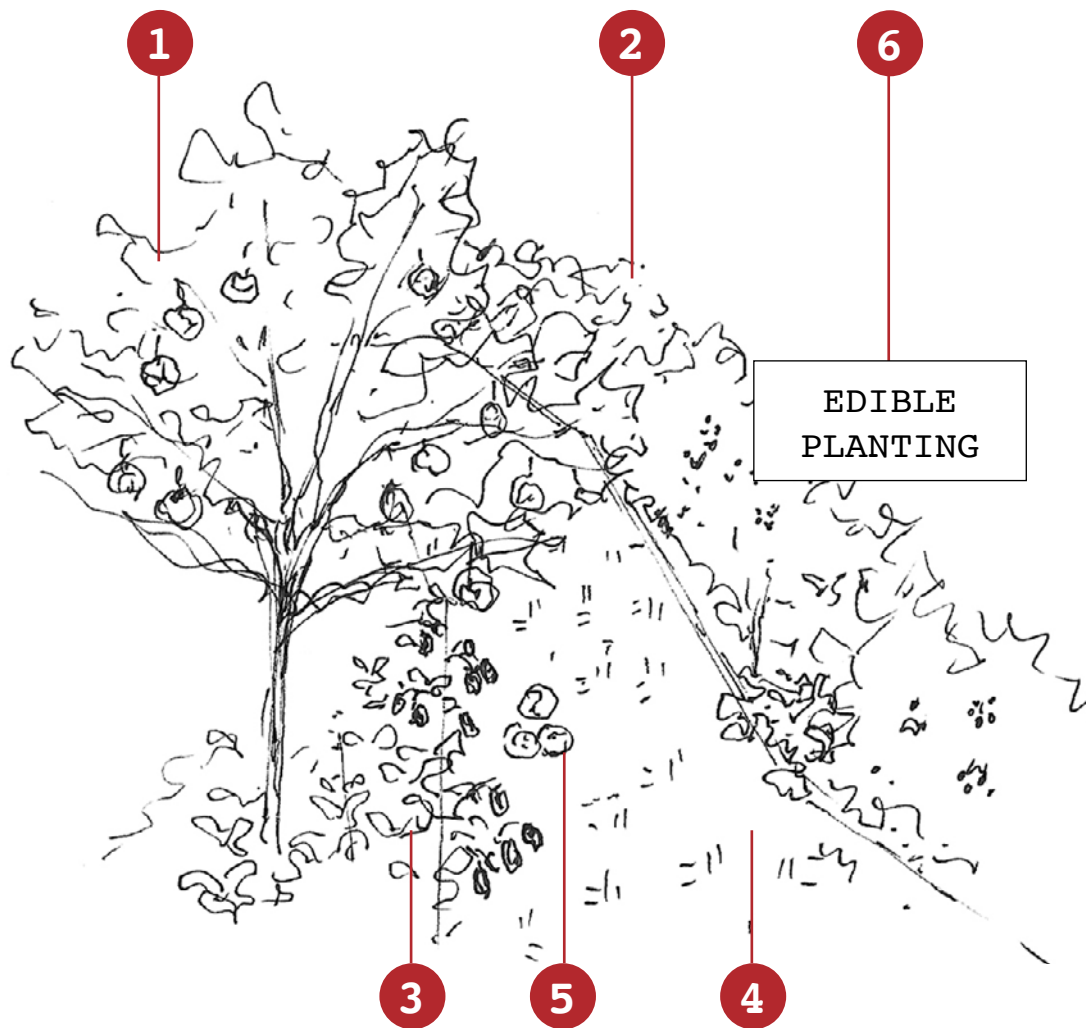


A 'Forest Garden' near to Burgess Park, showing an abundance of food in a small space



Productive fruit trees with companion underplanting on Amelia Street in Southwark

Concepts diagram



- 1 Fruit & nut trees**
- Include tree species with edible fruits, nuts and seeds for both humans & wildlife such as apples, walnuts, rowans
 - Consider name tags applied to trees to inform public/communities

- 2 Fruiting, berrying and flowering shrubs**
- Perennial shrubs with edible fruits, flowers, berries, hips and seeds for both humans and wildlife
 - Consider soft fruit shrubs in border treatments, to provide creative and engaging boundaries

- 3 Herbaceous planting**
- Use a variety of herbaceous planting; herbs, spices, edible flowers and leaves, fruiting groundcover such as wild strawberries

- 4 Paths & trails**
- Ensure easy access to edible planting by including paths through larger planting areas
 - Consider how trails can become engaging and informative, such as on the way to school

- 5 Communal activities**
- Establish edible planting areas in places where local communities can be engaged, such as communal orchards or next to allotments
 - Use edibles to bring communities together over activities

- 6 Edibles interpretation**
- Include interpretation (plant identification, information boards) to inform people of plants with edible qualities
 - Be creative with interpretation to increase local awareness

Food for Free

> Practical Application

An Edible landscape

Edible planting mixes

- Edible planting takes a range of forms, including food sources for both humans and wildlife.

- Examples can range from more typical fruit, nuts, herbs and berries, to include alternative edible planting such as herbs, edible leaves and flowers, to spices and productive climbers.

- Often, edible varieties act as a focus point for an area, allowing people to gather for events such as planting, picking, and festival celebrations such as harvest festivals.

- Including edible planting within publicly accessible areas reinforces the idea of productive common land and the offer of 'food for free', related to the commons principles outlined in *Chapter 3*.

How to implement the idea:

- Include a variety of edible species in open, publicly accessible areas
- Include interpretation signalling that edibles are available to eat
- Consider where the approach can best be appreciated, for example, on routes to & from schools, around transport stops, or linking to existing foraging routes along the Grand Union Canal.



One of the 'Edible bus stop' projects in South London, providing an engaging and tasty stop on the route to & from school

Benefits:

- Experiential richness
- An inclusive and accessible landscape
- Educative potential

Considerations:

- Encourage harvesting of fruit to avoid pitfalls of fallen fruit (eg. litter)

Edibles for both humans & wildlife

- Within any landscape scheme, it is vital to include edibles for both humans and wildlife.
- This can take the form of fruit, berries, or edible leaves/flowers.
- Including native plants can help to boost value for local wildlife, and including species of particular value (such as accessible nectar or pollen, or red-coloured berries and fruit) can help to maximise value to local wildlife.



The 'Abundant Amelia'; a collection of fruiting trees in a small square in Southwark

'Pick and eat'

- The concept of 'Pick and eat' is allowing soft fruit to be eaten directly from the plant, requiring no preparation or cooking.
- This type of engagement with planting & edibles in the landscape can greatly support community and educational purposes, encouraging a relaxed and interactive experience with the natural world.
- Above all, it can be done with no special tools, encouraging a spontaneous and exploratory approach to foraging.



Soft fruit shrubs provide perfect opportunities for spontaneous pick and eat

Edible borders

- There is potential to include edible species even within unusual places, such as the soft borders within industrial areas.
- Providing species with productive qualities, dynamic seasonal changes, and edible value for humans and wildlife can help spaces to feel more hospitable, contributing to a more positive use of the landscape.
- Providing something 'of value' within these spaces can help to foster a sense of custodianship.



Existing cherry tree along border within the Hythe Road Industrial area

Food for Free

> Practical Application

Productive Common Spaces

Communal activities

- Taking the guiding principle to 'Build the idea of the Common', there is great potential across the study area to establish productive common spaces, where communities can gather and participate in landscape-led activities.

- These activities could involve communal orchards, vegetable patches, sensory planters or edible borders.

- Mindful of the changes that will affect the local area in years to come, providing communal landscape spaces can aid cohesion of communities and provide common external spaces for activities.

How to implement the idea:

- Work with existing community groups to ascertain need and demand for productive spaces.

- Consider species relevant to the local environment; regional Middlesex fruit varieties, for example.

- Consider how interpretation can be included to communicate this type of planting, and encourage participation.



The Brent Meadow Orchard near Hanwell, planted with a variety of fruit trees and a tall grass understorey with mown paths through

Benefits:

- Community ownership & collaboration
- Strengthening links with the wider area and other community groups
- Inclusion of local species

Considerations:

- Consider a friends or management group to facilitate care
- Ensure activities are age appropriate eg. pruning of trees

Edibles interpretation

- For any type of planting, but especially edible species, the use of interpretation panels or creative signage can help to communicate their purpose and value to local communities and the public.

- Informing people of the use of edibles, and indicating that they are free and people are 'allowed' to pick and eat fruit or berries can be a useful tool, communicating the rich and varied health and ecology benefits, while establishing the principle of the shared common.



Interpretation panels to inform the public and encourage participation

Informative & engaging

- Edible planting has the chance to engage people in a very direct way, bringing together families, communities and various stakeholders within wider areas.

- While open green spaces may give opportunities for larger scale projects, such as community orchards or growing spaces, a creative approach can be taken to more constrained spaces and border spaces.

- On the Clapton Park Estate in Hackney, a wider strategy of communal productivity has been taken, with an active management strategy in collaboration between local residents and the Grass Roof Company.

- Edible vines and climbers were placed along previously hard boundaries to create a soft and engaging border, and productive trees including fruit and nut species were included in the green spaces.

- Key to the success of the project was to amend the existing grounds maintenance contract into a more sustainable and responsive template, which allowed greater engagement between residents and management teams.



Edible planting on the Clapton Park Estate; vines along fences and almond trees

Food for Free

> Indicative Palette

A palette to support the establishment of a free and accessible edible landscape, engaging and opportunistic, offering rich rewards for both humans and wildlife.

(N) - Native UK species
* - pictured species



Productive trees

- Trees with a productive aspect, bearing fruits nuts or edible seeds, encouraging participation in the landscape and a sense of the common.

Example species - fruiting:

Cherries - *Prunus avium* cv., **P. cerasus* cv.

Apples - *Malus domestica* cv.

Plums - *Prunus domestica* cv.

Pears - *Pyrus communis* cv.

Quince - *Cydonia oblonga* cv.

Rowan - *Sorbus aucuparia* (N)



Example species - nuts

Walnut - **Juglans regia*

Almond - *Prunus dulcis*

Cob nut - *Corylus avellana* (N)



Native edibles

- Trees, shrubs and herbaceous native plants with a variety of edible qualities; from fruit and berries, hips, flowers, seeds and leaves.

Example species:

Crab apple - **Malus Sylvestris* (N)

Blackthorn - *Prunus spinosa* (N)

Example species - berries, flowers or hips:

Elder - **Sambucus nigra* (N)

Field rose - *Rosa arvensis* (N)

Bilberry - *Vaccinium myrtillus* (N)



Example species - leaves:

Wild garlic - *Allium ursinum* (N)

Meadowsweet - *Filipendula ulmaria* (N)



Fruiting shrubs & hedge plants

- Soft fruit & berries on shrubs and hedge plants at a human scale, easy to interact and engage with their 'pick and eat' qualities.

Example species:

Currants - *Ribes sanguineum* (N), **R. rubrum*, *R. nigrum*,

Gooseberry - *R. uva-crispa*

Blackberry, raspberry - *Rubus* sp.

Chokeberry - *Amelanchier alnifolia* 'Smokey'

Rugosa rose - *Rosa rugosa* 'Frau Dagmar Hastrup'

* Consider also thornless varieties



Productive vertical growing

- Climbers, scramblers, vines and espalier plants to offer productive & edible qualities to vertical faces or boundaries.

Example species - climbers & scramblers:

Hops - **Humulus lupulus* (N)

Bramble - *Rubus fruticosus* 'Oregon Thornless'

Passionflower - *Passiflora caerulea*, *P. edulis*

Raspberry (cane) - *Rubus idaeus*

Espalier fruit:

Malus var., *Pyrus* var.



Herbs & edibles as groundcover

- Using herbs and edible plants as groundcover for planting schemes, harnessing sensory value and encouraging interaction.

Example species:

Wild strawberry - **Fragaria vesca* (N)

Sage - *Salvia officinalis* 'Purpurescens'

Thyme - *Thymus vulgaris*, *T. coccineus*

Sweet woodruff - *Galium odoratum* (N)

Rosemary - *Rosmarinus prostratus*

Lady's mantle - *Alchemilla mollis*



Consider the unusual...

- Consider native, heritage, exotic or unusual varieties to add elements of surprise & delight.

Example species:

Rugosa rose - **Rosa rugosa*

Mulberry - *Morus nigra*, *Morus alba*

Medlar - *Mespilus germanica*

Wild pear - *Pyrus pyraeaster*

Honeyberry - *Lonicera caerulea*

Magnolia-vine - *Schisandra chinensis*

Pepper - *Piper nigrum*

Rich Habitats

> Summary

'**Rich Habitats**' is about creating ecologically rich areas to support local flora & fauna, improving and linking up ecological connections across the wider landscape.

The primary concepts are:

- To include **ecologically rich areas** within the landscape, including a variety of habitats and planting types to encourage and support diversity.
- To **support local flora and fauna** by the enrichment of existing habitats, and the extension of species range throughout the local area.
- To improve existing connections, and create new ones across the **wider green network**, linking up green space and allowing greater species movement.
- To support the use of **reclaimed, recycled and re-appropriated materials** to create rich habitats, prioritising local sourcing to contribute to sustainability principles.
- To include planting that supports this approach, including plants for pollinators, nectar rich flowers, self-seeding species and establish **beneficial plant / animal relationships**.



'Brownfield garden' using a variety of reclaimed and recycled materials in Essex



Broken local roofing tiles used as habitat areas with meadow planting on the Greenway, Stratford

Concepts diagram



- 1 Variety of habitat types**
 - Create variety by including different materials to provide diverse offers in a small space
 - Visual variety increases the amenity benefit of these areas
 - Maintain areas only accessible to wildlife
- 2 Biodiverse planting mixes**
 - Biodiverse planting mixes that are resilient, rich and beautiful
 - Increase ecological value while keeping simple maintenance regime
- 3 Locally relevant species**
 - Support and enrich existing natural ecosystems
 - Use plant species that already occur in the local area
 - Essence of the regional identity
- 4 Expansion of existing habitat**
 - Include features specifically for local wildlife
 - Consider birds, small mammals, insects, invertebrates, bees and butterflies
- 5 Recycled & local materials**
 - Use recycled materials to create 'open mosaic' habitats
 - Utilise local suppliers and/or waste in creative ways to provide habitat
- 6 Ecology interpretation**
 - Include interpretation (plant identification, information boards) to inform people of ecological habitat areas
 - Be creative with interpretation to increase local awareness

Rich Habitats

> Practical Application

A Biodiverse Landscape

Planting & habitats

What is Biodiversity?

– Biodiversity is a term for all the different varieties of living organisms found in an area, including animals, plants, fungi, organisms etc.

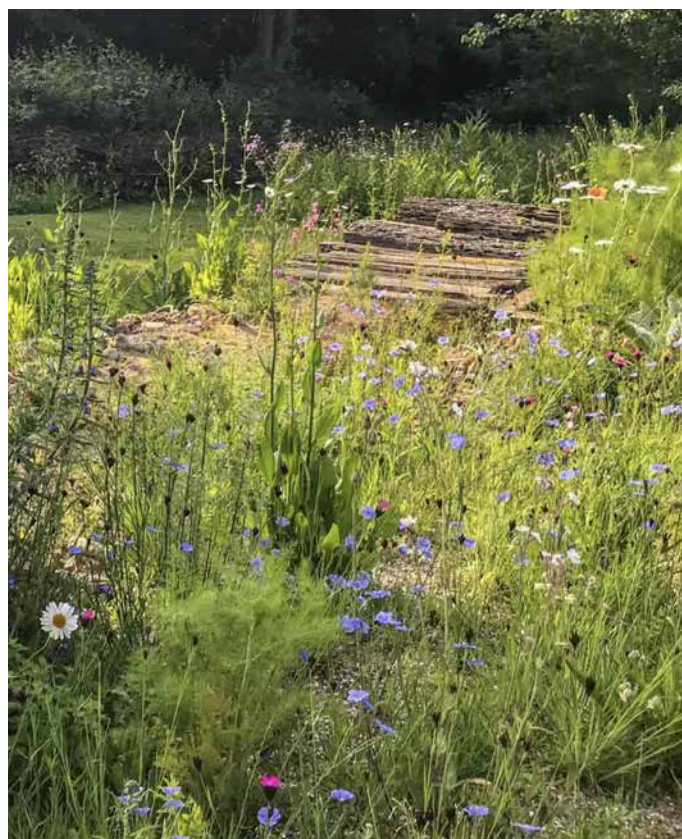
– There are a number of industrial and development borders that are currently managed in a way that is of little value to wildlife.

– By increasing the habitat potential for these spaces, while keeping a low maintenance approach, a richer variety of ecological habitats can be created, using local materials.

– This approach can sometimes be referred to as 'open mosaic', using a mix of recycled or reclaimed materials and planting to create a varied and dynamic habitat mix.

How to implement the idea:

- Consider any sources of local recycled or reclaimed materials, and how these can be included to form habitat areas in landscape schemes.
- Specify appropriate planting to complement these materials (eg. drought tolerant planting for free-draining aggregates).
- Consider what materials and planting can be used to enhance biodiversity and local flora & fauna.



A biodiverse brownfield garden, using construction waste and sands reclaimed from adjacent road widening works

Benefits:

- Rich habitat areas to support biodiversity
- Inclusion of local species
- Positive ecological approaches & engagement

Considerations:

- Management strategies
- Consider the appearance of 'bare ground' and how to communicate value

Support local flora and fauna

- The local area contains many important plant communities that support a range of wildlife species, particularly around the Scrubs, Canal and the railway lines.
- Across the local area, inaccessible green spaces form key ecological links and areas of undisturbed habitat.
- Considering how landscape can link up these areas has the capacity to repair severances, allowing easier movement and a greater habitat range for wildlife.



Wormwood Scrubs contains a variety of habitats, supporting particular plant & wildlife species

Dedicated wildlife areas

- Including designated 'wildlife areas' within open green space ensures that valuable undisturbed habitat is protected for the wildlife of the local area.
- These areas can go hand-in-hand with accessible green space, linking into the educative and informative aspects of habitat provision.
- Tailoring proposals to include locally relevant planting species and measures supporting local wildlife, as above, can help to make proposals more site-specific.



Wildlife areas integrated into planted spaces, diversifying the habitat offer

Ecology interpretation

- Including interpretation on particular types of biodiverse planting, or habitat areas, can effectively communicate their purpose and benefit to a wider audience.
- This approach can engage new stakeholders in the ecology of the local area, building momentum for positive ecological approaches.
- It can also provide a catalyst for further positive changes within a local area.



Creative and engaging interpretation panels can bring ecology to a wider audience

Green & Blue Networks

> Summary

'Green & Blue Networks' is about facilitating the expansion of green networks (through trees and planting) and blue networks (through sustainable water strategies) in an holistic way.

The primary concepts are:

- To **strengthen the existing** green network across the local area, using planting to reinforce character and ecological value, as well as bring sustainable benefits.
- To link up green areas through an **expanded green network**, facilitating species movement and making the urban public realm a greener and more pleasant environment.
- To consider opportunities for emerging techniques, such as vertical

and rooftop greening, and supporting the adoption of these techniques in a **sustainable and less energy intensive** way.

- To support the existing **rich network of watercourses** across the local area, including the Grand Union Canal.
- To use **sustainable water strategies**, including Sustainable Urban Drainage Systems (SUDs) principles throughout the area.

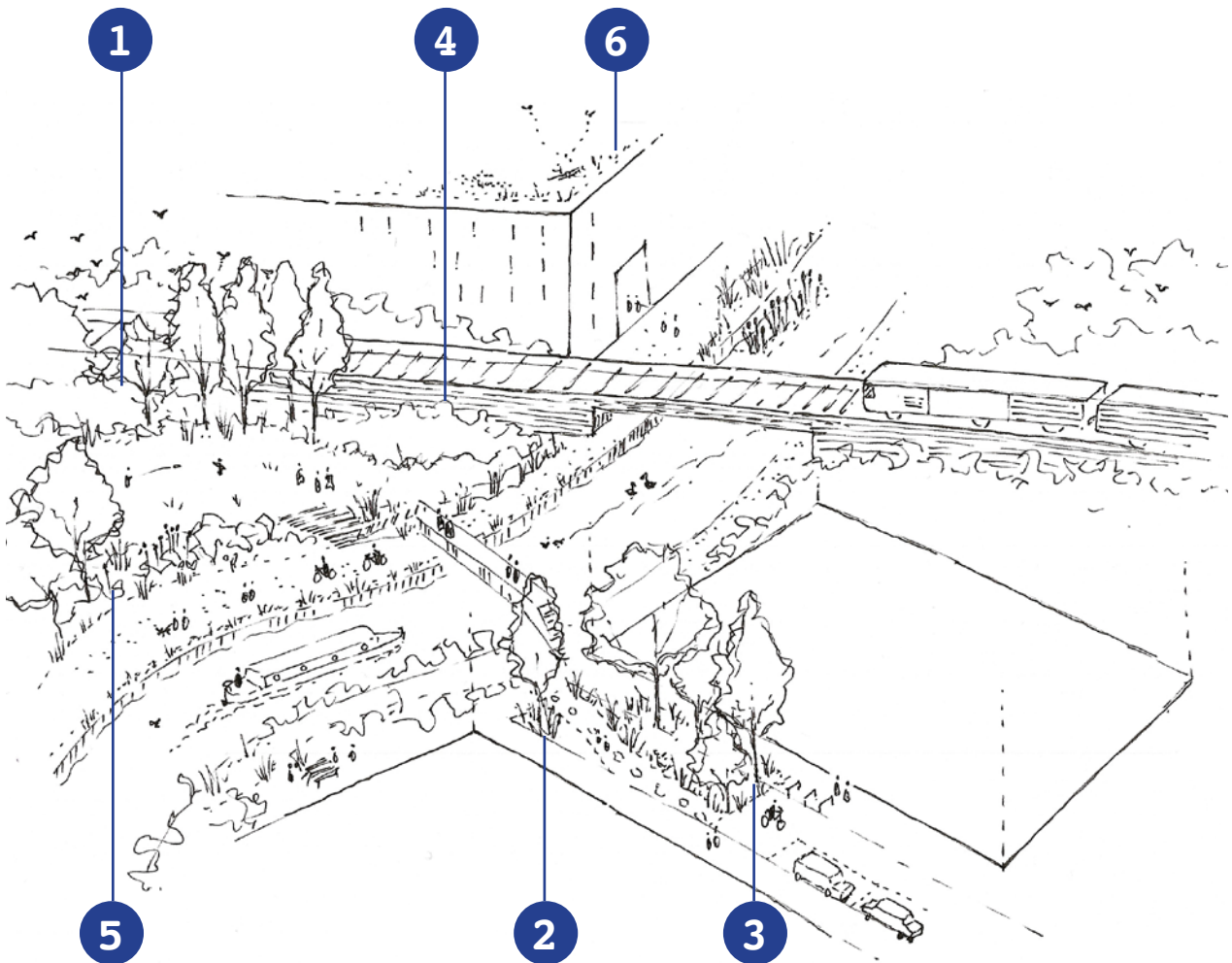


A linear swale running the length of a commuter cycleway in Sathonay, near Lyon



SUDs planter in an urban setting, using robust but permeable edges in White City, West London

Concepts diagram



- 1 Expand existing networks**
 - Support and enhance existing green & blue networks, linking up to the wider network within the local area
- 2 Street greening**
 - Prioritise greening of existing streets, especially busy roads and transport links, through tree planting and public realm planting areas
 - Link up new planting with sustainable water strategies; for example, street rain gardens or permeable surfaces
- 3 Large trees**
 - Consider the multiple benefits of large tree species over smaller ones (air quality, pollution mitigation, habitat value, shade & shelter) and prioritise large-growing and long-lived species in suitable areas
- 4 Soft buffers & vertical greening**
 - Use planting to enhance borders where they are necessary, especially borders between uses, or along transport corridors
 - Consider street planting, hedgerow borders & vertical greening
- 5 Sustainable water strategies**
 - Utilise existing water courses as positive assets in the local area, celebrating their qualities
 - Prioritise sustainable water strategies to attenuate run-off, intercept precipitation, and create useful and joyful proposals
- 6 Rooftop greening**
 - Use rooftop spaces, both new and retrofit, for greening opportunities including biodiverse roofs and rooftop gardens
 - Consider access for humans and wildlife, and provide wildlife-only areas for ecological benefit

Green & Blue Networks

> Practical Application

Sustainable Streets

Sustainable benefits

- The benefits that trees & planting can bring to streets include greening the urban environment, providing shade, shelter & cooling, and intercepting/utilising rain water.

Health & wellbeing benefits

- Increased street planting supports healthier places, pleasant for humans and wildlife and positive for both physical health and mental wellbeing.

Resource benefits

- Using water as a precious resource allows us to re-think the urban environment in a more holistic and sustainable way, appreciating the value and beauty of water. These techniques are referred to as SUDs strategies, and can include planted rain gardens, swales or areas of tree planting.

How to implement the idea:

- Prioritise trees & planting within street design, with adequate provision for space and rooting volume
- Provide a variety of planting scales to bring benefits; from trees for shade & shelter, to shrubs and groundcover for habitat and interest.
- Integrate SUDs fully in new development and retro-fit into existing spaces or streets.



SUDs integrated into residential streets, with planting, seating and viewing platforms in Augustenborg, Malmö (Sweden)

Benefits:

- Sustainable/ecological improvements
- Healthy streets and positive places
- Climate change mitigation & adaptability

Considerations:

- Management strategies
- Position of services and/or utilities, especially for retro-fit

Soft buffers

- Many of the key movement corridors throughout the site are heavily trafficked, causing noise & pollution issues.
- Using soft 'buffers' such as hedges or generous planting beds along these streets can help to mitigate the harmful effects of busy vehicular streets.
- Soft buffers can provide more pleasant spaces, with an emphasis on natural character, linking into wider landscape routes & connections.



Generous soft buffers separating uses within streets in Vauban, Freiburg

Rooftop greening

- Rooftop landscapes can be a perfect opportunity to contribute to the wider landscape strategy, particularly where they are inaccessible by humans. This allows valuable, undisturbed areas of habitat to develop.
- Seed sources for biodiverse roofs can be collected from the local area (eg. the Scrubs or the canal) and sown into reclaimed or waste material to create rich resources able to support a variety of local wildlife, or species under threat.



Biodiverse roof of the Laban Centre, Deptford, using rubble waste and locally collected seeds

Planted borders

- Including a soft border, formed of a dynamic and low-maintenance plant mix, transforms hoarding into something engaging and ecologically beneficial.
- Another strategy could be to include a mix of evergreen, flowering and scented climbers against fencing to create a low-maintenance sensory environment.
- Installing green walls can provide spectacular assets to the street environment, supporting a variety of textural and flowering plants, over a longer development time-frame.



Artwork & planted borders, QEOP, Stratford

Access & Management

> Summary

'Access & Management' is considering how to make the landscape truly accessible to all, and that after-care is included as an integral part of any landscape proposals.

The primary concepts are:

- To improve **access to the landscape** for all; not just in a physical sense, but in a visual and emotive sense, to encourage a greater understanding of and appreciation for the natural environment
- To encourage an **interactive and explorative landscape**, built on communal use, information sharing and multi-functional space
- To help provide 'something for everyone' to enjoy in the landscape

and to **reach a diverse audience**; from beautiful floristic planting, to ecological habitat areas, to areas of 'wildness' for discovery

- To encourage '**joined-up**' **management strategies**, working in partnership with local authorities, landowners and communities across the local area
- To make explicit the benefits of **considering maintenance from day one**, building it into new landscape proposals to make resilient and long-lived spaces as a future resource.

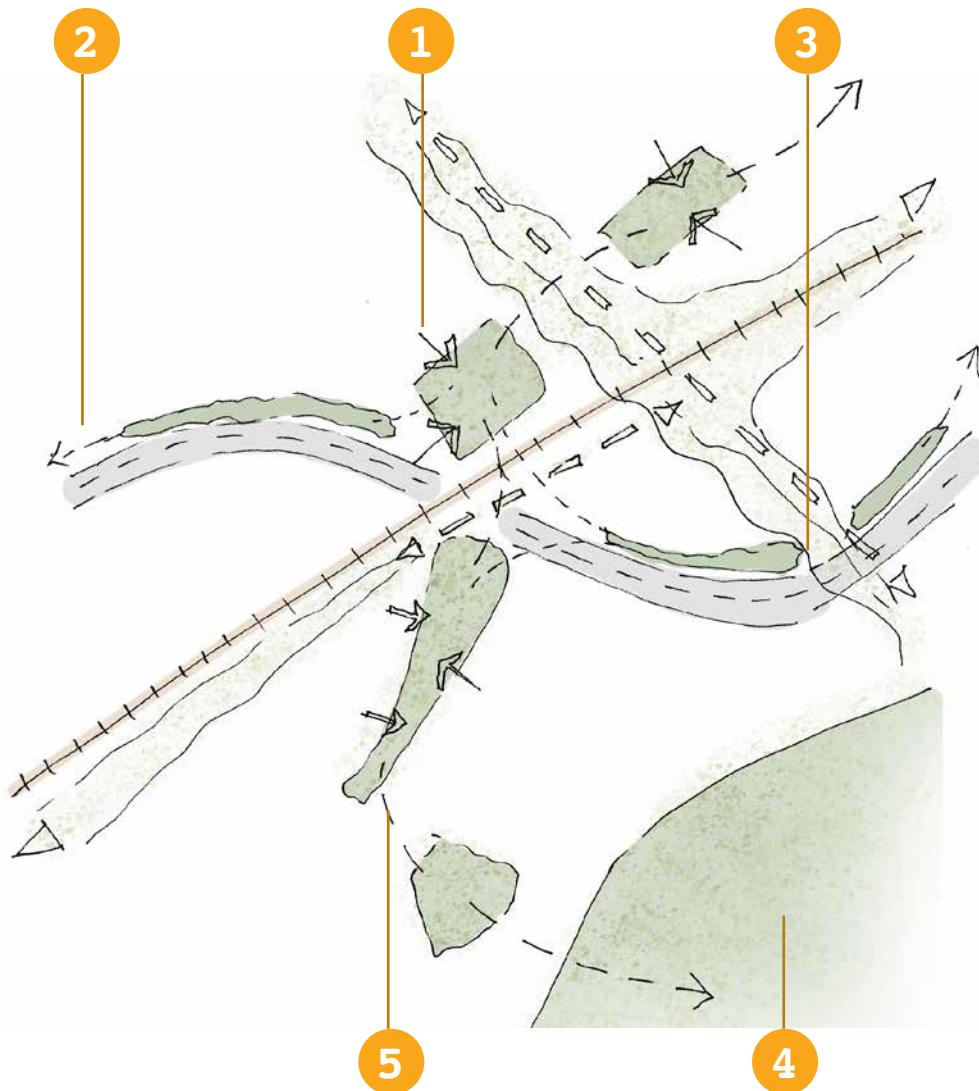


Wildflower verges on roads around Durham, as part of management & ecology trial by Durham Council



Urban 'meadow' close to North Acton; a vibrant patch with low maintenance commitments

Concepts diagram



- 1 Improve access**
 - Consider how access to the landscape can be improved in a physical, visual and emotive sense
 - Ensure the landscape reaches out to a diverse population, to foster a greater understanding and appreciation for the natural environment
- 2 Permeable borders**
 - Ensure open green spaces have good access and links to other types of uses surrounding them
 - Encourage residents, workers, businesses and landowners to play an active part in their landscape
- 3 Link up green space**
 - Link up green spaces not only in a physical sense, but in a management sense, considering how similar maintenance regimes can support biodiversity and use
- 4 A diverse offer**
 - Encourage a diverse offer within to add to the richness of the area and provide something for everyone to enjoy
 - This ranges from parks to woodland, wilderness and communal active spaces such as sports fields and community gardens
- 5 Include maintenance from 'day one'**
 - Ensure management strategies are considered from 'day one' to provide a resilient and long-live future resource
 - Consider how management of adjacent spaces is done, and link up strategies where possible
 - This approach can bring rich rewards for both humans and wildlife, and can even help to reduce costs for local authorities and landowners

Access & Management

> Practical Application

Holistic Access & Management

Consolidate management

- Across all types of spaces, existing management regimes can be examined to ensure they are making the best case for both people and wildlife.
- A consolidated, and sometimes reduced, management approach can often mean that a simple change reaps rich rewards for biodiversity.

Keep it simple

- Existing management techniques for landscape and green space can often be intensive or time consuming; for example, short mown grass requires frequent attention during growing season.
- Altering approaches to a more relaxed and less frequent management regime can facilitate a natural character and rich gains for ecology.

Engage stakeholders

- Involving local people in the agency of their spaces can be an effective way to build community relationships.
- Engagement with the design process, during construction, or aftercare (via collaborative working, providing expertise or tools) can help to secure the future upkeep of a site.



A combined green space strategy with a consolidated management regime, and involving local people, on the Clapton Park Estate, East London

Benefits:

- Sustainable/ecological improvements
- Healthy streets and positive places
- Climate change mitigation & adaptability

Considerations:

- Community buy-in
- Local authority budgets and/or management techniques

Improve access

- In order to build a valued and sustainable landscape, it must be truly accessible.
- Access is not simply a physical action, but takes into account visibility, inviting qualities and a sense of custodianship.
- Improving physical access, maximising visual connection and establishing emotive engagement between people and landscape can support safe and well cared for spaces.



A mixed offer including play, accessible path, open grass and wildflower meadow in development

Creative interpretation

- Exploring interpretation methods for a landscape can be highly successful in communicating landscape value to a wider audience.
- Approaching this in a creative way can involve a diverse range of people, helping to make links between people and the landscape, and between communities.
- A 'field guide' to the OPDC area, identifying particular plant and wildlife species, could help to identify and support local species.



'What's Growing on the Greenway?' - a field guide to a linear park identifying plants & wildlife

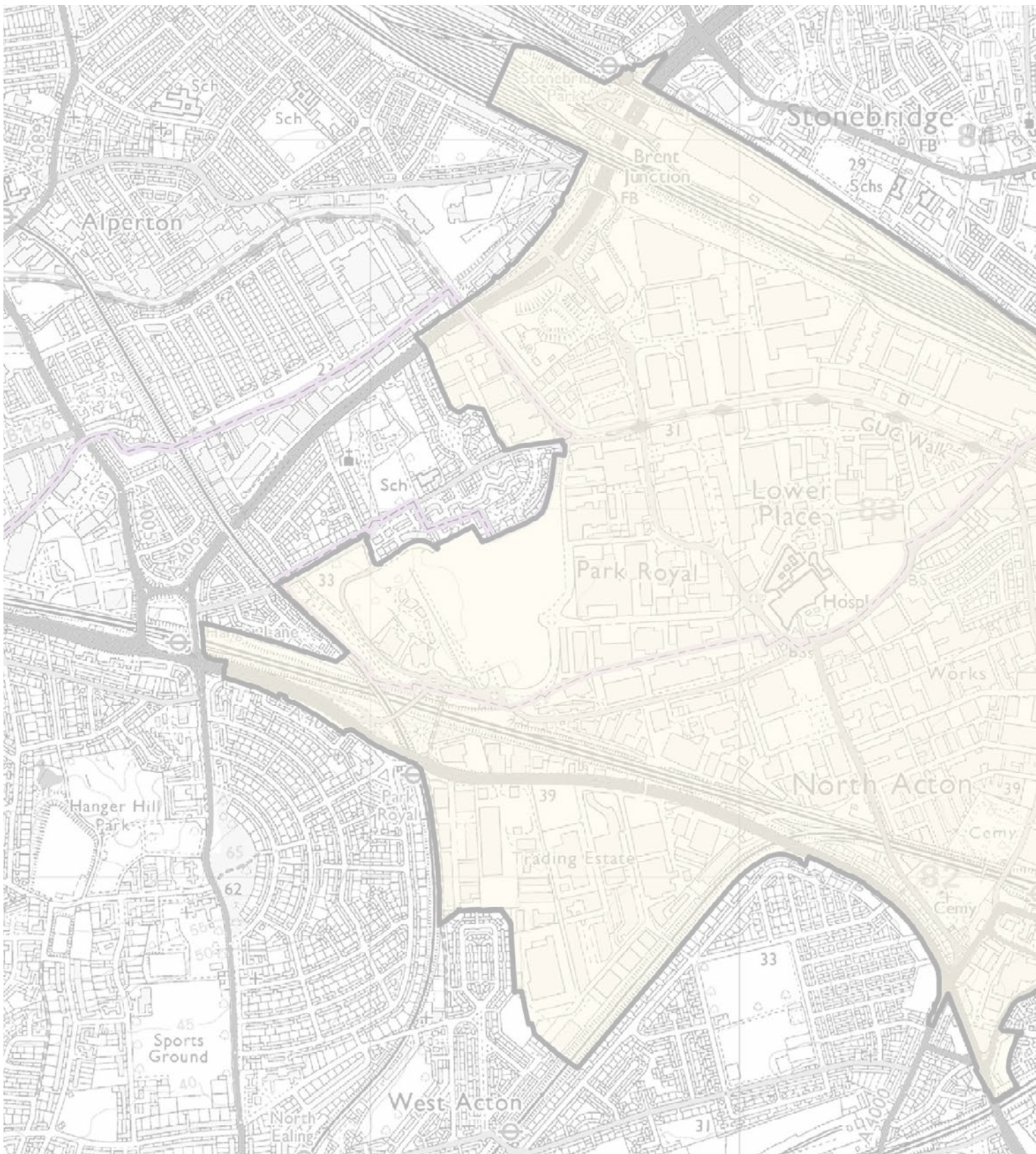
Biodiverse verges

- Highways and infrastructure verges can become much more diverse landscapes, providing relatively undisturbed areas for wildlife and insects to colonise.
- Ensuring they are linked to other green spaces can help tie these areas into the wider landscape strategy.
- Providing informative signage for this type of planting can help to build positive momentum for the approach within local authorities and between land owners/managers.



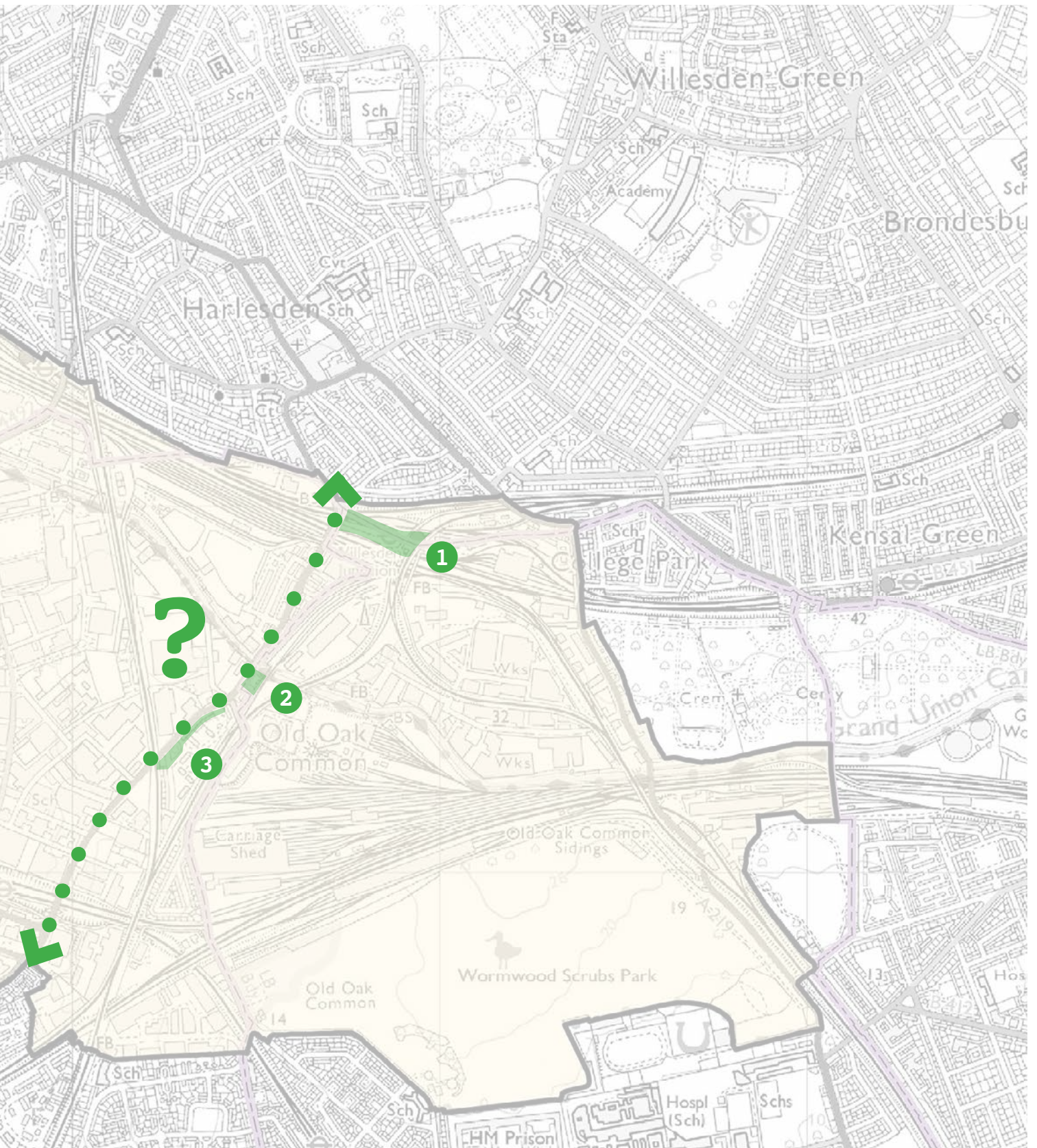
Interpretation panels, as shown in Dorset, can help to inform people about management trials

5 Conclusion



Map referred to in the Old Oak and Park Royal Development Corporation (Establishment) Order 2015

1. Willesden Junction Station improvements
2. Old Oak Lane towpath access
3. Cerebos, Victoria & Midland Terrace gardens



From Strategy to Practice

> Existing Condition

Chapter 5 concludes the study by showcasing examples of 3 projects currently in development by OPDC along the Victoria Road corridor, and shows how the guiding principles and landscape strategies of this study have informed their development.

The existing green spaces along the Victoria Road corridor are fragmentary in nature, suffering from poor connections, access and visibility. This results in the broad perception that they are singular spaces and not part of the wider landscape story of the local area.

These spaces suffer from a lack of diversity, often appearing bare, dull or uninviting. Planted spaces for the most part lack variety, with trees & short mown grass being the dominant environments. This results in a general lack of use and poor sense of custodianship, giving rise to issues such as littering, perceived lack of access to green space, and the over-dominance of vehicles along this busy transport corridor.

Map key:

OPDC projects in development:

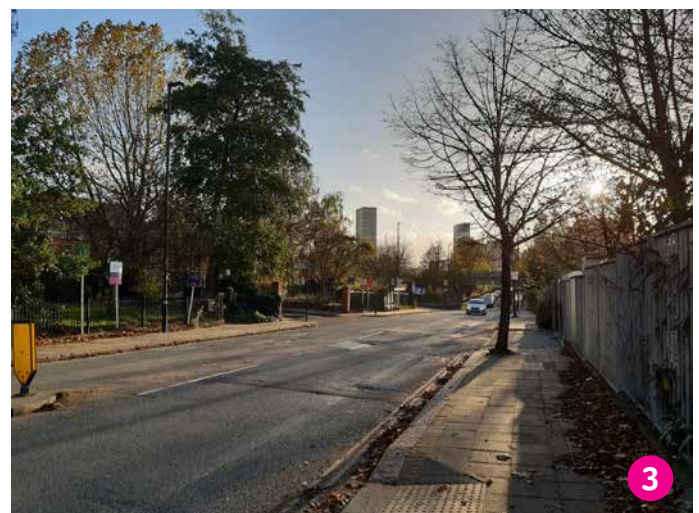
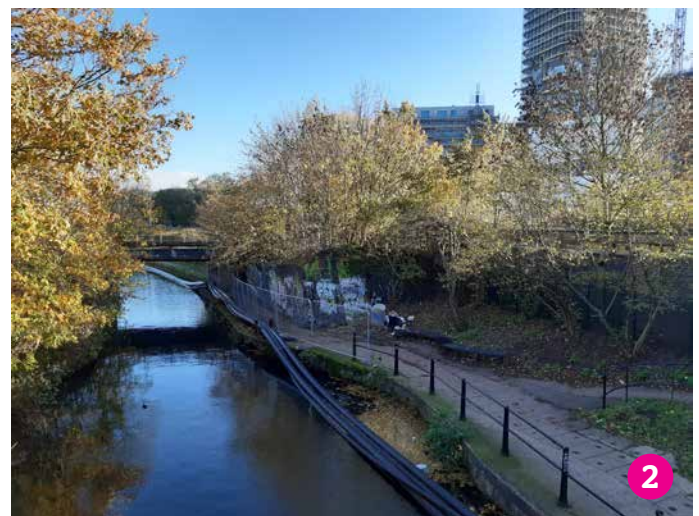
1. Willesden Junction Station
2. Old Oak Lane Towpath Access
3. Cerebos, Victoria & Midland Terrace gardens

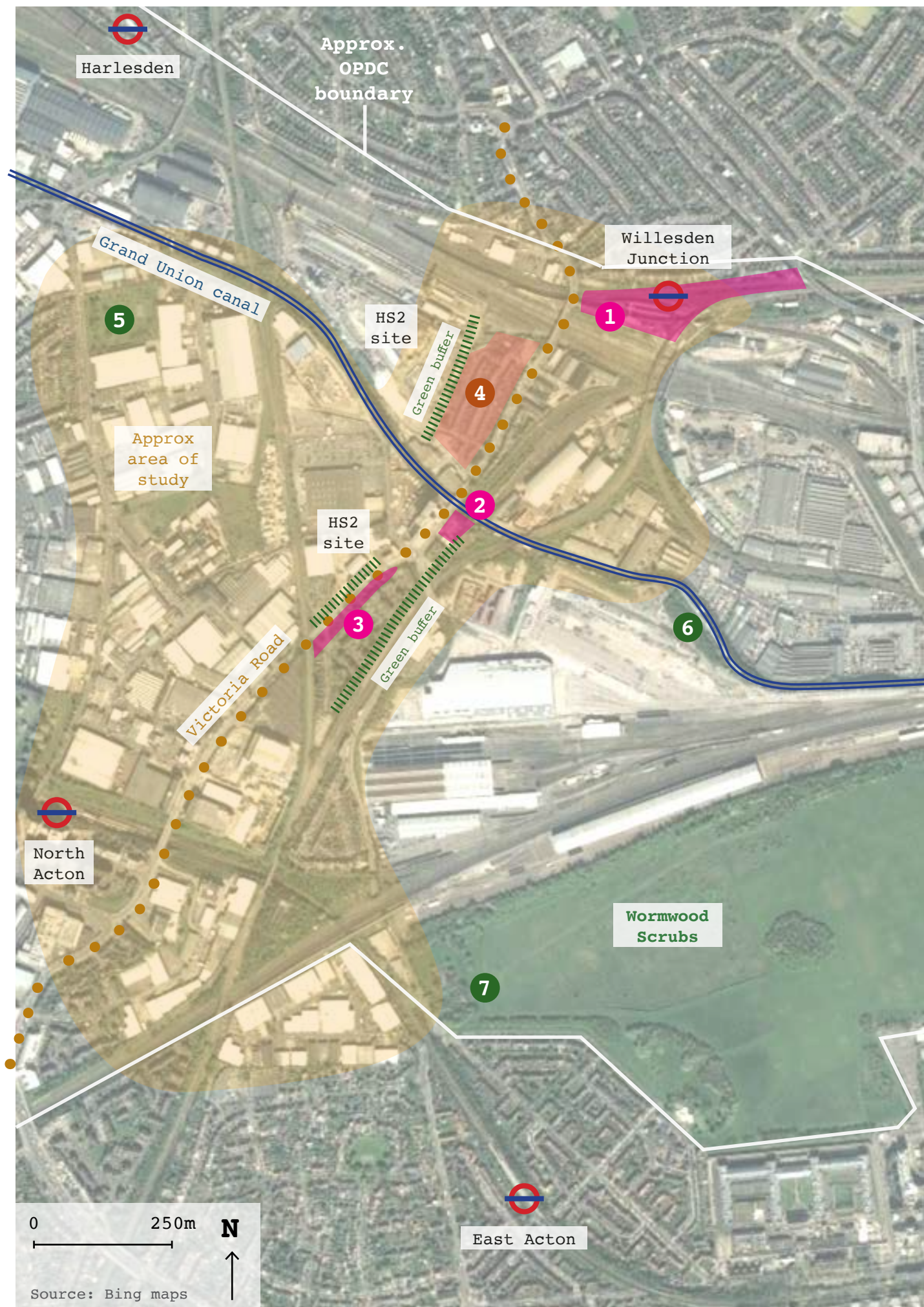
Existing community gardens:

4. Railway Cottages gardens & squares

Existing green spaces:

5. Wesely Playing Fields
6. Birchwood nature reserve
7. Wormwood Scrubs – Western entrances





From Strategy to Practice

> Site Opportunities

In order to bring these spaces into part of a wider story of positive transformation, the principles of this strategy can be applied to aid them in becoming become valuable assets for local communities and wildlife.

Guiding principles:

Work within the setting:

Bring the character of the Middlesex Landscape to the fore using large trees, soft boundaries and countryside species.

For example, by including large new trees as a long-term resource for the area, and installing hedgerow buffers between roads and green space.

Build the idea of the common:

Include productive common space within landscape projects by improving access and opportunities for engagement.

For example, by including engagement opportunities and creative interpretation within landscape spaces.

Establish a resilient landscape:

Expand public space and street planting for climate resilience, including dedicated habitats for wildlife.

For example, by improving planting along key transport corridors, integrating habitats and using water sustainably.

Primary landscape strategies:

Natural planting groups:

Emulate the complexity, richness and ecological benefit found in natural environments by taking a multi-layered & naturalistic approach to planting design;

For example, by including new trees, shrubs, climbers, understorey and seasonal bulb planting in green spaces.

Resilient planting mixes:

Ensure planting mixes are robust, resilient and suitable for their intended purpose and environment, with a focus on experiential and ecological richness;

For example, by considering maintenance strategies at the outset, and including robust, self-sustaining planting within public realm spaces.

Food for free:

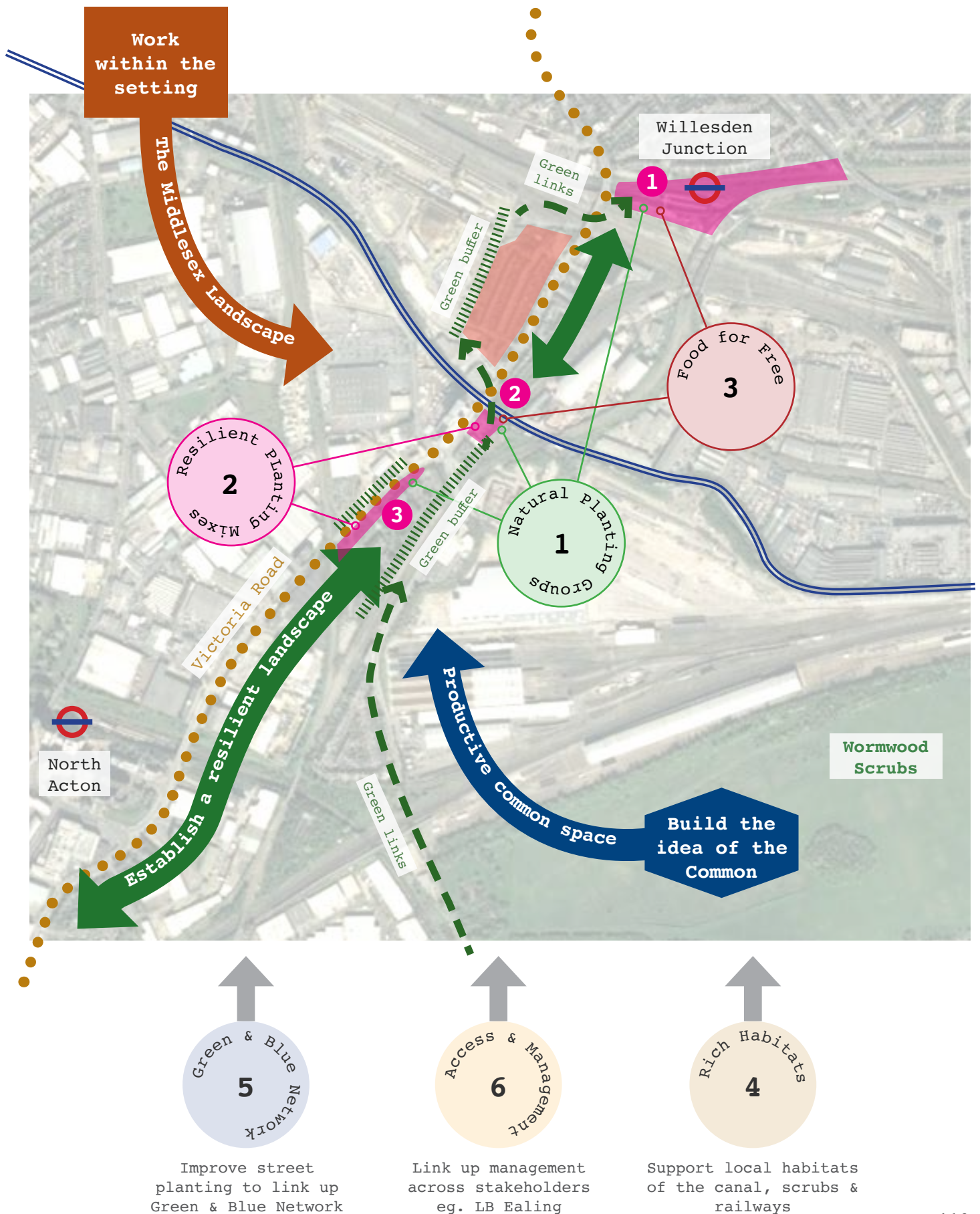
Include edible planting for humans and wildlife to foster an approach to landscape that is free and accessible to all;

For example, including fruiting species in green spaces and along routes to encourage interaction with the natural environment.

Map key:

OPDC projects in development:

1. Willesden Junction Station
2. Old Oak Lane Towpath Access
3. Cerebos, Victoria & Midland Terrace gardens



Example Projects

> Willesden Junction Station

1: Willesden Junction Station

Designers: 5th Studio, with JCLA

- This project enhances the arrival at Willesden Junction Station from Old Oak Lane, and improves the wider station landscape.

- The design incorporates a sense of the wider landscape character, bringing in a multi-layered planting approach and includes engaging multi-functional features for wildlife.

- Planting references the wider specific local habitat of the railway corridors in the choice of species.

Characteristics

- 1 A wider sense of the Middlesex Countryside
- 2 A welcoming approach for both humans and wildlife
- 3 An edible and engaging planting story
- 4 A multi-layered planting approach, combining trees, shrubs, herbaceous and bulb planting

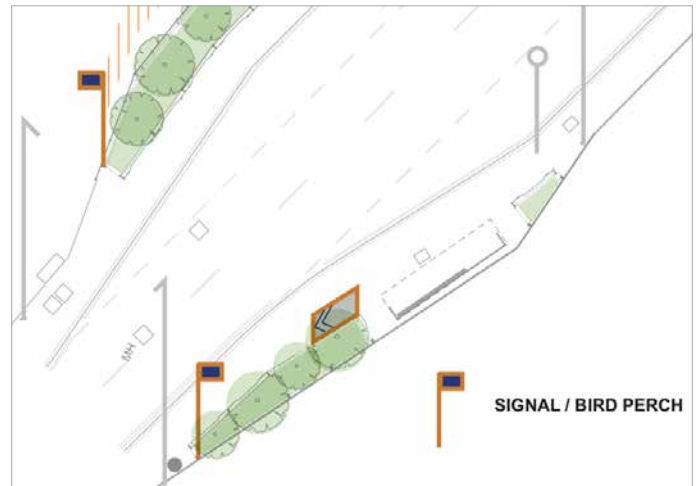


Landscape approaches



A sense of the Middlesex Countryside

Views out from high points of the site give a sense of connection to the wider landscape, referencing the large mature trees, big skies and gentle topography of the Middlesex Landscape.



Welcoming for both humans and wildlife

Incorporating features, such as multi-functional signals/bird perches into the design helps make the station entrance more welcoming and accessible to both humans and wildlife.



An edible and engaging landscape

Including trees with edible fruits makes a reference to the wider productive history of the local area, fostering a sense of communal offering (public square in Sheffield).



Multi-layered & naturalistic planting

Building in complexity within natural environments provides a rich and ecologically beneficial planting scheme that offers something for every season (key routes in Sheffield).

Example Projects

> Old Oak Lane Towpath Access

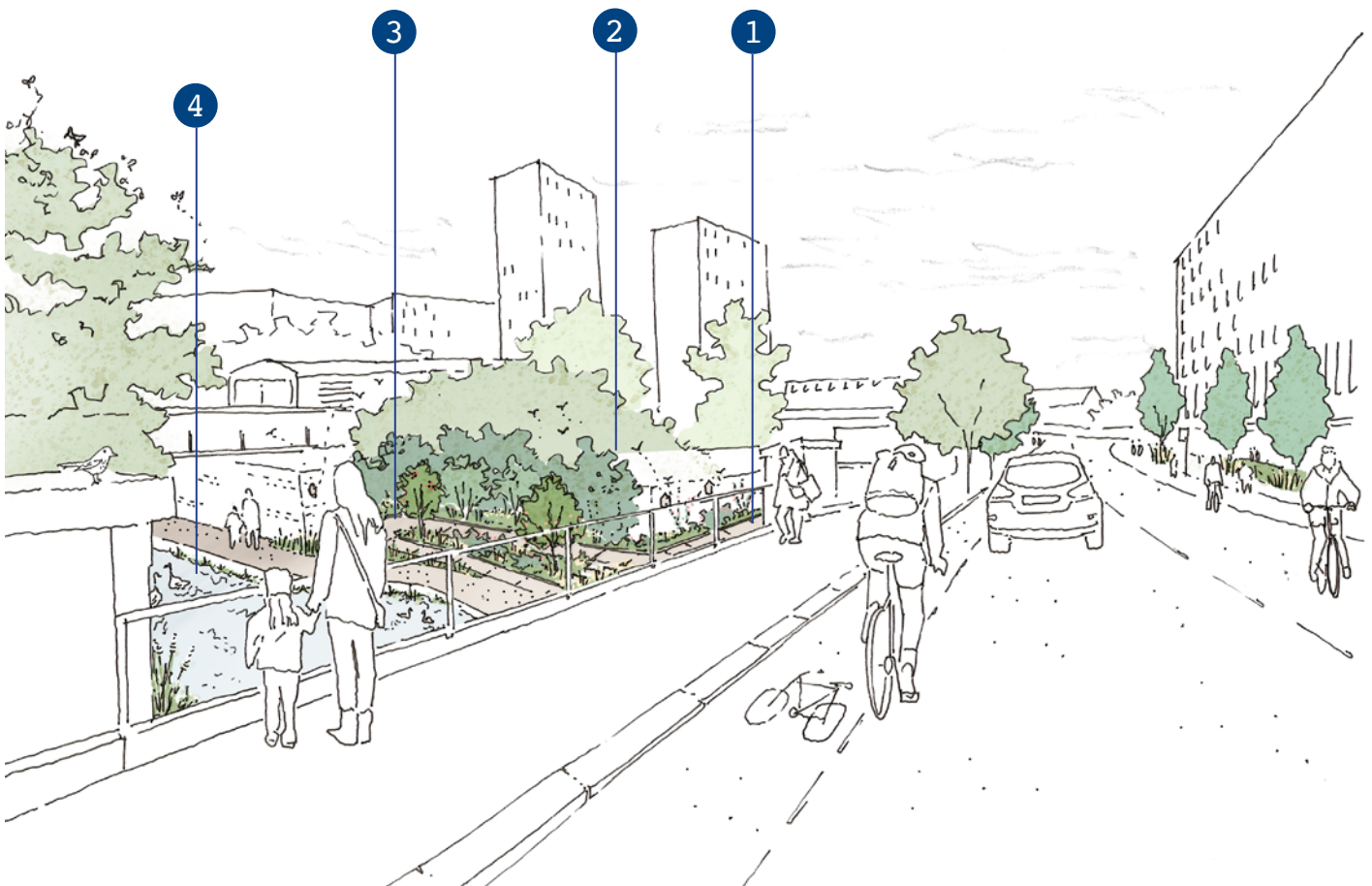
2: Old Oak Lane Towpath Access

Designers: DK-CM, with JCLA

- This project was identified in the Canal Placemaking Strategy (2019) as an ideal site for making exemplar access to the Grand Union Canal.
- The design creates an accessible route from Old Oak Lane to towpath level, woven in with existing planting, habitat features, with playful routes & elements.
- The planting story works within the site conditions to create an engaging and edible route from road to towpath.

Characteristics

- 1 Improved access to landscape assets for all; physically, visually and engagingly
- 2 A resilient and biodiverse landscape approach, retaining existing trees & integrating habitat features
- 3 Engaging with existing infrastructure and creating a dialogue with local industry
- 4 Supporting the specific character and wildlife of the local area



Landscape approaches



Improved access for all

Improving access holistically to key landscape assets in the local area allows them to be enjoyed and appreciated in a physical, visual and emotional sense.



Resilient landscape, incorporating existing features & habitat provision

Designing sensitively, incorporating valuable existing features, and building in increased ecological value increases the potential of sites.



Engaging with infrastructure & local industry

Making the most of the special and intrinsic qualities of the local landscape, and engaging with neighbouring businesses and makers (Walthamstow Wetlands).



Supporting specific local character

Using development opportunities to enhance the existing qualities of landscape, supporting local flora & fauna, linking up green networks and extending habitat range.

Example Projects

> Victoria Gardens

2: Cerebos, Victoria & Midland Terrace Gardens

Designers: Hayatsu architects, with JCLA & community co-design group

- This project provides ideas for transforming a string of three currently under-used green spaces along Victoria Rd.
- The project seeks to enhance biodiversity, amenity and enjoyment across the three gardens, and increase their positive contribution to a busy part of Victoria Road.

Characteristics

- 1 Greener streets, using landscape & planting to create healthier, ecologically beneficial and more resilient routes
- 2 Increased biodiversity value to existing green sites, linking up the valuable local network
- 3 Exploring the transformative power of landscape with a playful approach and sense of fun
- 4 Involving the local community in the planning, design and agency of their spaces



Landscape approaches



Greener & more resilient streets along pedestrian & cycle routes

Considering ways to transform existing streets into greener and more pleasant places, shifting the focus towards pedestrians & cyclists (Paris).



Increased biodiversity value & linking up the local green network

Putting ecological improvements at the heart of projects, making a home for wildlife in busy urban areas and improving our relationship with nature.



A playful approach and sense of fun

Bringing a playful sense of fun to the design of landscape spaces, fostering a creative and interpretive interaction between people and the natural work, and encouraging greater knowledge and appreciation.



Community co-design & involvement

Involving local communities in the planning, design and agency of their spaces from the initial project conception, throughout the design phase and considering on-going care taking opportunities.

Conclusion

This study has shown that, with large scale change imminent in the local area, it is important to establish a set of principles that enable a sensitive and positive transformation of the area around Victoria Road.

This strategy has set out clear aims and ambitions for the landscape to create:

- > A coherent character and identity
- > A home for nature and wildlife
- > An engaging and accessible landscape
- > A focus on sustainable approaches

In order to achieve these aims, a set of guiding principles have been founded on the character and development of the landscape through time and the strategies needed for it to be a place where both people and wildlife can thrive in the future:

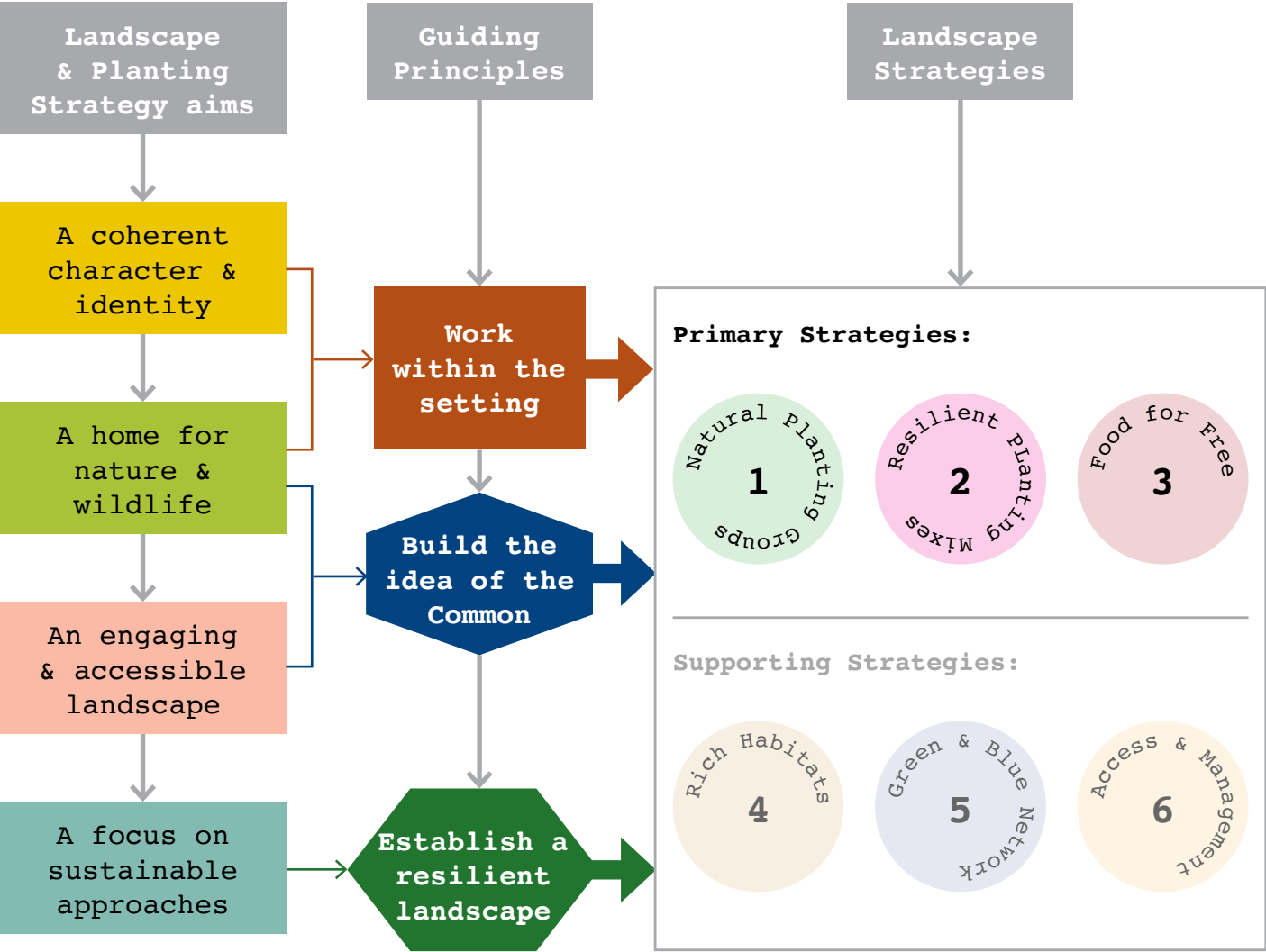
- > **Work within the setting;** rooting the landscape ideas in their surroundings while celebrating the unique qualities of the area
- > **Build the idea of the Common;** encouraging a collective sense of use and an accessible, inclusive approach for the landscape
- > **Establish a resilient landscape;** supporting a sustainable landscape to promote experiential and ecological richness.

A practical methodology for achieving these aims, responding to the story of the landscape, how it has historically developed over time, and how it can positively develop into the future have been summarised in three primary landscape strategies:

- Take inspiration from nature to achieve **complexity in natural environments**, and use this as a tool for landscape development
- From the earliest stage, interrogate how planting mixes can be made more resilient, supporting **robustness** in public areas, encouraging **sustainable approaches**, and improving **ecological and experiential richness**
- Ensure that **edible plants and productive uses** are included within landscape schemes, building on the historic character of common land to provide a landscape **rich in sustenance, free and accessible** to all
- At a wider strategic scale, include provision for **rich habitats**, the **expansion of green and blue** networks, and a holistic approach to the **access and management** of landscape spaces.

This strategy can therefore be used as a guide to the historic and current landscape story of the area, serving as a pointer towards positive transformation, and an illustration of how to achieve these principles; ultimately aiming to create a more cohesive, ecologically rich, enjoyable and healthy landscape to serve as a valuable resource for the local area over many years to come.

Summary Diagram



Acknowledgements

Client:

- OPDC
- OPDC Community Review Group
- OPDC Place Review Panel

Designer's group:

- 5th Studio
- DK-CM
- Hayatsu architects
- London Borough of Ealing
- London Wildlife Trust

Local Friends group

Key studies:

- OPDC Local Plan (2018)
- Heritage Strategy (2017) by Allies + Morrison
- Canal Placemaking Study (2019) by DK-CM & JCLA
- Ecology Guidance and 'Strategic Ecology Study (DRAFT) by London Wildlife Trust

Key case study references

Grey to Green

Street and rain garden planting in Sheffield, South Yorkshire (Sheffield City Council)

<http://www.greytogreen.org.uk/>

Social housing green space

Communal planting areas and management plan on the Clapton Park Estate, East London (Clapton Park TRA & John Little of the Grass Roof Company)

<https://www.grassroofcompany.co.uk/socialhousing>

The Abundant Amelia

Reviving forgotten and unloved corners on the Pullens Estate, in Elephant and Castle, by using food growing to engage communities (Dallas-Pierce_Qintero for LB Southwark)

<http://www.d-p-q.uk/projects/abundant-amelia/>

Green & Blue networks

Extensive networks of street trees, planting, rain gardens and swales including local tree sourcing around Lyon, France (Greater Lyon Authority)

<http://www.tdag.org.uk/casestudies>

Wildflower verges

Wildflower displays on roundabouts and verges around County Durham (Durham County Council)

<http://www.durham.gov.uk/wildflowers>

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Multiple images on pages are referenced in the following order (left to right, then top to bottom)
All 'Planting palette' images via Wikimedia Commons.

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Published by the Alderman Press, 1986

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Chapter 2
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p.37 - <https://www.jealottshilllandshare.org.uk/>
p.39 - c. JCLA
p.39 - <https://www.networkrail.co.uk/communities/environment/wildlife/>
p.39 - <https://lovesquare.group.shef.ac.uk/>
p.39 - Photo extracted from Allies & Morrison, Old Oak and Park Royal Heritage Strategy (2017)
p.39 - <https://www.wildlondon.org.uk/nature-reserves/camley-street-natural-park>
p.39 - by Nigel Dunnett, <https://www.nigeldunnett.com/grey-to-green-2/>
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p.41 - middle, right: <http://landezine.com/index.php/2013/02/schoneberger-sudgelände-park-by-odious/>
p.41 - all other images c. JCLA
p.45 - <http://culpeper.org.uk/projinstall/>
p.45 - <https://lovesquare.group.shef.ac.uk/>
p.45 - <https://landezine-award.com/tumbling-bay-playground/>
p.45 - <https://zinco-greenroof.co.uk/systems/biodiversity-green-roof>
p.45 - by Abby Jones, <http://touristinmyownhometown.blogspot.com/2010/07/lauritzen-gardens.html>
p.45 - c. JCLA, Penwortham School planting day
p.46 - <http://www.durham.gov.uk/wildflowers>
p.46 - <https://www.wildflowerurf.co.uk/products/wildflower-turf/suds-turf/>
p.46 - by Nigel Dunnett, <https://www.nigeldunnett.com/grey-to-green-2/>
p.49 - <https://blog.nationalgeographic.org/2014/11/12/a-watershed-moment-for-los-angeles/>
p.49 - <https://www.aspect-studios.com/au/project/klemzig-oval-redevelopment>
p.49 - <https://thestreettree.com/2017/05/23/five-of-the-best-london-boroughs-for-street-trees/>
p.49 - by Nigel Dunnett, <https://www.nigeldunnett.com/a-barbican/>
p.49 - <https://blog.nationalgeographic.org/2014/11/12/a-watershed-moment-for-los-angeles/>
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p.78 - <https://www.wildflowerurf.co.uk/case-studies/rossall-grasslands/>

p.80 - by Nigel Dunnett, <https://www.nigeldunnett.com/grey-to-green-2/>

p.81 - <http://landezine.com/index.php/2019/03/shanghai-moma-museum-waterfront-park-by-yiyu-design/>

p.83 - by Nigel Dunnett, <https://www.nigeldunnett.com/grey-to-green-2/>

p.83 - <https://www.wildflowerturf.co.uk/case-studies/rossall-grasslands/>

p.84 - <https://www.robertbrayassociates.co.uk/index.php/portfolio/bridget-joyce-square-community-rainpark>

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p.98 - by John Little/Grass Roof Company, <https://www.grassroofcompany.co.uk/brownfield-landscapes>

p.99 - <https://www.gardenersworld.com/how-to-grow-plants/wildlife-gardening-jobs-for-october/>

p.99 - by John Little/Grass Roof Company, <https://www.grassroofcompany.co.uk/habitat-planters>

p.100 - <http://www.tdag.org.uk/casestudies/using-rainwater-for-tree-based-cooling-on-garibaldi-street>

p.100 - <https://www.robertbrayassociates.co.uk/index.php/portfolio/bridget-joyce-square-community-rainpark>

p.102 - <http://content.tfl.gov.uk/sustainable-urban-drainage-november-2016.pdf>

p.103 - <https://rethinkingchildhood.com/2018/02/20/child-friendly-cities-europe-antwerp-ghent-rotterdam-oslo-freiburg-churchill-fellowship/>

p.103 - by Dusty Gedge, <https://dustygedge.co.uk/index.php/green-roofs/lablan-the-story-of-the-original-rubble-brown-roof/>

p.103 - <https://www.queenelizabetholympicpark.co.uk/the-park/things-to-do/arts-and-culture/living-walls>

p.104 - <http://www.durham.gov.uk/wildflowers>

p.106 - by John Little/Grass Roof Company, <https://www.grassroofcompany.co.uk/socialhousing>

p.107 - <https://my.landscapeinstitute.org/case-study/whats%27s-growing-on-the-greenway/60e6f9bb-f8e5-e911-a812-00224801b559>

p.107 - Eva Worobiec/Alamy, <https://www.theguardian.com/environment/2020/mar/14/on-the-verge-a-quiet-roadside-revolution-is-boosting-wildflowers-aoe>

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p.111 - Willesden Junction proposals by 5th Studio (<http://www.5thstudio.co.uk/>) with JCLA

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