Landscape and Open Space Strategy - Highsted Village and Oakwood Village

Highsted Park, Sittingbourne
1554/007 Rev F
June 2021

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Contents

1. Introduction

The Landscape and Open Space Strategy Document for Highsted Park, Sittingbourne has been prepared by Murdoch Wickham, forming part of the planning application. This document focuses on the landscape analysis, landscape strategy and proposals, whilst referring to Swale's Open Space, Sports and Recreation Strategy for guidance on quantities of open space and accessibility standards.

Highsted Park is a comprehensive masterplanned development which will deliver both the Southern and Northern Relief Roads as part of a new Garden Community. This document has analysed the baseline conditions and landscape strategy for both the north and south sites together. Separate applications have been prepared for the North and South areas of Highsted Park. This document explains the open space principles and planting strategies for Highsted Village and Oakwood Village.

The Site

The site is located to the east and south of Sittingbourne, Kent and to the north of the M2 motorway. Set around the villages of Highsted, Rodmersham Green and Bapchild.

The site itself generally consists of farmland and is wrapped around the existing Kent Science Business Park.

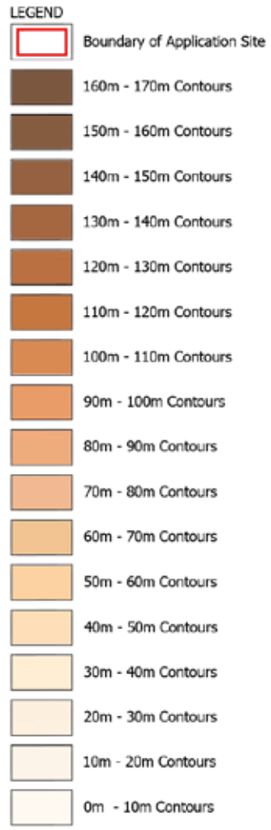
Aerial and site boundary

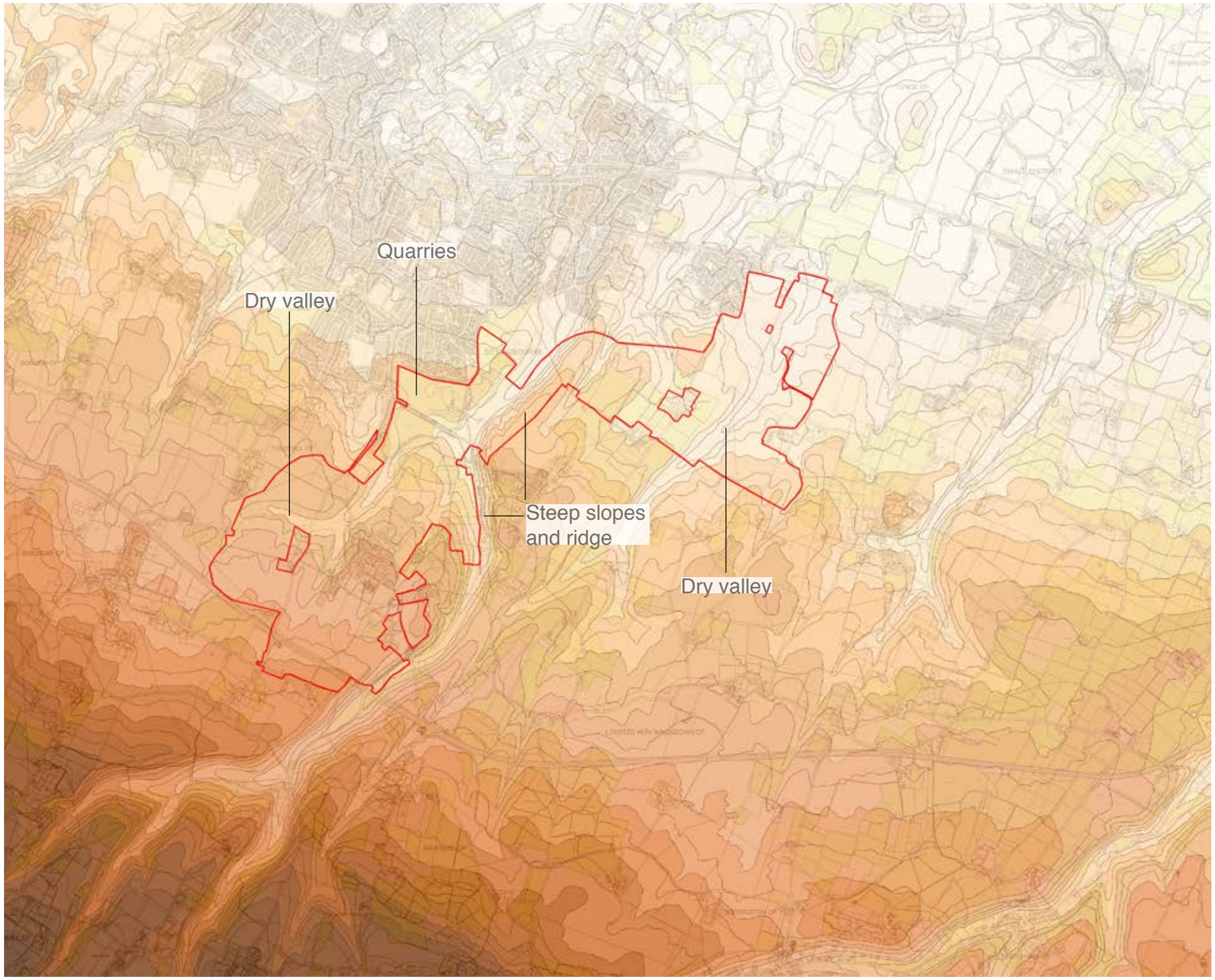
2. Landscape Analysis

2.1 Topography

The Site lies within an area of gently undulating topography forming part of the North Downs dip slope.

The topography of the site itself consists of steep slopes on the western side, a series of dry valleys and the existing quarries, as illustrated on the adjacent plan.



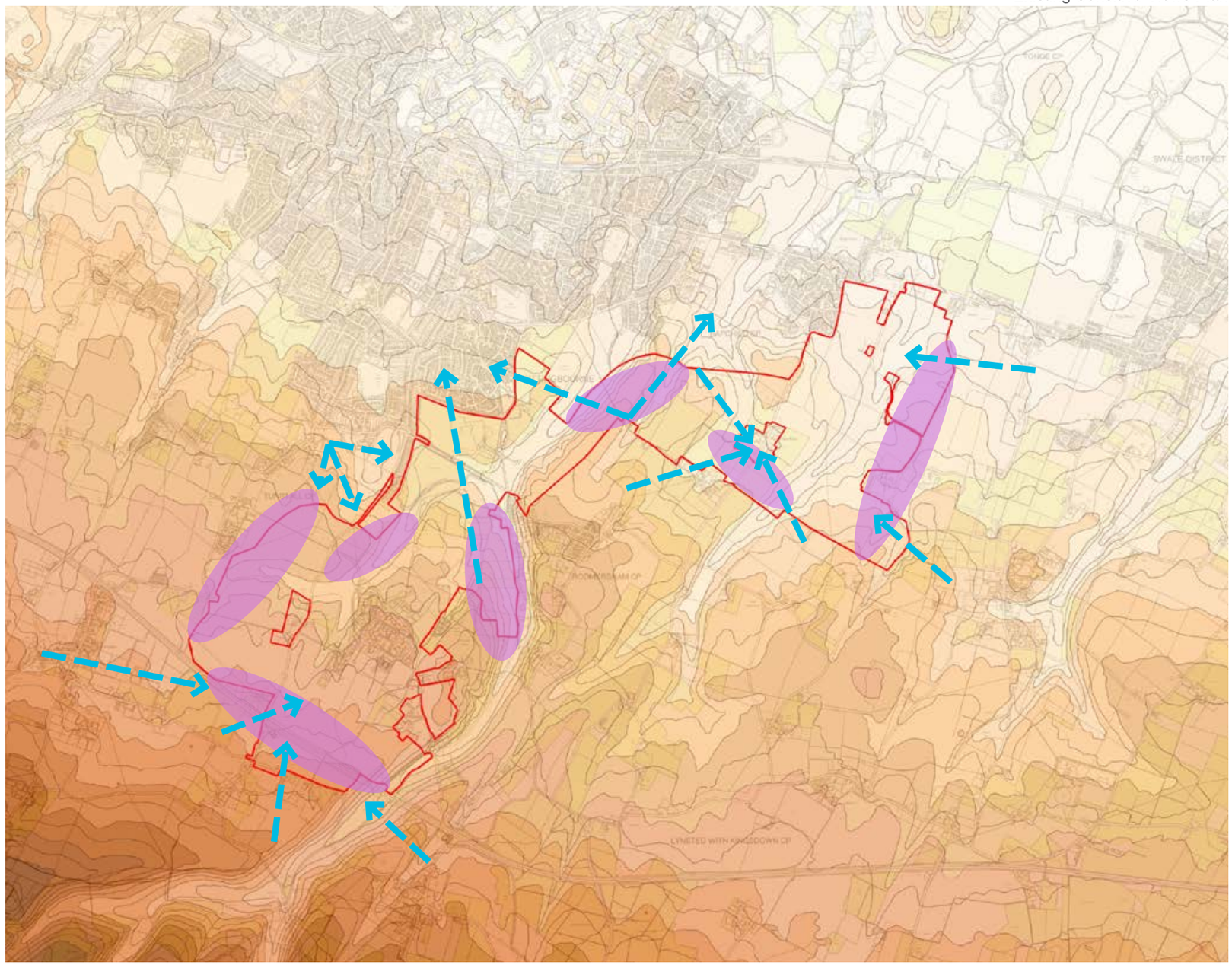


2.2 Existing Views

The preliminary visual assessment concluded that in the majority of cases views of the Site were curtailed by local landscape features, such as field hedgerows, small copses, isolated residential properties / farmsteads / hamlets and also changes in topography, such as hedge banks adjoining the network of roads and lanes, or the views were at such a distance that the Site was very difficult to perceive.

The adjacent plan illustrates the visually sensitive areas, these are predominantly towards the site's perimeters and the southern tip of the site, which is adjacent to the AONB.

Existing Sensitive Views Plan



Legend

Assessment Site Boundary

Visually sensitive areas

Views

Typical Views towards the Site

View towards the northern site boundary

View towards the north-west boundary

View towards Sittingbourne from the east

View towards the south-west boundary

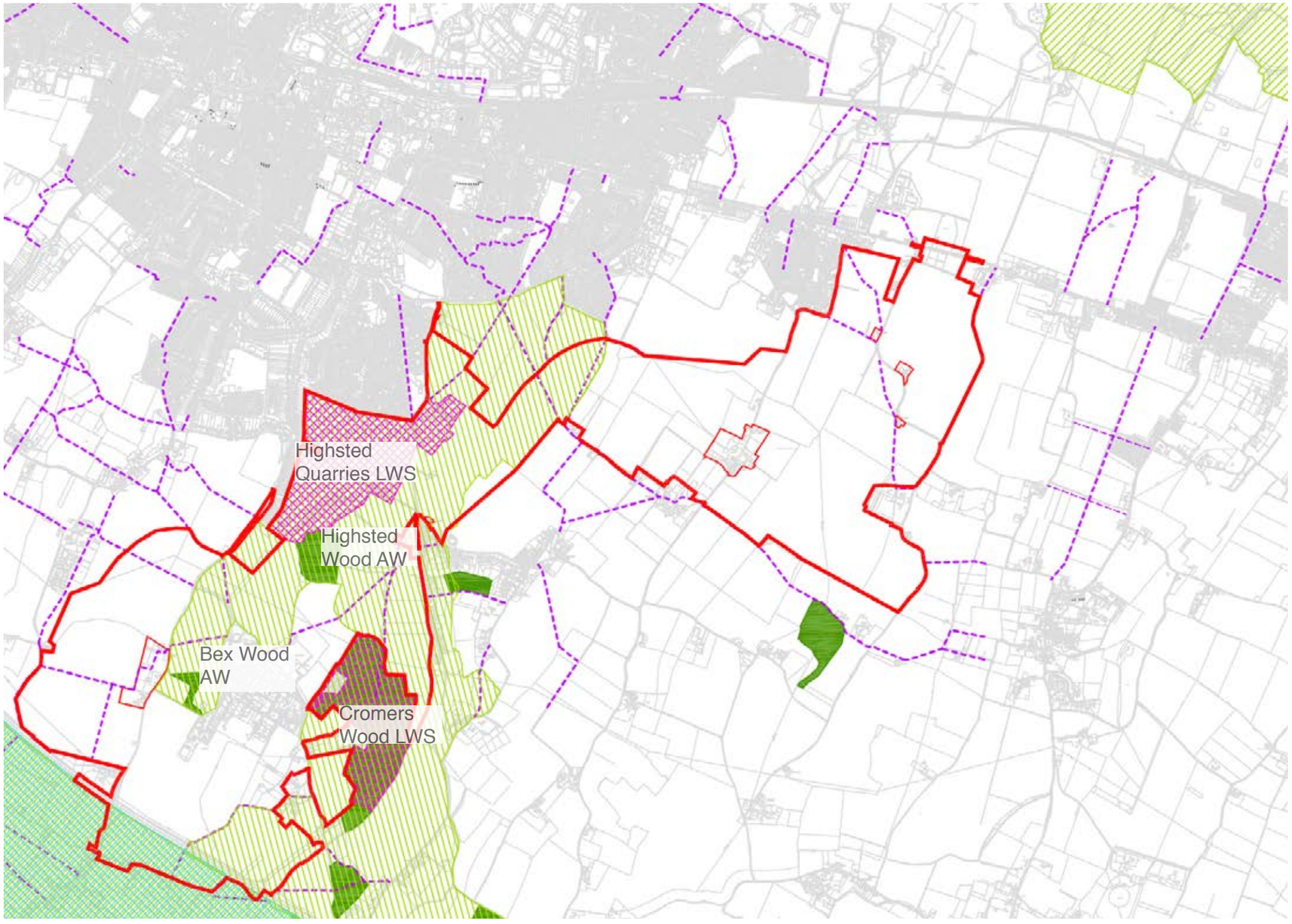
2.3 Existing Landscape Designations

The vast majority of the site is not subject to any nature conservation designation, although an area of former chalk quarries located in the west of the site is subject to non-statutory designation as Highsted Quarries Local Wildlife Site (LWS), whilst two small areas of Ancient Semi-Natural Woodland (ASNW), namely Highsted Wood and Bex Wood, are located within the site. Cromer's Wood, designated as a LWS and ASNW and forming a Kent Wildlife Trust reserve, is located adjacent to the site.

Outside of the designated areas noted above, survey work has found the site to be dominated by arable farmland and orchards. The arable farmland appears to be under intensive cultivation, with few arable weeds and limited field margins or areas of set-aside, whilst the orchards support large-scale commercial fruit production, with limited ecology interest. Field sizes are generally large, with open boundaries or predominately species-poor hedgerows and treelines. As such, the majority of the site is considered to be of low ecological value.

Other habitats forming important ecological features are limited to small pockets of woodland or wooded strips, a remnant parkland area with scattered trees, the network of hedgerows and treelines, a watercourse in the north and veteran trees.

Existing Landscape Designations Plan



LEGEND

- Assessment Site Boundary
- Ancient Woodlands (AW)
- Local Wildlife Site (LWS)
- AONB
- Area of High Landscape Value
- PROW

2.4 Existing hydrology

There are no watercourses within the site boundary. The nearest tidally influenced waterbody to the Site is the Swale Channel located approximately 3.3km north.

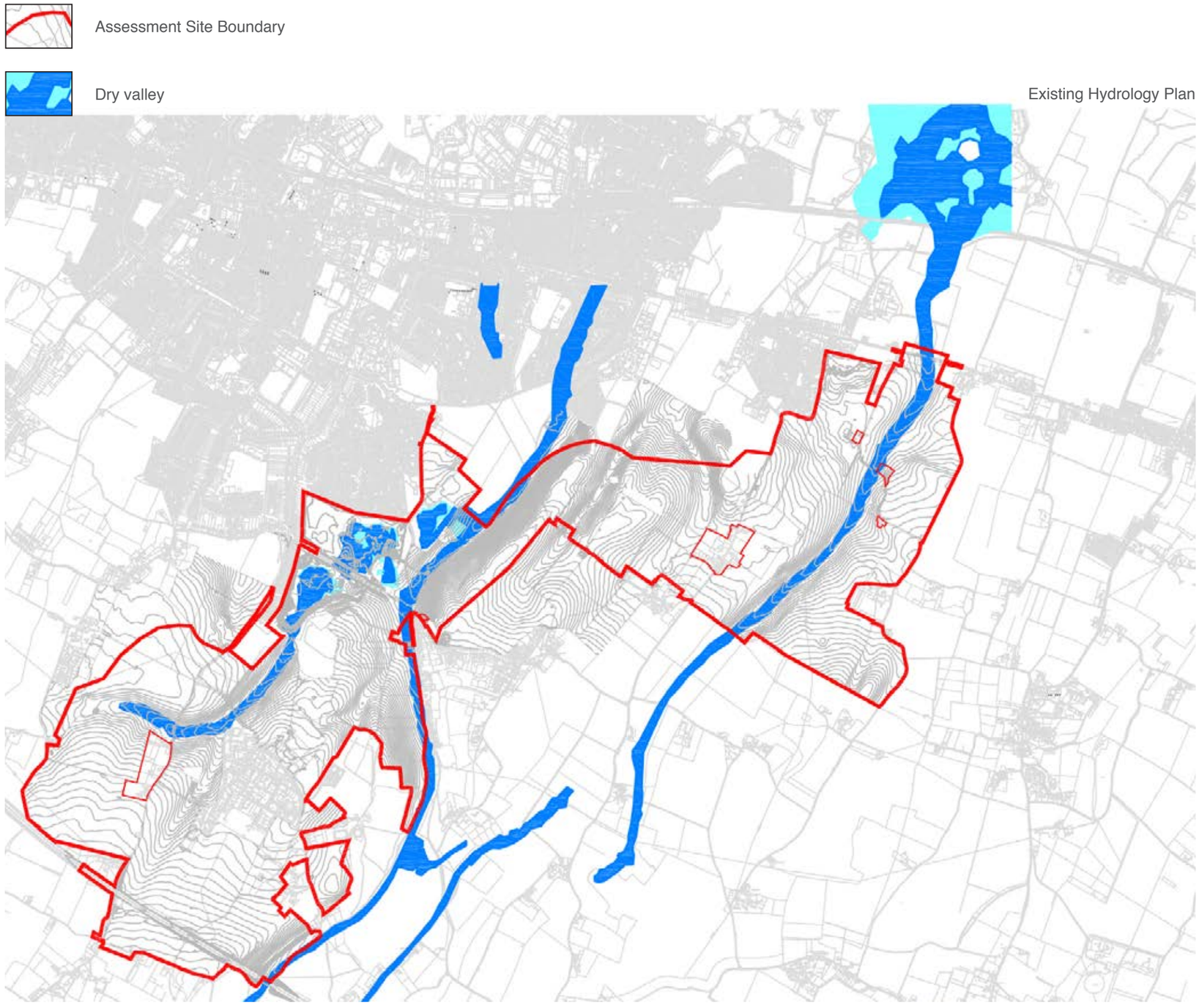
The nearest Main River is the Milton Creek located approximately 10 km to the northwest of the Site's. There is an outfall of a small watercourse located approximately 250m north of the A2 (Fox Hill/ The Street) flowing north, towards the River Swale.

Based on the Site's topography, surface water runoff from majority of the Site currently flows to dry valleys which act as overland flow paths to convey the water through the site and downstream, ultimately to the River Swale. There are four dry valleys, which pass through the proposed development Site.

1. Flow path between M2, Oakwood Farm and Cromwell Road. The overland flow route appears to originate from areas of small permeability of the ground, associated with superficial deposits of Clay with Flints. The flow route is intercepted by the former Highsted Quarries, which prevents further flows heading northwards.
2. Flow path between Wormshill, Bottom Pond and Swansea Avenue and Snipshill. This flow path originates upstream of the Site, south of the M2, in Kent Downs area. It flows alongside Bottoms Pond road, which forms the south-eastern site boundary Swanstree Avenue; it crosses the Site north of existing Highsted and then continues north alongside the western Site boundary. Downstream of the Proposed Development Site, it contributes to the large soakaway and attenuation system at the public open space east of 'Greenways'
3. Surface Water flow path west of Church Street, Rodmersham to A2 Fox Hill. This flow path runs predominantly through agricultural land.
4. Flow path between upper Rodmersham and London Road. This path originates south of the Site and flows partially along Dully Road.

Some areas adjacent to the quarries located in the eastern part of the Site and rainfall falling directly over quarries themselves discharge to and pond in the quarries.

The existing surface water run-off from on-site rural roads, discharge to traditional road ditches which over time soak to the ground.



2.5 Existing Ecology and Vegetation

The site provides potential opportunities for a range of faunal species, including bats, Badger, Dormouse, Water Vole, Otter, birds, amphibians, reptiles and invertebrates. A summary of key survey findings is set out below:

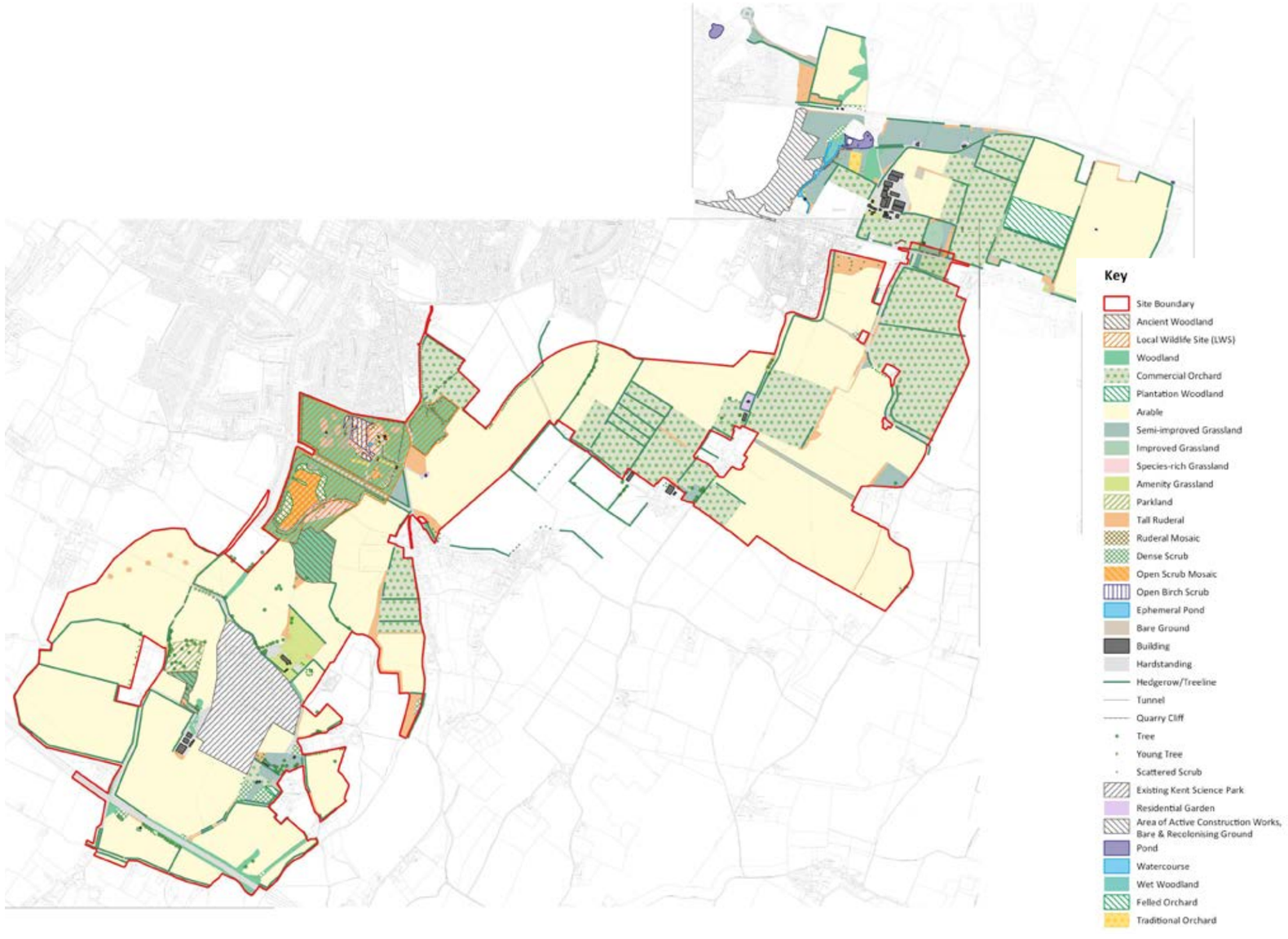
- A moderate assemblage of foraging and commuting bats has been recorded, particularly associated with wooded habitats and hedgerow/treelines, whilst roosting opportunities are provided by a number of trees and structures. A small number of low status roosts have been recorded;
- Numerous Badger setts have been recorded at the site, with the site likely to support three or four separate Badger territories;
- Dormouse has been recorded within Highsted Wood, hedgerows to the east of Bapchild and within hedgerows, treelines and wooded strips at the south west of the site;
- Water Vole and Otter have been recorded associated with the watercourse in the north of the site;
- The priority mammal species Brown Hare has been recorded, whilst there is also some potential for other priority mammal species including Hedgehog to be present;
- A modest assemblage of breeding birds has been recorded, with the majority of activity recorded associated with the woodland and hedgerow habitats, including low numbers of declining farmland bird species;
- The site supports habitat for moderate numbers of wintering birds, including birds listed as qualifying species for The Swale SPA, albeit these were only recorded in small numbers or following bad weather conditions;
- Great Crested Newt has been recorded within a single offsite pond, whilst the site itself may support small numbers of other amphibian species, including Smooth Newt and Common Toad;
- Good populations of common reptile species have been recorded, namely Common Lizard and Slow-worm within the quarry basins, species rich grassland to the south of the quarries and within areas of rough grassland and field margins; and
- The site supports elevated potential for invertebrates within woodland, parkland, species-rich grassland and scrub mosaics within the quarries, and moderately diverse assemblages of invertebrates have been recorded from these areas.

Summary

Survey work has found the site to be dominated by arable farmland and orchards. The arable farmland appears to be under intensive cultivation, with few arable weeds and limited field margins or areas of set-aside, whilst the orchards support large-scale commercial fruit production, with limited ecology interest. Field sizes are generally large, with open boundaries or predominately species-poor hedgerows and treelines. As such, the majority of the site is considered to be of low ecological value.

Other habitats forming important ecological features are limited to small pockets of woodland or wooded strips, a remnant parkland area with scattered trees, the network of hedgerows and treelines, a watercourse in the north and veteran trees.

Existing Ecology and Vegetation Plan



2.6 Existing Heritage

The particular characteristics of the area and the historical development of this part of Kent mean that dispersed historic farming settlements and hamlets derive some value from a visual and functional connection to their rural settings which help explain their historic use.

With that in mind, the green grid and landscaping proposals have evolved to preserve this interest and the settings of heritage assets where possible.

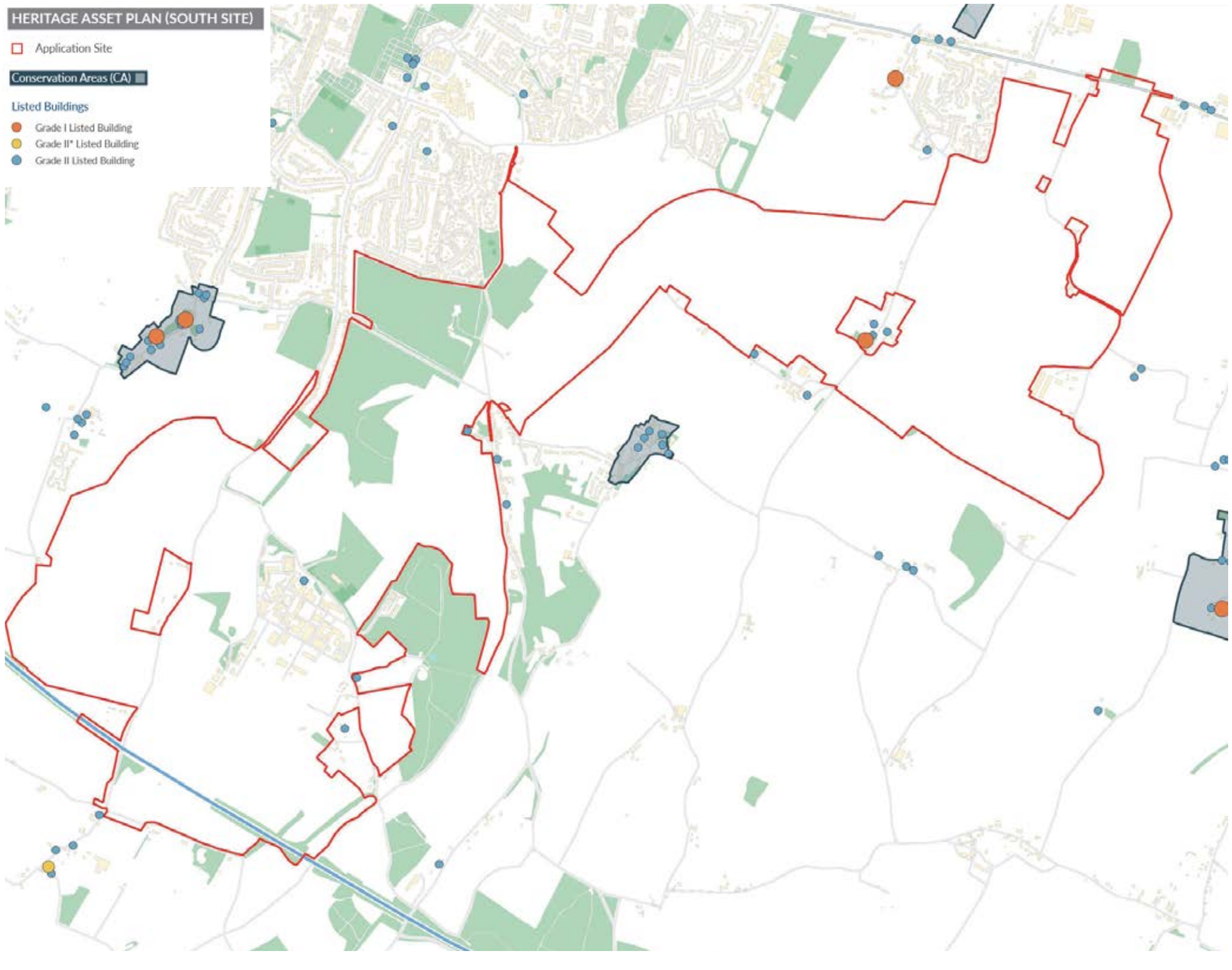
There are no designated heritage assets within the redline boundary. Small Conservation Areas and groups of listed buildings are generally inward looking and following further assessment by Montagu Evans, are unlikely to be affected significantly by the masterplan proposals.

There are a number of key heritage assets however, identified by Historic England, that have informed the development of the masterplan and whose settings are sensitive to the effects of the proposals.

The key heritage assets outside of the boundary that have influenced the layout and form of the masterplan comprise:

- The Conservation Area of Rodmerhsam Green which lies at the centre of the masterplan, albeit outside the redline.
- Tunstall Village and Conservation Area which is located to the north west
- The grade I listed church of St Nicholas
- The Grade I listed church of St Lawrence

Key views across open agricultural fields are currently afforded from these assets. Important will be to try and minimise the visibility of the proposed infrastructure and the housing, and therefore reduce the potential for setting impacts. The arrangement of the green grid and large areas of planting throughout the masterplan will help to mitigate the appearance of new built form in views from the assets.



2.7 Landscape Character

National
The Site is located within the 'North Kent Plain' Character Area No. 113 and the 'North Downs' Character Area No. 119 , as identified by Natural England in their Character Map of England.

County
Swale Landscape Character and Biodiversity Appraisal (2011) has the site within the following study areas:

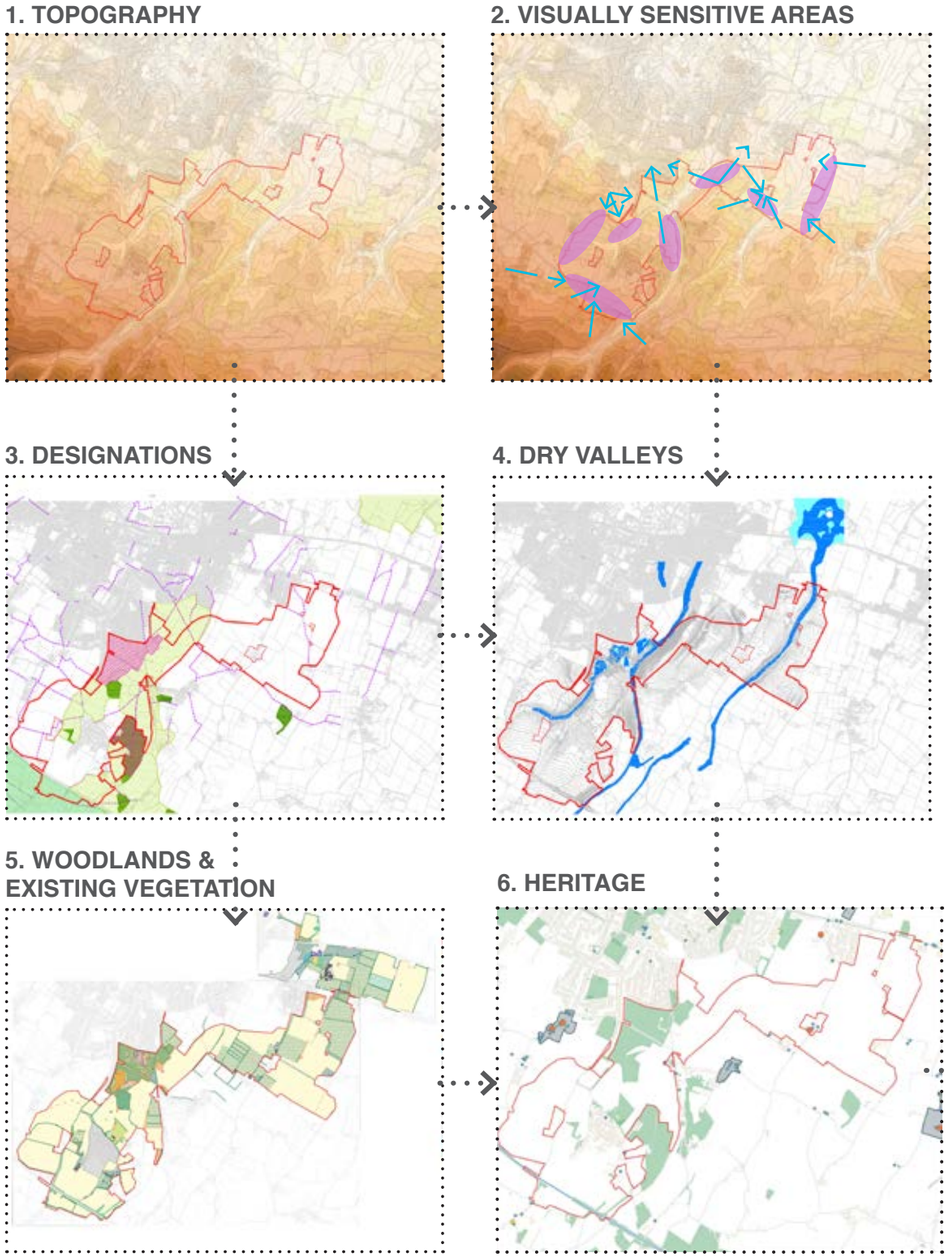
Landscape Character Area – Area 29 – 'Rodmersham Mixed Farmlands'
This is an area of diverse character and geology. It is a rolling landscape with steeply sloping rounded dry valleys extending south to north towards the Teynham Fruit Belt. Large areas of landscape are used for grazing or arable farming and resulted in the loss of hedgerows to post and wire fencing which allowed long uninterrupted views to the north and south from certain high points although visibility within the area varies. Traditional orchards / fruit production still occur in particular around Rodmersham and areas either side of Dully Road. Woodlands are insignificant in number, small, isolated and generally limited to field boundaries. Settlement is also limited to isolated farmsteads and cottages, small historic villages, scattered historic manor houses and urban fringe development along the A2 London Road. Scattered 20th century house and large-scale modern agricultural sheds detract from the traditional character. Rodmersham Church is a local landmark visible from parts of the area. The LCA is in a poor condition and incoherent. The Site occupies part of the northern parts of LCA North of Rodmersham, adjoining the urban area of Bapchild extending towards Radfield.

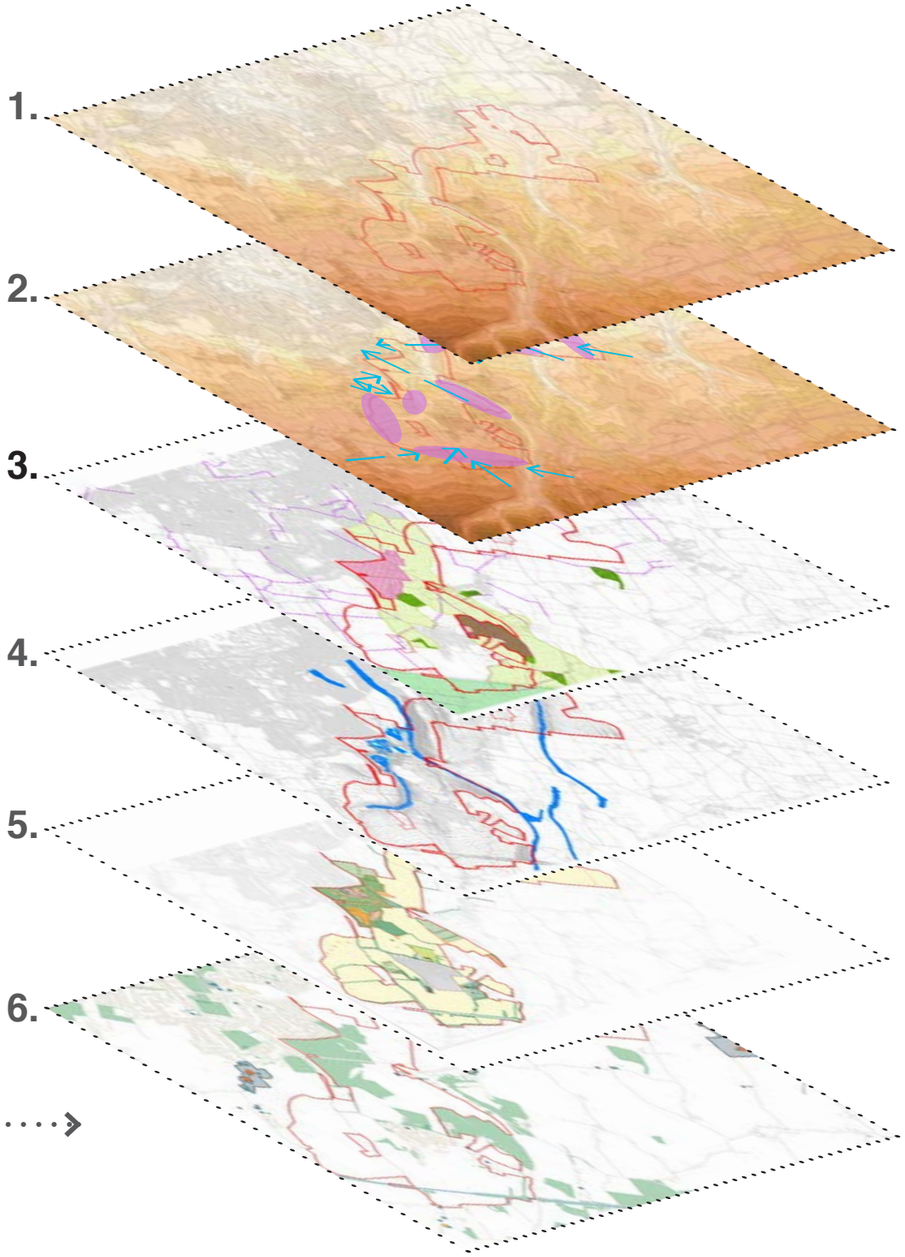
Landscape Character Area – Area 40 – Rodmersham & Milstead Dry Valley
This character area follows a dry valley forming a narrow linear character area to the south east of Sittingbourne with part of the LCA south of the M2 motorway within the Kent Downs AONB. It is a rural landscape characterised by enlarged arable fields enclosed by numerous small to medium scale woodlands, occasional orchards, narrow lanes and small villages with historic buildings and long views from high points within the LCA. The LCA is in a moderate condition. The Site occupies a small part of the LCA roughly following the west edge of the area.

Landscape Character Area – Area 42 – Tunstall Farmlands
Landscape Character Area No.42 lies to the south of Sittingbourne which forms its northern boundary and covers an extensive area extending southwards from the fringes of Sittingbourne on to the gently rising land including part of the North Downs dip slope. The villages of Borden, Tunstall and Bredgar lies within the area. The LCA to the south of the M2 motorway is situated within the Kent Downs AONB whilst part of the area around Kent Science Park to the east is designated an Area of High Landscape Value. Parts of the area contribute to the setting of Tunstall and Sittingbourne although town has an urbanising effect on character. The LCA is in a moderate condition. The Site occupies part of the eastern parts of the LCA to the south of Tunstall, either side of Ruins Barn Road and extending to Bexon Lane to the south of the M2 and northwards up to the urban edge of Sittingbourne.

2.8 Summary

There are many existing important landscape features within the site and surrounding area, which have influenced the Green Grid Strategy including the ecological designations, vegetation, hydrology, typography and heritage assets.





Axonometric diagram of existing landscape features

3. Landscape Concepts and Strategy

3.1 Garden Village Principles

The Highsted Park development has been designed as a Garden Village, these guiding principles have influenced the landscape design and strategies:

Garden Village Principle

A Garden City is a holistically planned new settlement that enhances the natural environment and offers high-quality affordable housing and locally accessible work in beautiful, healthy and sociable communities. The Garden City principles are an indivisible and interlocking framework for delivery, and include:

- Land value capture for the benefit of the community.
- Strong vision, leadership and community engagement.
- Community ownership of land and long-term stewardship of assets.
- Mixed-tenure homes and housing types that are genuinely affordable.
- A wide range of local jobs in the Garden City within easy commuting distance of homes.
- Beautifully and imaginatively designed homes with gardens, combining the best of town and country to create healthy communities, and including opportunities to grow food.
- Development that enhances the natural environment, providing a comprehensive green infrastructure network and net biodiversity gains, and that uses zero-carbon and energy- positive technology to ensure climate resilience.
- Strong cultural, recreational and shopping facilities in walkable, vibrant, sociable neighbourhoods.
- Integrated and accessible transport systems, with walking, cycling and public transport designed to be the most attractive forms of local transport

Principle from the Town and Country Planning Association www.tcpa.org.uk

Highsted Park - Site Wide Landscape Strategy

3.2 Landscape Strategy

Key Landscape Features

Key landscape features to be incorporated into the landscape strategy to form the basis of the site wide green grid:

- Retaining, protecting and connecting the existing landscape designations, including the Ancient Woodlands and Local Wildlife Sites
- Retaining and connecting the existing fragmented PROW
- Retaining and protecting the existing heritage features
- Planting strategy to protect views from the adjacent AONB
- Buffer boundary planting to protect views from the surrounding Countryside
- Creation of amenity areas of open space
- Integration of the attenuation basins within the green grid.
- Retain the ‘green wedge’ link to the wider countryside

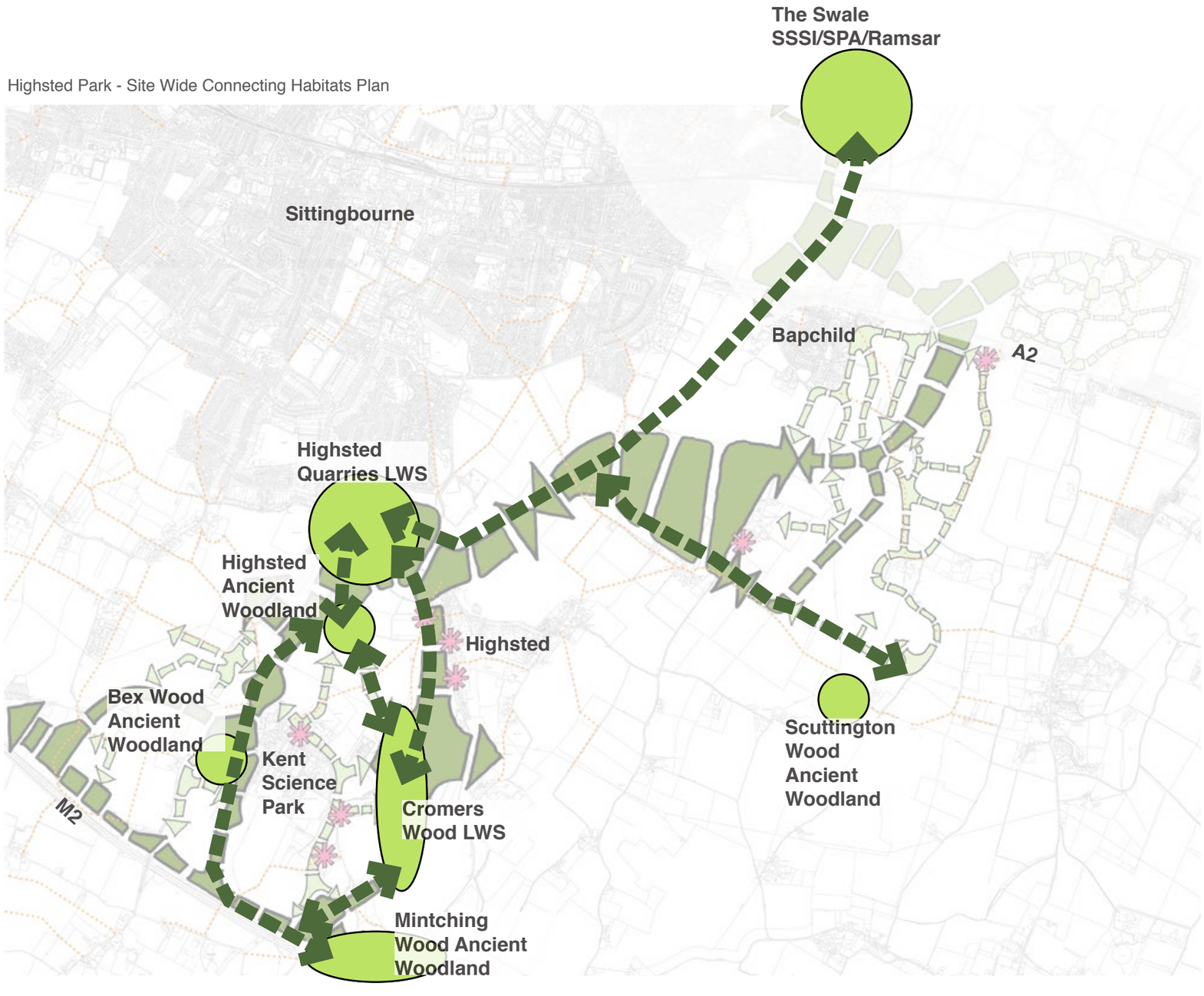
Highsted Park - Site Wide Landscape Strategy

Legend

- Heritage assets
- Primary Green Grid
- Secondary Green Grid
- Public Rights of Way (PROW)
- Green wedge link to wider countryside
- Application boundary

3.3 The Green Grid - Principles

Highsted Park - Site Wide Connecting Habitats Plan



Connecting Habitats

One of the key principles behind the Green Grid is to incorporate a series of habitat corridors, providing movement routes for wildlife as well as amenity and recreational space.

A mosaic of habitats will be created along these corridors, maximising opportunities for wildlife. Primary routes will incorporate wooded links and will be unlit or have low level lighting to ensure retention of dark corridors, providing for movement of wildlife such as Dormice, woodland bats and Badger. Other habitat types including wildflower grassland, ponds and swales will allow for movement of other species including reptiles, invertebrates and amphibians.

The connectivity corridors will provide a mosaic of habitat providing both informal recreation and amenity space for residents and visitors; and a habitat for a variety of wildlife.

SuD's Network

Linear swales

Ponds

Species-rich wetland wildlflower

Wildlife Opportunities

Great Crested Newt

Water Vole

Dormouse

Butterflies

Bat

Advance Planting and Screening Views

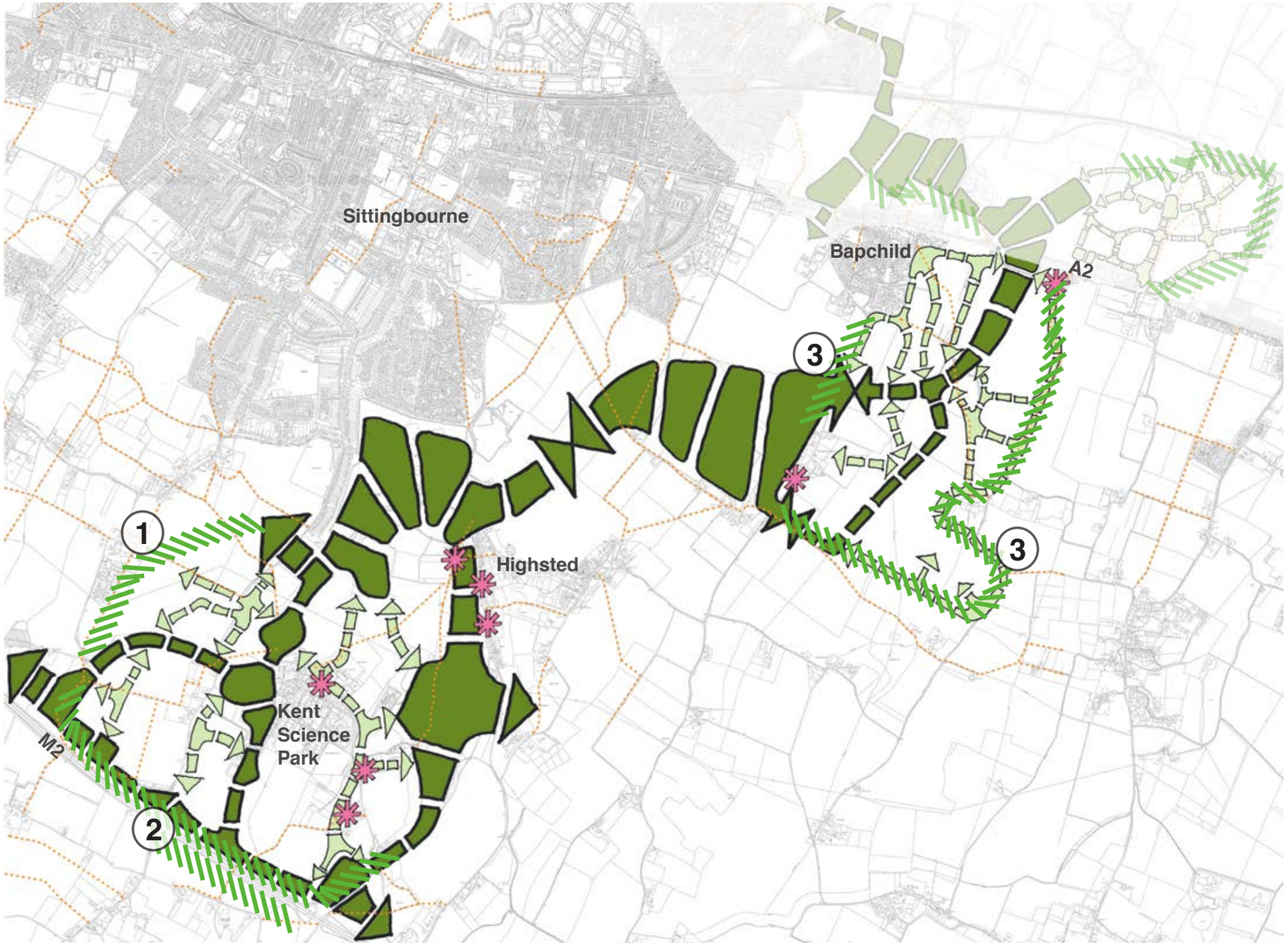
The Green Grid has been informed by the existing visibility towards the site and not having development in highly visually sensitive areas. The Green Grid will incorporate generous landscape buffers around the perimeter and advance planting will be used in key areas to protect views from the adjacent countryside and AONB. These areas have been identified on the adjacent plan:

1. Planting to mitigate potential impacts on Tunstall village

2. Planting to mitigate potential impacts from the AONB

3. Areas for advanced planting prior to development of Oakwood Village.

Highsted Park - Site Wide Landscape Strategy Advanced Planting Plan



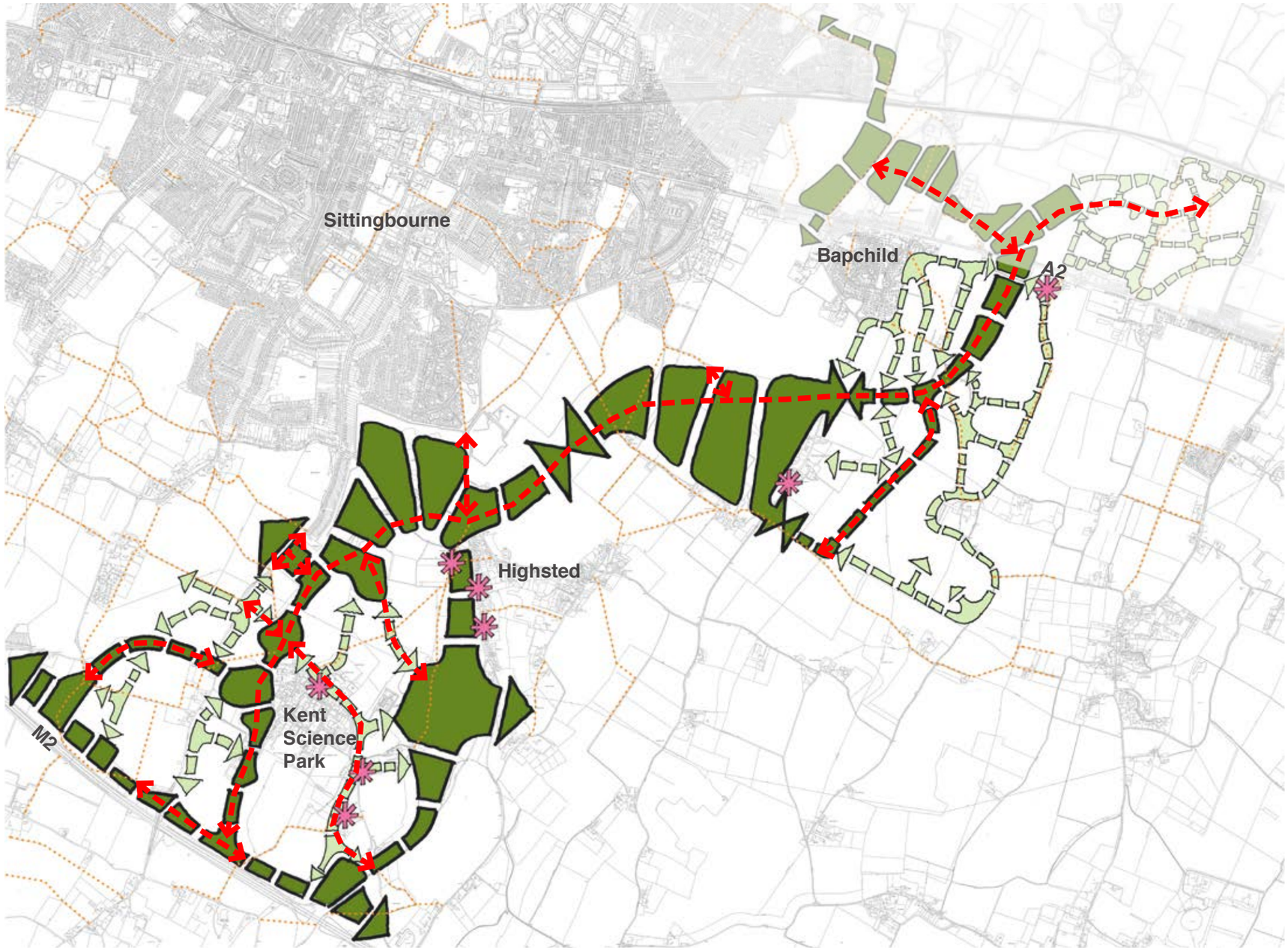
Legend

Advanced buffer planting

Linkages - Connecting Existing PROW

There are many existing fragmented PROW within and surrounding the site boundary, these have informed the shape of the green grid. The masterplan will retain these routes and provide additional footway/cycleways to connect into this existing network.

Highsted Park - Site Wide Proposed Linkages Connections Plan

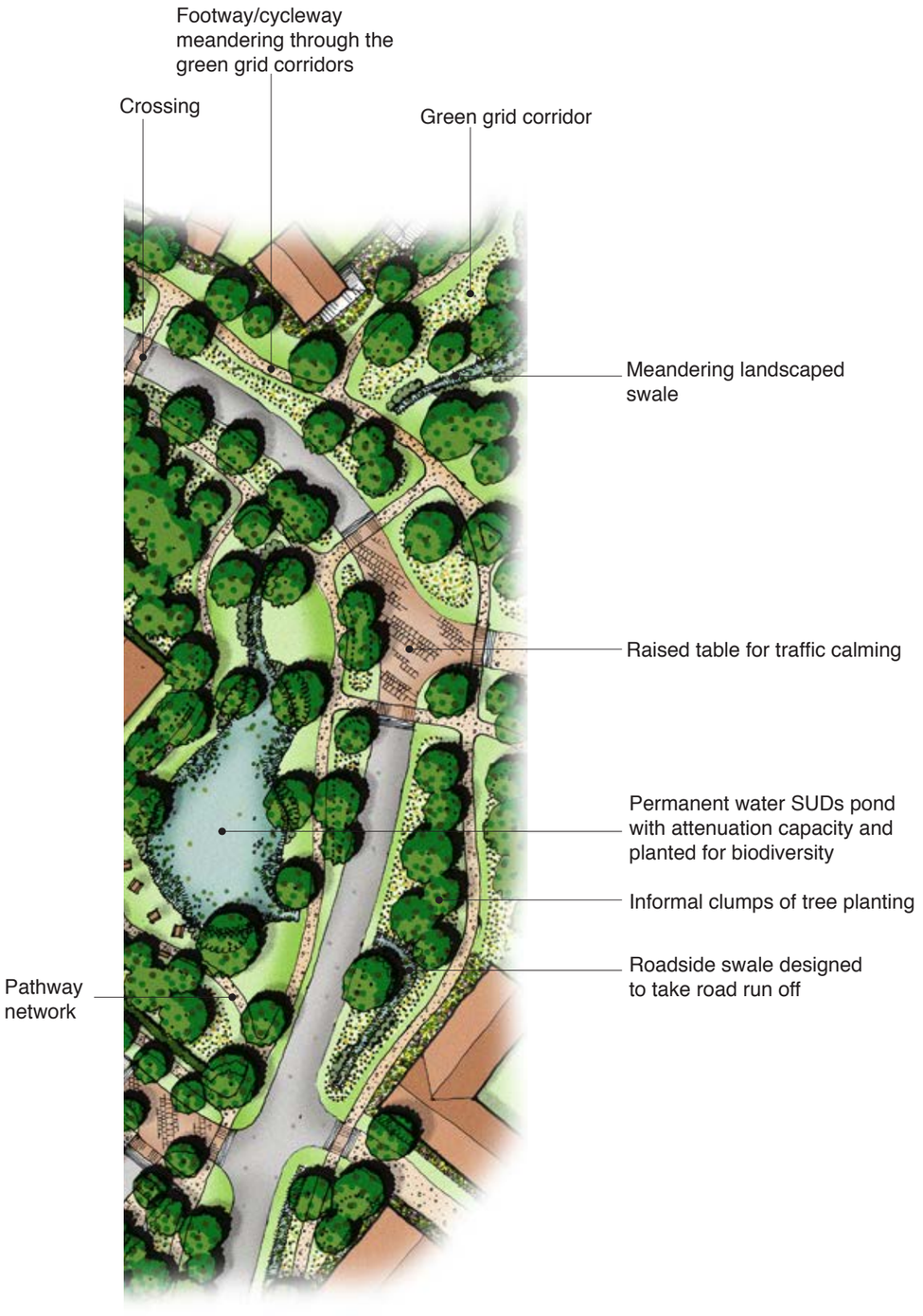


Legend

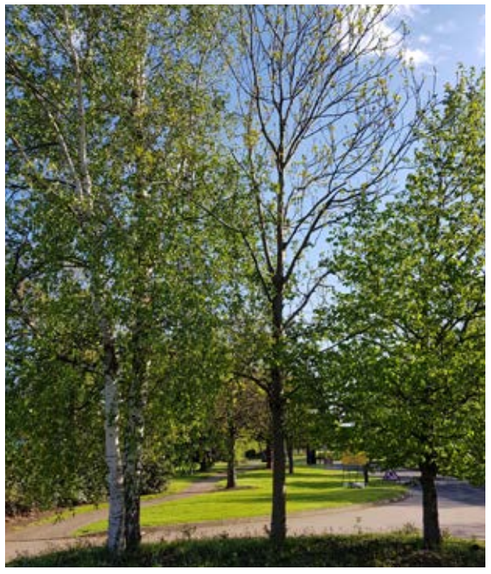
Linkages through the Green Grid

Informal landscaped shared footway/cycleway

Off-road Footway/Cycleway Links Meandering Through The Green Grid - Illustrative Landscape Vignette



Specie rich meadow grass



Informal tree planting

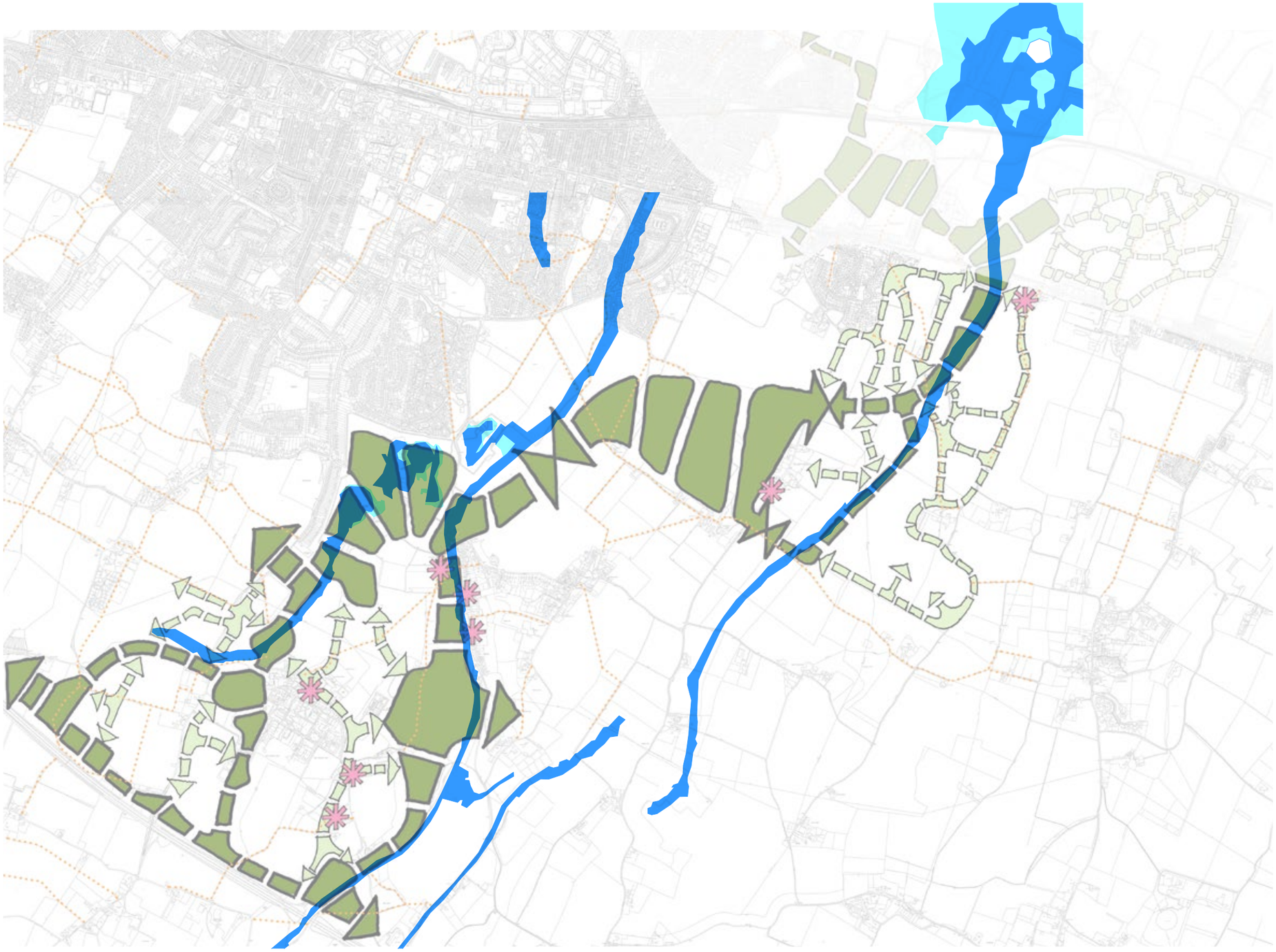
Pedestrian and cycleways through the green grid

Sustainable Urban Drainage

Residential and commercial development will be steered off dry valleys, as they would convey surface water run-off during prolonged, heavy rainfall to lowlands and the Swale Channel. These flow paths will be managed within the Proposed Development masterplan as landscape corridors of blue-green infrastructure passageways. The major dry valleys conveying water from areas south of the Site boundary will have defined riverbeds to safeguard the dry valleys from alternative uses in the future.

Where necessary, surface water flow paths will be diverted alongside the parcel boundary or on one side of the road to minimise the loss of developable area, while maintaining the overland flow routes.

Highsted Park - Site Wide Landscape Strategy Plan showing overlay of Dry Valleys



Legend

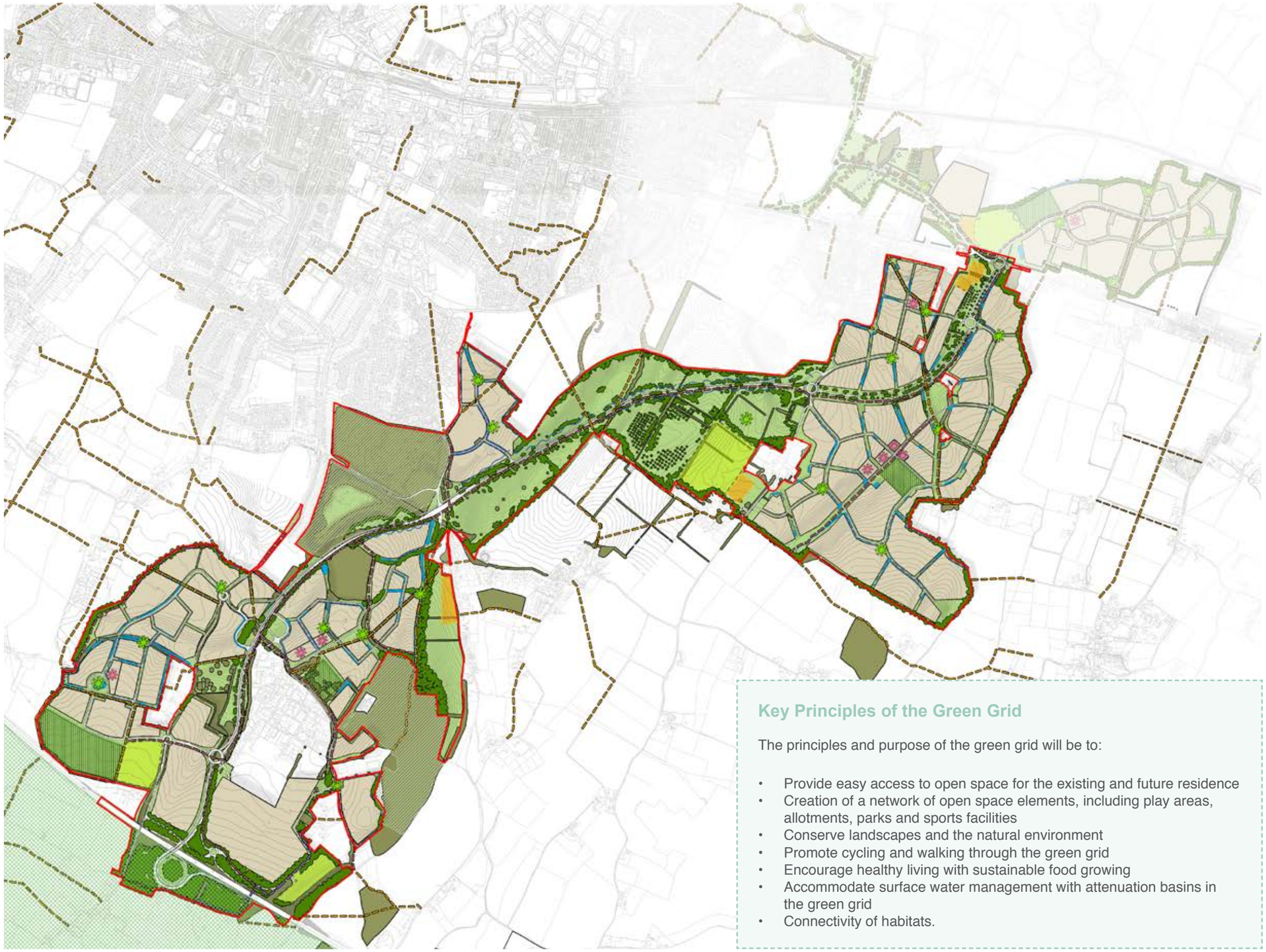
Dry valley

3.4 The Landscape Framework Plan

The site wide landscape framework plan has been influenced by the existing retained landscape features outlined on the previous pages, including existing vegetation, designations, landform, heritage, hydrology and ecology. These features provide the structure and framework of the green grid for the development cells to sit within.

LEGEND

- Assessment Site Boundary
- Local Wildlife Site (LWS)
- Existing vegetation
- Proposed illustrative strategic vegetation
- Existing PROW
- Proposed strategic PROW connections
- Public Open Space
- Development cells
- Local centre
- School site
- Sports pitches
- Allotments/ community gardens
- Play areas
- Attenuation basins



Key Principles of the Green Grid

The principles and purpose of the green grid will be to:

- Provide easy access to open space for the existing and future residence
- Creation of a network of open space elements, including play areas, allotments, parks and sports facilities
- Conserve landscapes and the natural environment
- Promote cycling and walking through the green grid
- Encourage healthy living with sustainable food growing
- Accommodate surface water management with attenuation basins in the green grid
- Connectivity of habitats.

3.5 The Blue Grid

The vision for the proposed hydrology at Highsted Park is to manage the surface water on site, improving the water quality, whilst creating biodiversity benefits. The water strategy will form an integral part of the landscape design in the form of wet and dry attenuation basins and swales.

Planted to enhance biodiversity

Opportunity to create playful spaces

Opportunity to be lined to hold permanent water

4. Open Space Principles - Highsted Village and Oakwood Village

Policy and Guidance

Swale Borough Council Open Spaces and Play Area Strategy 2018-2022, to identify the classification, quantity and quality of the open space across the Borough.

Below outlines the guidance for the different open space facilities:

‘Parks and gardens
Large areas of open space, the majority of which will be publically accessible, close to public transport links and provide a range of facilities and features offering recreational, ecological, landscape, cultural or green infrastructure benefi ts. These open spaces may also include areas for water recreation

Natural and semi-natural green spaces including woodlands
Informal and natural green space provides the opportunity to promote meaningful and safe recreation. This open space typology covers a wide range of uses, including woodland areas, wetland areas, heath-land Meadow and water recreation spaces

Green corridors
Relatively continuous areas of ‘The Green Open Spaces’ leading through the Swale area which may include spaces of water recreation.

Outdoor sports facilities
Outdoor sports space includes all formally laid out sport and playing pitches for a number of different sporting activities (including rugby, football, netball, hockey, tennis and basketball). This does not include indoor sports provision or facilities.

Amenity green space
Most commonly (but not exclusively) in residential areas including informal recreation spaces, green space in and around housing, village greens. This may also include areas for water recreation.

Provision for children and teenagers
This covers provision for children and teenagers, and includes play areas, skateboard parks, MUGA’s, and other more informal areas (for example teenage shelters, kick walls). This typology typically sits within other open space typologies such as General Amenity or Strategic Parks.

Greenspace incorporating attenuation basins

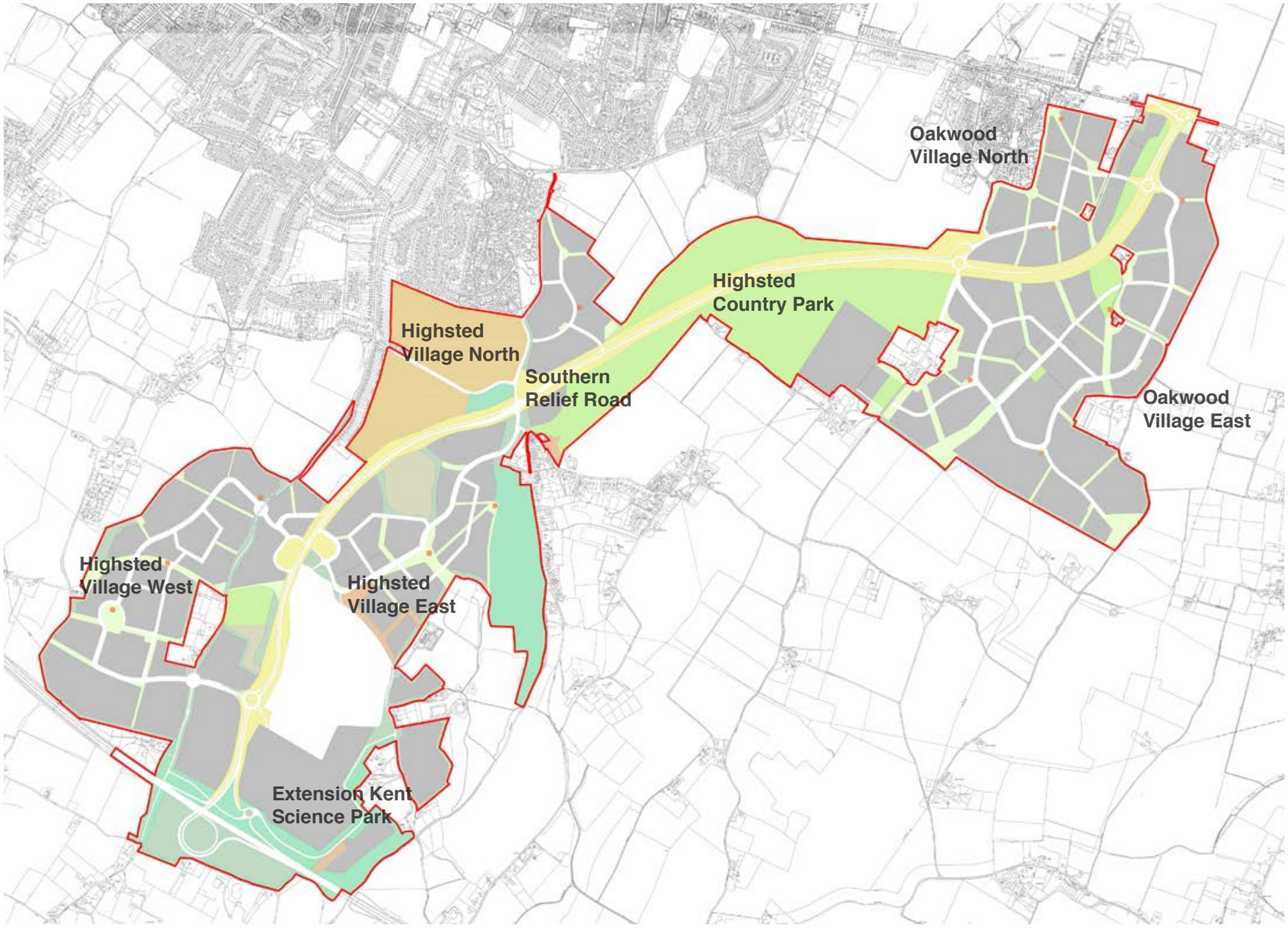
Parks providing community space

Pedestrian and cycleways through the green grid

Wildlife planting

The Greenspace Structuring Plan has divided the site into the various landscape character areas, these are analysed in further detail in chapter 5. The following pages examines the open space elements including the play strategy, food production strategy and sport strategy.

Greenspace Structuring Plan



Key		
	Development Boundary	578.65 ha
	Amenity Greenspace	29.31 ha
	Ancient Woodland	6.67 ha
	Semi Natural Greenspace	36.29 ha
	Nature Park	30.2 ha
	New Woodland	34.14 ha
	Existing Woodland	3.6 ha
	Parkland	62.56 ha
	Relief Road Greenspace	38.36 ha

49.23% of the site is greenspace

Note: The areas provided above are indicative calculations and based on the Greenspace Structuring Plan rather than detailed design drawings.

4.1 Play Strategy

The proposed development distributes play across the green grid, the natural landscape assets and character of the site provides a natural backdrop for the play areas, with emphasis on natural play and accessibility. The play areas will vary in character to reflect the landscape and provide interest to the play areas.

Designated Playing Space, including equipped playing space

Typology	SBC Standard	Quantity Required	Masterplan Provides
Equipped playing space	0.25 ha/1,000 population	4.8 ha	NEAP x 5 LEAPS x 11 **Total = 4.8ha**

(Based on 8,000 units/19,200 population)

Indicative play area locations

Legend

NEAP

NEAP - 600m straight line walking distance

LEAP

LEAP - 240m straight line walking distance

Play Images

NEAP Play Area - Large play areas within a woodland setting



LEAP Play Area - Use of timber play equipment and natural landscape elements and play equipment creating playable spaces



Informal Playing Space and LAP - 'Play on the way' - climbing elements to animate walking routes and opportunity for use of 'ride on' toys




4.2 Food Production Strategy

The masterplan will deliver easy access to food production in the form of traditional allotments, community gardens, community orchards and foraging routes. Providing space for enhancing social cohesion and contributing to sustainable community. These will be distributed across the green grid and located directly off the footway/cycleway network, as well as being centrally located near village centres, schools and care homes.

Garden Village Principle

Beautifully and imaginatively designed homes with gardens, combining the best of town and country to create healthy communities, and including opportunities to grow food.

Typology	SBC Standard	Quantity Required	Masterplan Provides
Allotments	0.2 allotments/1,000 households	3.84 ha	3.84 ha

(Based on 8,000 units/19,200 population)

Indicative food production locations

Food Production Images


Traditional allotment plots


Potential links with School


Potential links with Care Home


Espalier Fruit Trees


Community Courtyard Gardens


Community orchard


Foraging signage


Fruit bearing species

Community herb beds

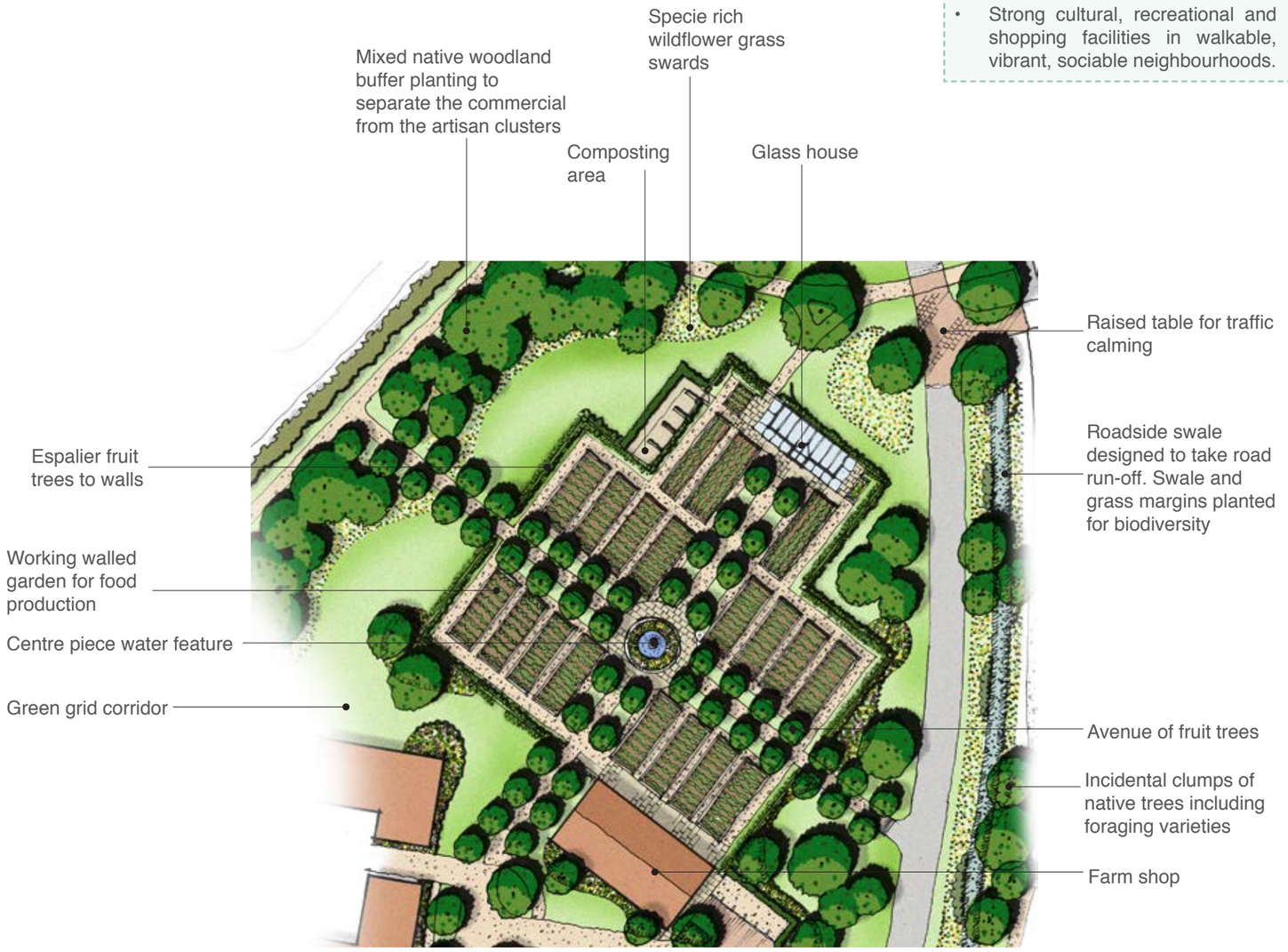

Community growing garden

Community Growing Garden - Illustrative Landscape Vignette

The masterplan will distribute community growing gardens through the green grid, providing social cohesion and easy access for local residents to grow food. These community gardens can also be designed to incorporate fruit trees and areas of community orchards.

Garden Village Principle

- Land value capture for the benefit of the community.
- Strong cultural, recreational and shopping facilities in walkable, vibrant, sociable neighbourhoods.




Glass house


Picnic terrace


Beehives



Community growing beds


Community orchards

Community Orchard - Illustrative Landscape Vignette

Community orchards will be thread through the green grid, creating informal recreation and amenity space for local residents and opportunity for foraging fruits, nuts and berries.

The traditional orchard will also provide the perfect environment for an apiary (bee hives), providing additional opportunities for local food production for local businesses associated with the artisan food and drink hub, as well as an educational resource for residents and visitors.

Community orchard opportunities


Community/Educational Apiary

Fruit and nut production


Apples


Pears

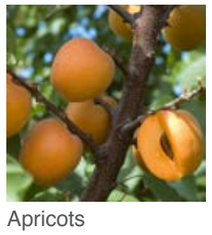

Walnuts


Blackberries/raspberries


Oranges/lemons


Strawberries


Plums


Apricots

4.3 Sports and Fitness Strategy

The green grid provides a natural setting for running routes animated with fitness trim trail and an outdoor fitness gym - promoting healthy lifestyle for residents at Highsted Park and creating playable walking routes.

Signposted circular routes of varying lengths are within the Country Park and Quarry, accessed off the strategic cycleway and surrounding PROW network, with opportunity to have trim trail and outdoor gym equipment, allowing all residence to be within easy reach of a running route.

The sports proposals also includes a sports hubs within each of the villages and further pitch provision within each of the school sites. The sports hubs will provide, amongst others, facilities for Football and Hockey.

The table below outlines the quantities of sports pitches the masterplan will deliver.

Typology	SBC Standard	Quantity Required	Masterplan Provides
Outdoor Sports facilities	1.09ha/1,000 population	20.93ha	16.69ha

(Based on 8,000 units/19,200 population)

Garden Village Principle

Strong cultural, recreational and shopping facilities in walkable, vibrant, sociable neighbourhoods.

Indicative sports locations

Legend

- Outdoor Sport pitches
- Other Outdoor Sport
- School - offering dual use sports pitches
- Signposted circular routes of varying lengths, with opportunity to have trim trail and outdoor gym equipment.
- Strategic cycleway
- Existing Public Right of Way

Green Gym

The use of ‘green gyms’, beyond the effects of physical activity alone, have been shown to have significant public health benefits and is most well documented for its ability to reduce severity of stress and depression related morbidity, through increased connectivity.

One of the huge benefits of green exercise is its ability to reduce income-related health inequalities and improve life expectancy in low-socioeconomic groups, which has in the past been proven as a barrier to exercise engagement.

Epidemiological studies have also documented that the integration of residential and green gym areas encouraged social cohesion through shared interests and increasing a sense of community purpose, which in turn led to greater ecological awareness and increased adherence to pro-environmental behaviours.

Sport Images

Fitness trim trail

Fitness running routes

Outdoor gym

Multi pitch layout

3G school pitch

Trim trail

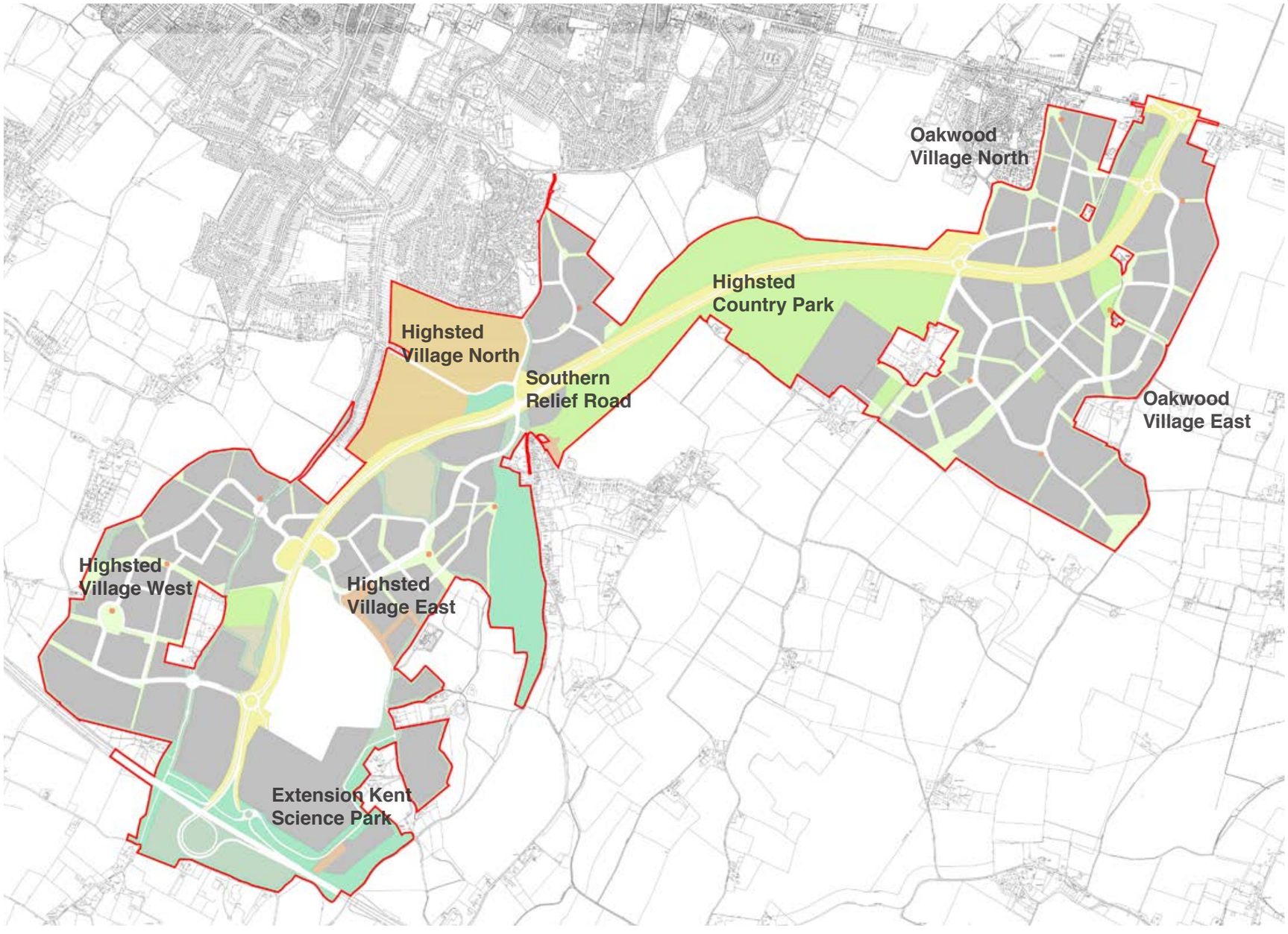
5. Planting Strategies & Design Studies - Highsted Village and Oakwood Village

Planting Strategies & Design Studies

The planting strategies and design studies has been divided by the Green Infrastructure Parameter Plan:

- Amenity Greenspace
- Ancient Woodland
- Semi-Natural Greenspace
- New Woodland
- Nature Park
- Parkland
- Relief Road Greenspace

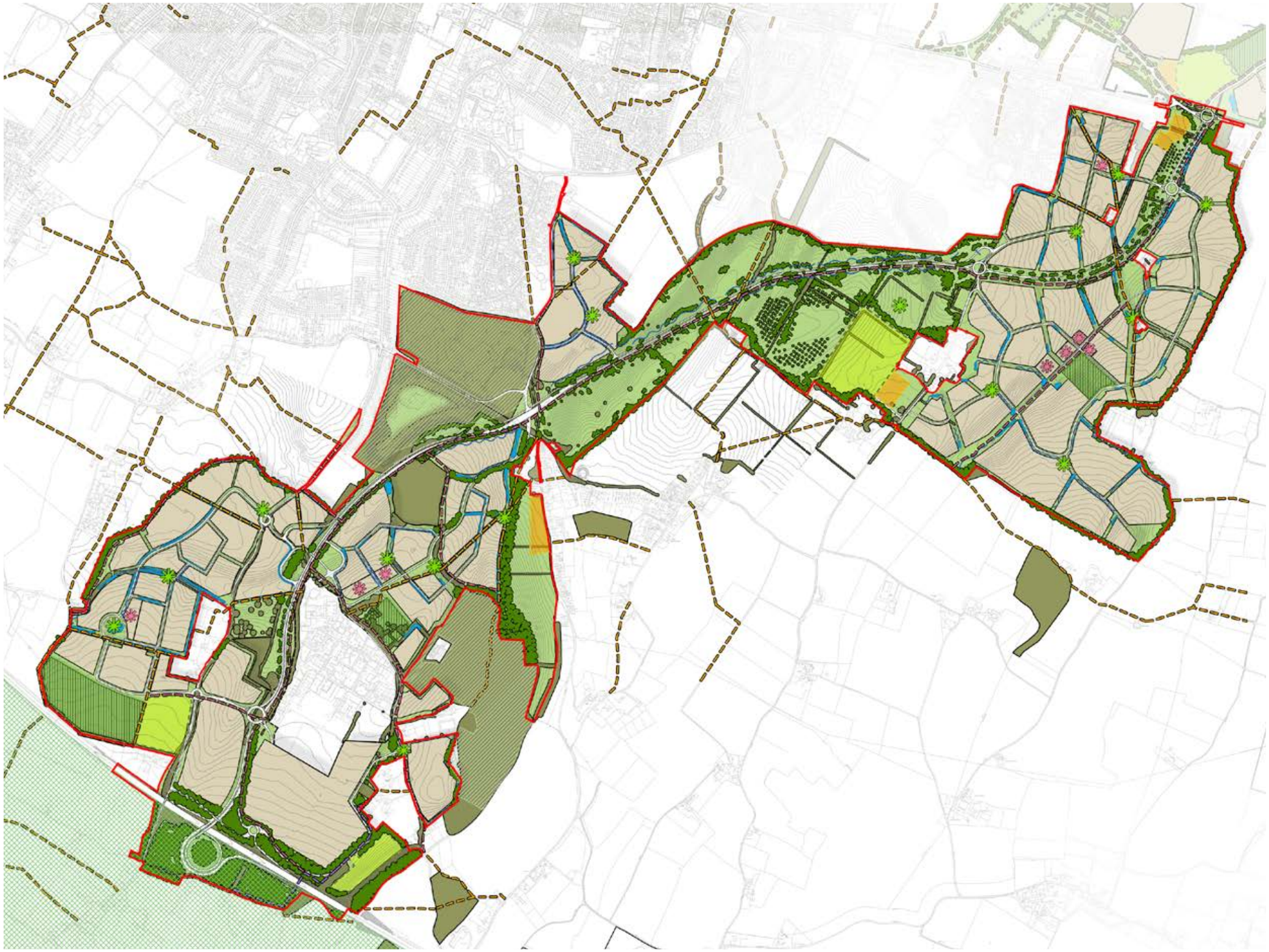
Green Infrastructure Parameter Plan



Landscape Framework - Highsted Village and Oakwood Village

LEGEND

- Assessment Site Boundary
- AONB
- Local Wildlife Site (LWS)
- Existing vegetation
- Proposed illustrative strategic vegetation
- Existing PROW
- Proposed strategic PROW connections
- Public Open Space
- Development cells
- Local centre
- School site
- Sports pitches
- Allotments/ community gardens
- Play areas
- Attenuation basins



5.1 Amenity Greenspace Design Study

The amenity greenspace areas form the greenway corridors within the proposed development. The greenways have been dictated by the existing landscape features including existing tree belts and PROW. These multi-functional areas of amenity greenspace will be animated with play areas, a network of footways/cycleways and the SUDs network including swales and attenuation basins. This page illustrate how the swales and attenuation basins could be incorporated into the amenity greenspace areas.

Illustrative Landscape Vignette of Greenway with SUDs

Timber bridge for connectivity

The amenity greenspace areas form greenway nodal points where two greenway corridors converge, creating the opportunity to provide a local Village Green/Pocket Park. These larger areas of amenity greenspace offer the space for local equipped play areas.

Village green and footways

Meandering swale and footways

Play Area

Illustrative Landscape Vignette of Greenway Nodal Point

Amenity Greenspace Planting Strategy

3.1 Objectives

- Incorporate attenuation basins, swales and ponds providing both seasonally wet and permanent water bodies that form habitat for a range of aquatic wildlife.
- Provide opportunities for residents and visitors to engage with nature, through features such as pond dipping platforms and interpretation boards etc.
- Establish a mosaic of wetland plants including emergent aquatics & occasional wetland trees & shrubs habitat along the swales.
- Enhance existing hedgerows and tree corridors with additional tree and scrub planting to provide continuous lines of vegetation for wildlife corridors foraging routes.
- Amenity Greenspace areas to include mown grass, parkland trees and wildflower grassland with seasonal bulb drifts, providing residents with open amenity space.
- Establishment of flowering lawn, subject to regular mowing to maintain neat appearance and allow for amenity use, although to include flowering species which respond well to short mowing such as Bird's-foot Trefoil, Lady's Bedstraw and Selfheal, providing an additional resource for pollinators such as bees and butterflies

3.2 Description

The attenuation basins will be seeded with species rich, wet tolerant meadow mixture and planted with marginal aquatic species such as Purple Loosestrife, Yellow Iris and Marsh Marigold. Permanently wet areas will be planted with Brooklime, Flowering Rush and Water Mint providing an attractive mix of colour and scent for people, as well as a variety of native plants for wildlife. Planting of up to 50% of the pond margins will mean some areas of bare margin are retained, creating an additional habitat type and allowing natural colonisation of plants in these areas.

Educational and recreational facilities will be provided in association with the wetland areas, including informative signage, viewing platforms and pond dipping areas, allowing residents and visitors to engage with the wildlife present.

Tree Planting to Amenity Greenspace areas

Tree planting will mostly comprise broadleaf parkland trees with an emphasis on largely native species and those which are fruiting and floriferous, providing strong visual interest and wildlife benefit.

Planting to SUDs Ponds & Swales

SUDs associated wildflora and aquatic planting

Natural grassland

Tree Planting to Amenity Greenspace Areas

Wild Cherry
(Prunus avium)

Whitebeam
(Sorbus aria)

Beech
'Fagus sylvatica'

Field Maple
(Acer campestre)

Aquatic plants for wildlife

Bullrush *(Typha angustifolia)*

Sweet Flag
(Acorus calamus)

Flowering Rush
(Butomus umbellatus)

Marsh Marigold
(Caltha palustris)

Water Forget-Me-Not
(Myosotis scorpioides)

Yellow Flag Iris
(Iris pseudacorous)

Water Mint
(Mentha aquatica)

Purple loosestrife
(Lythram salicaria)

Shrub & Tree Planting to SUDs Features & Ecological Corridors

Willow
(Salix alba, pollarded)

Field Rose
(Rosa arvensis)

Common Oak
(Quercus robur)

Common Alder
(Alnus glutinosa)

Birch
(Betula pendula)

Grey Willow
(Salix cinerea)

5.2 Ancient Woodland Design Study and Planting Strategy

2.1 Objectives

- Retain and protect existing Ancient Woodlands with protective buffers of native woodland edge plants.
- Enhance woodland quality through introduction of ecologically sensitive management.
- Create attractive woodland habitat for the enjoyment of residents/visitors, including establishment through careful management of native woodland floor plants such as bluebells & wood anemones.
- Provide permanent woodland glade habitat for invertebrates and reptiles.

2.2 Description

The Ancient Woodlands will be retained, protected and incorporated into the site wide green grid. Introduction of ecologically sensitive management including small-scale coppicing and thinning will look to enhance woodland quality, maintaining light levels and a diverse woodland structure. This will benefit species including Dormouse and woodland birds and bats. Public access will be directed along dedicated bark mulched paths, with deterrent woodland materials gleaned from the site including log piles & brushwood planting along the path sides to control access to the wider woodland area.

Areas of long-sward grassland and scrub mosaic will be established along the woodland edges, forming a valuable ecotone along the margin of the wooded areas and providing a protective woodland landscape buffer.

A scalloped edge will be established along the woodland edge, to include south-facing glades. Glades and scallops will provide a range of sheltered and unshaded areas, creating opportunities for wildlife such as butterflies, as well as calm pockets of open space for the enjoyment of residents. These areas will also be subject to low intensity mowing to prevent scrub build up.

The woodland edge areas will provide a foraging, breeding and shelter resource for a number of birds, reptiles, invertebrates and small mammal species, increasing the available habitat resource and helping to offset any potential effects of the proposed development.

Woodland trees


Beech (Fagus sylvatica)


Oak *(Quercus robur)*


Ash *(Fraxinus excelsior)*


Hornbeam *(Carpinus betulus)*

Under-storey/scrub species


Hawthorn
(Crataegus monogyna)


Blackthorn
(Prunus spinosa)


Holly *(Ilex aquifolium)*


Common Wayfaring Tree
(Viburnum lantana)


Hazel *(Corylus avellana)*

Ground-floor planting


Bluebells *(Hyacinthoides non-scripta)*


Woodland Anemone *(Anemone nemorosa)*


Wild Strawberry
(Fragaria virginiana)


Moschatel
(Adoxa moschatellina)

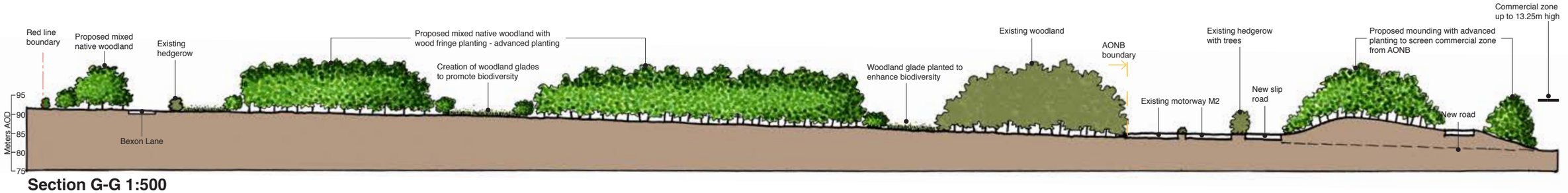
5.3 Semi Natural Greenspace Design Study

The Semi Natural Greenspace areas include the Ancient Woodland Buffers, the Landscape Buffer to the AONB and a visual screen to the proposed motorway junction.

The sections on this page demonstrate the extent of proposed mixed native woodland planting providing screening for the motorway junction and towards the proposed development.

The sections have assumed mature vegetation heights for the proposed planting.

Location plan (nts)



Section G-G 1:500

Section H-H 1:500

Section I-I 1:500

Semi Natural Greenspace Planting Strategy

2.1 Objectives

- To create a strongly planted landscape buffer between the proposed development and the AONB located to its immediate south.
- To mitigate the potential visual and audible impact of the proposed motorway and its associated junctions.
- To emphasise the proposed planting through the use of gently graded mounding and earth modelling wherever appropriate.
- To maximise on the potential wildlife value of the area through careful selection of plant types.

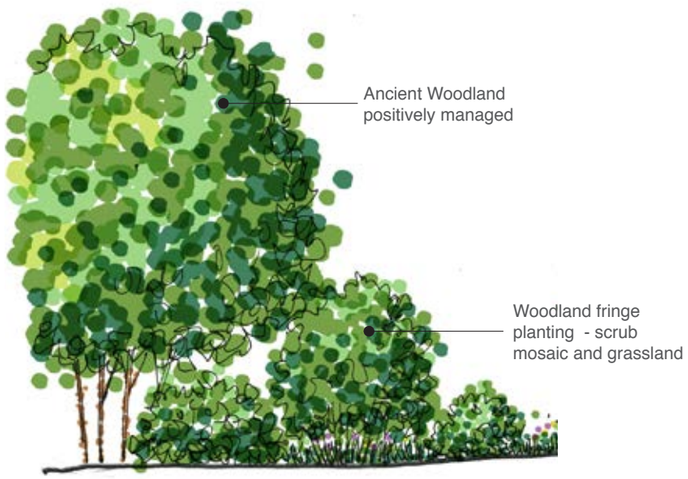
2.2 Description

The Semi Natural Greenspace will be planted with native plants that would be naturally found in the surrounding landscape and ancient woodland areas.

The planting will comprise canopy trees, woodland understorey and woodland fringe planting and will include oak, ash, field maple, hornbeam, hawthorn, hazel and birch. These will be managed in the long-term through small-scale coppicing and thinning to promote a diverse age structure and dense understorey and ground flora.

The edges in these areas will be planted with native wildflowers and grasses, which will be carefully managed through differential cutting regimes to maximise their ecological benefit, providing a varied 'ecotone' habitat at the woodland edges.

Illustrative Landscape Section of Ancient Woodland Buffer Zone



Woodland trees


Oak *(Quercus robur)*


Beech (*Fagus sylvatica*)


Birch *(Betula pendula)*


Field Maple *(Acer campestre)*

Under-storey/scrub species


Hawthorn (Crataegus monogyna)


Blackthorn *(Prunus spinosa)*


Hazel *(Corylus avellana)*


Spindle *(Euonymus europaeus)*


Dogwood *(Cornus sanguinea)*

Ground-floor planting


Native wildflower & meadow grass

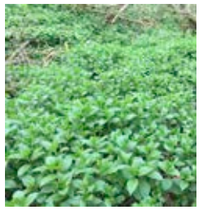

Wild Strawberry *(Fragaria virginiana)*


Moschatel *(Adoxa moschatellina)*


Yellow Archangel *(Lamium galeobdolon)*

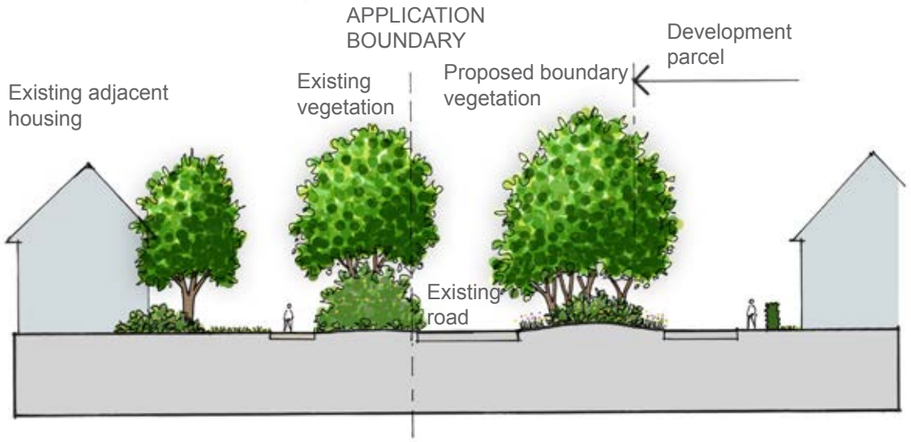

Hedge Woundwort *(Stachys sylvatica)*


Common Dog-violet *(Viola riviniana)*

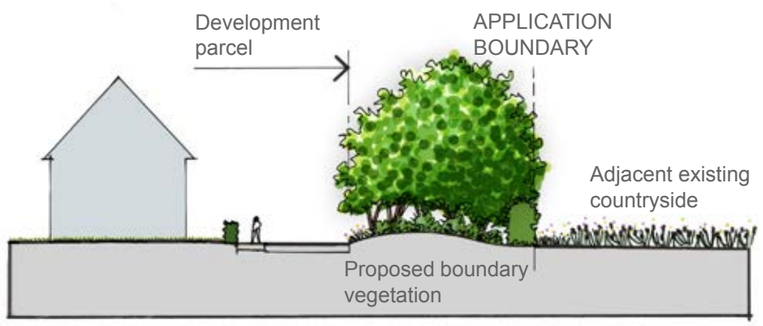

Dog's Mercury *(Mercurialis perennis)*

5.5 New Woodland Design Study

The sections on this page illustrates the extent of new woodland planting to be provided along the boundaries providing a visual screen towards the proposed development cells.

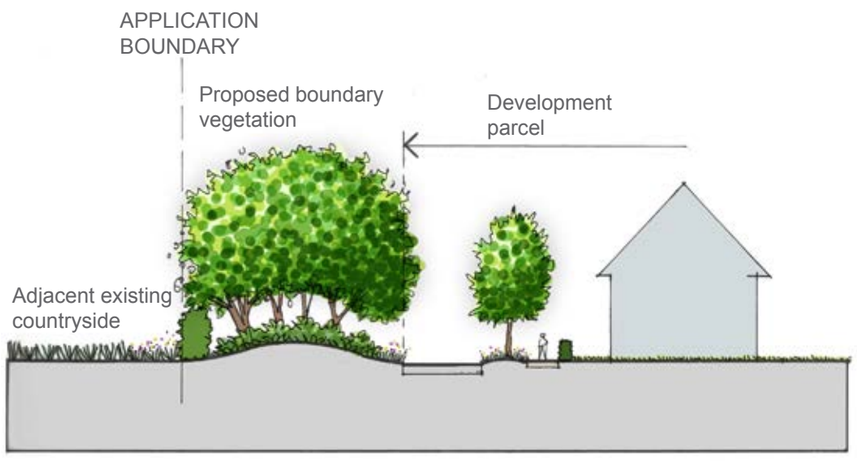


Section AA (nts)

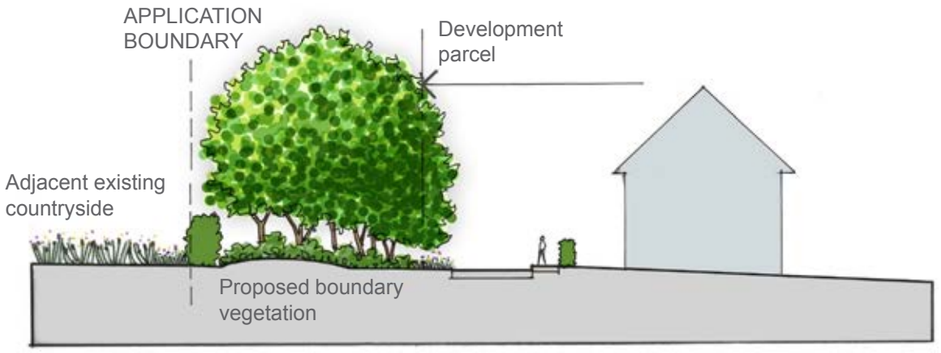


Section BB (nts)

New Woodland Boundary Sections Location Plan (nts)

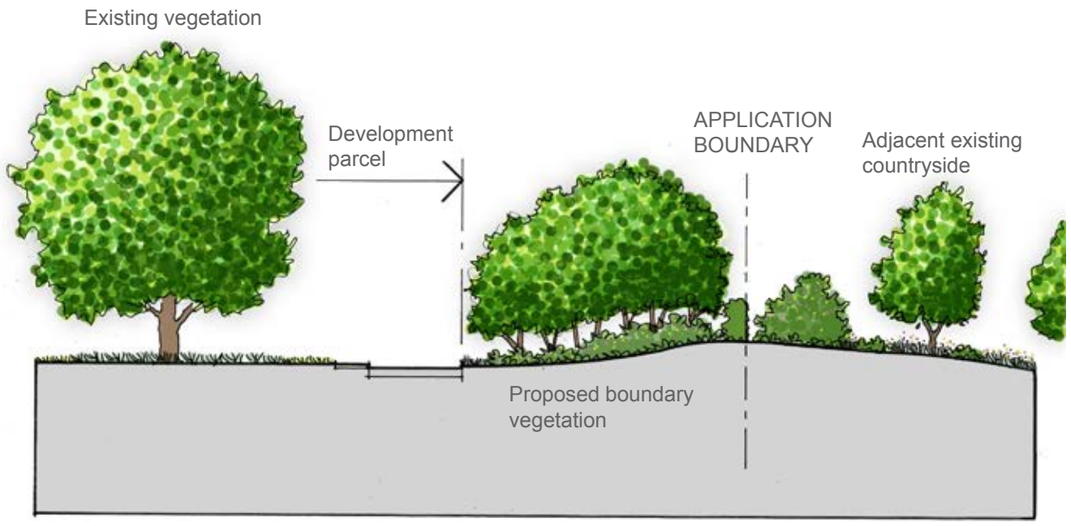


Section CC (nts)

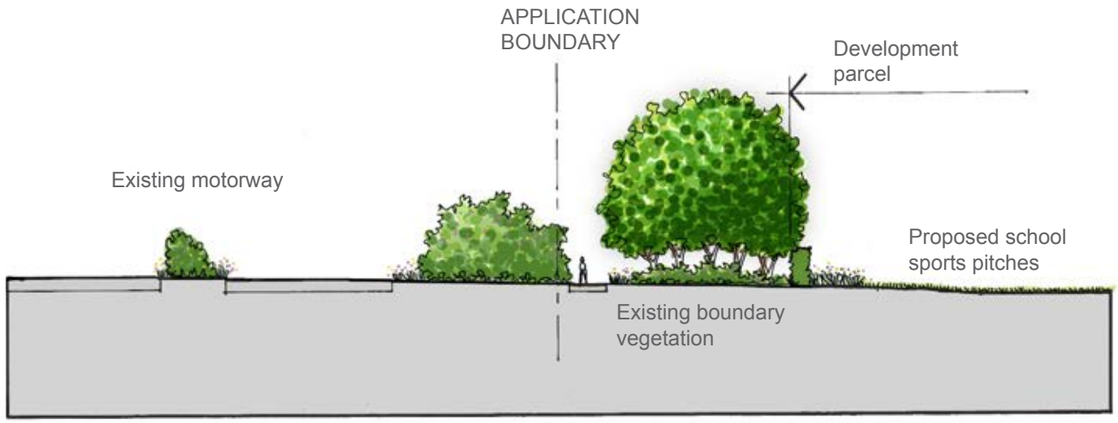


Section DD (nts)

New Woodland Boundary Sections Location Plan (nts)



Section EE (nts)



Section FF (nts)

New Woodland Planting Strategy

2.1 Objectives

- To establish and define the site's boundaries and create filtered views into and out of the site.
- To ameliorate the potential visual impact of the new development on the surrounding landscape.
- To connect into existing hedgerows, areas of woodland in order to create 'wildlife corridors' and a sense of 'visual cohesion'.
- To create new woodland links providing connectivity for species such as Dormice and bats through and around the development.

2.2 Description

- The new woodland native will comprise a combination of canopy trees, understorey and woodland edge planting.
- The planting will be designed to create a 'tiered' structure and include light demanding and shade tolerant plant types.
- Plants selected will replicate existing plants contained within the Ancient woodland areas in order to create a valuable resource for wildlife and long term amenity.

Woodland trees


Beech (*Fagus sylvatica*)


Oak *(Quercus robur)*


Hornbeam *(Carpinus betulus)*

Under-storey/scrub species


Hawthorn (*Crataegus monogyna*)


Blackthorn *(Prunus spinosa)*


Hazel *(Corylus avellana)*


Spindle *(Euonymus europaeus)*


Dogwood *(Cornus sanguinea)*

Ground-floor planting


Bluebells *(Hyacinthoides non-scripta)*


Woodland Anemone *(Anemone nemorosa)*

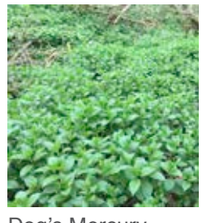

Wild Strawberry *(Fragaria virginiana)*


Moschatel *(Adoxa moschatellina)*


Yellow Archangel *(Lamium galeobdolon)*


Hedge Woundwort *(Stachys sylvatica)*


Common Dog-violet *(Viola riviniana)*


Dog's Mercury *(Mercurialis perennis)*

5.6 Nature Park Design Study

The nature park includes the two retained quarries and adjacent grassland designated as a Local Wildlife Site. The Northern quarry will be retained and managed by a local outdoor pursuits group with restricted public access to provide an enhanced habitat site. Works to the northern quarry include scrub clearance to restore open areas of calcareous grassland and management of the retained woodlands to open up glades and provide a mixed vegetation structure.

The southern quarry will be designed to form part of the public open space strategy, with a circular walking route. Management of the area will include scrub clearance within the central part of the quarry to reduce encroaching woodland and trees and enhance the value of this area as open mosaic habitat, and management of the woodlands around the quarry margins to open up woodland glades. The southern quarry will provide the opportunity for natural play areas, fitness trails and educational trails/signage.

Along the link road, species-rich grassland will be restored, with ongoing management to maintain open wildflower grassland of value for pollinating bees and butterflies, small mammals and reptiles.


Mountain bike trail


Wildflower grassland

Legend

- Existing woodland vegetation
- Proposed hedgerow/ wooded vegetation
- Scrub clearance & ground disturbance to provide open mosaic habitat
- Steep banks
- Strategic footway/ cycleway
- Road corridor
- Circular walking route

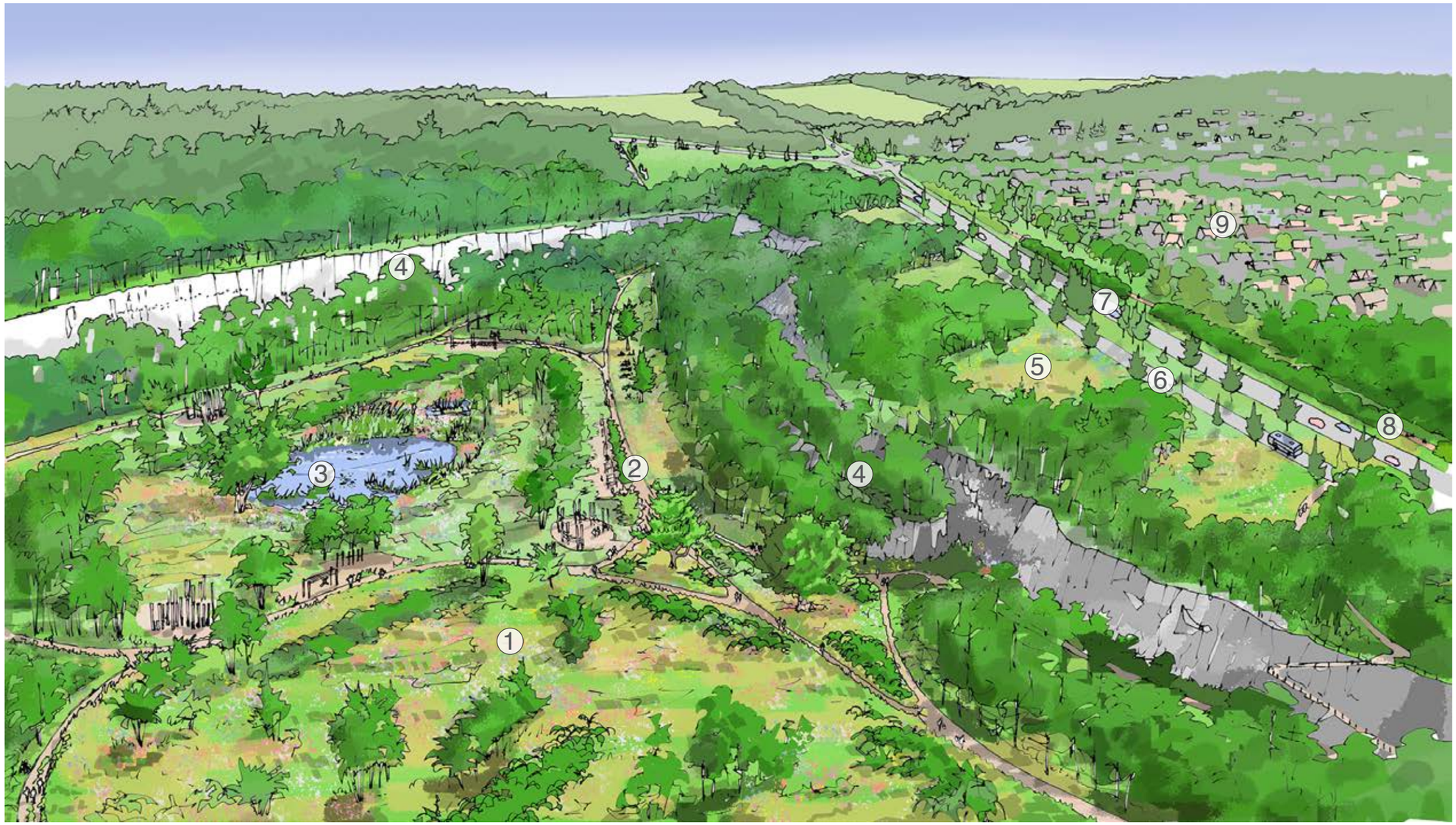

Educational signage of wildlife and habitat


Opportunity for natural play area


Example quarry country park

Location Plan

Illustrative sketch of the Nature Park for the Highsted Village and Oakwood Village



1. Grassland and scrub
2. Circular walking routes animated with elements of fitness trim trail
3. Ecological scrap habitat pond
4. Existing quarry bank vegetation retained
5. New grassland creation along the relief road
6. Separate bus lane with landscaping
7. Relief road and landscaping
8. Footway/cycleway meandering through the landscape away from the relief road
9. Proposed development cell

5.6 Nature Park Planting Strategy

2.1 Objectives

- Restore the ecological interest supported by the quarries through management of scrub and woodland vegetation to promote open chalk grassland and scrub vegetation
- Create attractive woodland, glade and grassland habitats that complement one another, offering enjoyment for residents and visitors.
- Provide permanent woodland glade habitat for invertebrates and reptiles by managing existing woodland and strategically creating openings.
- Establish through collaboration with local groups a coherent management strategy to ensure controlled access to the Northern quarry and to ensure that its maximum ecological values are achieved.
- Establish a 'natural' publicly accessible open space in the southern quarry at the same time as having due regard to its potential ecological values and biodiversity.

2.2 Description

The existing woodland areas will be subject to detailed management to create a mixed woodland structure incorporating open glades and clearings, with reduction of wooded vegetation where it is encroaching into open grassland areas.

The core of southern quarry will be cleared of unwanted scrub vegetation and carefully managed to create an open mosaic habitat that includes long sward grassland and species rich grassland areas specifically tailored to the geology of the site. A waymarked footpath route will be created through the southern quarry to guide visitors through the area and minimise disturbance to other areas.

The grassland adjacent to the road will be subject to low intensity mowing to maximise floral diversity and provide a rich pollen and nectar resource, whilst scattered scrub and tree vegetation will form an additional shelter and habitat resource.

Woodland Trees


English Oak *(Quercus robur)*


Silver Birch *(Betula pendula)*


Ash *(Fraxinus excelsior)*


Dogwood *(Cornus florida)*


Holm Oak *(Quercus ilex)*


Wild Cherry
(Prunus avium)


Sweet Chestnut
(Castanea sativa)


Goat Willow *(Salix caprea)*


Scots Pine *(Pinus sylvestris)*


Atlas cedar
(Cedrus atlantica)


Wayfaring Tree
(Viburnum lantana)


Field Maple
(Acer campestre)

Under-storey/scrub species


Hawthorn
(*Crataegus monogyna*)


Blackthorn
(Prunus spinosa)


Gorse *(Ulex europaeus)*


Spindle
(Euonymus europaeus)

Open mosaic and grassland species


Perforate St John's-wort
(*Hypericum perforatum*)


Common Centaury
(*Centaurium erythraea*)


Yellow-wort
(*Blackstonia perfoliata*)


Thyme-leaved Speedwell
(*Veronica serpyllifolia*)

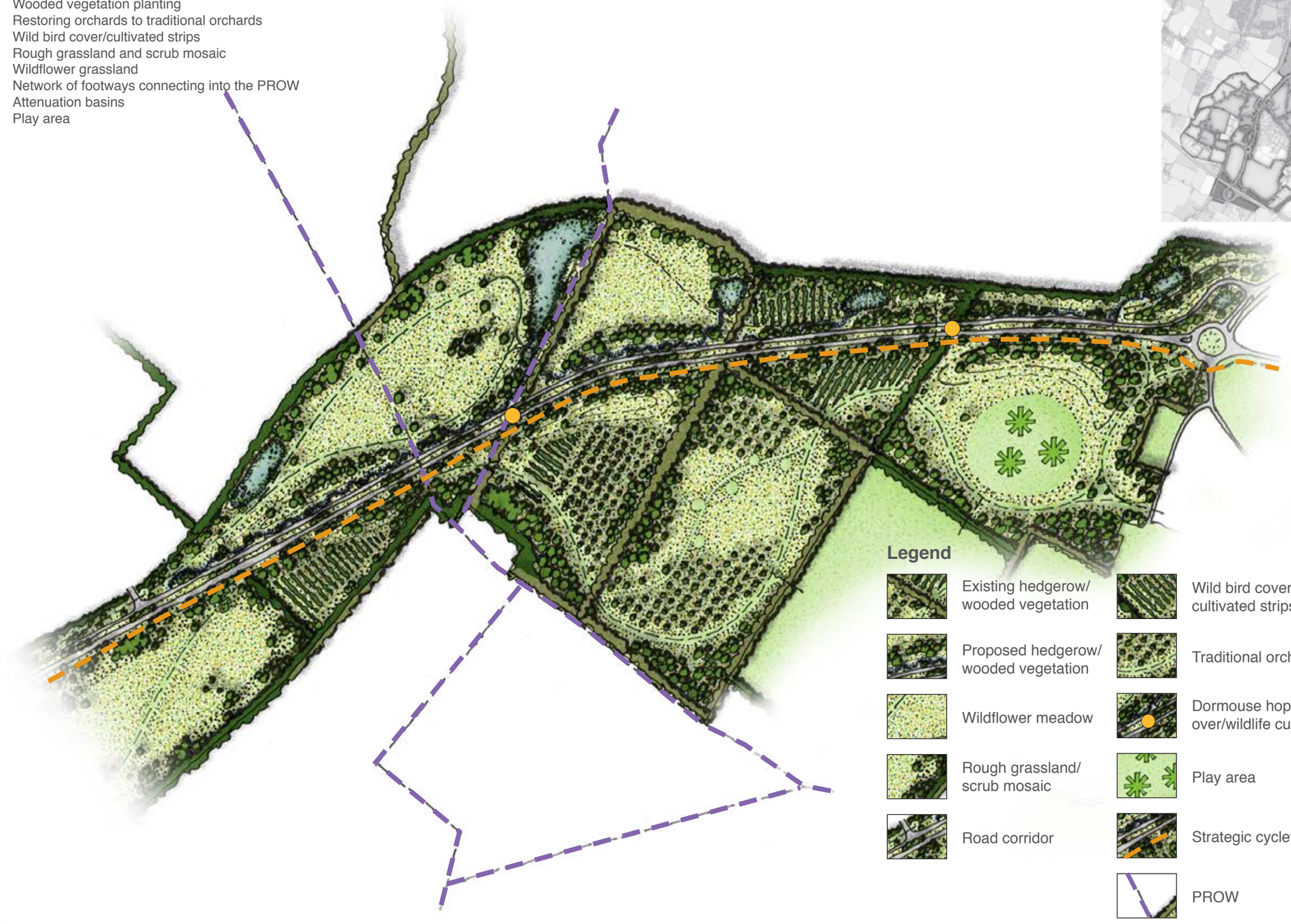

Salad Burnet
(*Sanguisorba minor*)


Common Twayblade
(*Neottia ovata*)

5.7 Parkland Design Study

The Parkland areas includes the Central Country Park. This has been positioned between the two villages offering a substantial area of open space, with a rural landscape character. Emphasis will be on landscape and ecological enhancements, whilst offering a range of open space amenity elements. The key features of the landscaping will include:

- Retaining and enhancing hedgerows
- Wooded vegetation planting
- Restoring orchards to traditional orchards
- Wild bird cover/cultivated strips
- Rough grassland and scrub mosaic
- Wildflower grassland
- Network of footways connecting into the PROW
- Attenuation basins
- Play area



Central Country Park Location Plan (nts)

Information Panel (including a plan with the walking route highlighted)

Timber playground within a woodland setting

Grassland

Location Plan

Illustrative sketch of the Country Park for the Highsted Village and Oakwood Village

1. Open wildflower meadow
2. Footways around the Country Park animated with elements of trim trail and fitness equipment
3. Tree planting along the relief road
4. Separate bus lane
5. Relief road with crossing points to connect both sides of the Country Park
6. Footway/cycleway through the landscape away from the relief road
7. Wild bird cover/ cultivated strips
8. Traditional orchards
9. Existing PROW retained with crossing point and footway connections with the Country Park
10. Landscaped attenuation basin.

Parkland Planting Strategy

Objectives

- Provide a substantial area of semi-natural habitat forming an important area for wildlife, including farmland birds, bats and invertebrates.
- Form a new strategic green corridor linking the two new settlements and strengthening connectivity for wildlife along the link road.
- Create an attractive greenspace area for informal recreation and enjoyment by new residents.
- Provide opportunities for residents and visitors to engage with nature, through features such as natural play and interpretation boards.
- Majority of area to be maintained as wildflower grassland forming a rich pollinator resource
- Existing hedgerows retained and enhanced with rough margins to form shelter for small reptiles and nesting birds
- Existing orchards to be replanted as traditional orchards
- Wild bird cover or cultivated strips to provide seed resource for birds
- Provision of attenuation basin on part of the site wide drainage strategy
- Planting of new hedgerows & woodland areas and enhancement of existing woodland areas

Description

The parkland will form a key resource for farmland birds such as Turtle Dove, Grey Partridge, Corn Bunting, Linnet and Yellowhammer, with wide, dense hedgerows and wooded strips forming nesting habitat, in association with other features such as rough grassland margins, wild bird cover or cultivated strips and wildflower grassland forming foraging areas.

Large swathes of species rich wildflower will be maintained by low intensity mowing or grazing. Consisting of colourful, biodiverse native species such as Yarrow, Selfheal, Greater Knapweed which will attract a broad range of pollinators.

Hedgerows will be enhanced with emulative species of those already existing in the local area and those which provide habitat and food for birds, bats and Dormice, offering a native rich blend. Species such as Hazel, Blackthorn and Hawthorn will be the main stay of the hedgerow mixture. Orchard planting will be managed as a traditional orchard and include a range of fruit and nut species including species of local provenance.

Broadleaf species of tree will make up the palette of Parkland trees, with an emphasis on native, feature and characterful species. Incidental clumps of foraging varieties will complement the orchards and provide greater interest through the landscape.

Attenuation basins will be planted with a wide range of native emergent aquatic and riverine plants, typically including pollarded willows, alders, yellow flag and flowering rush.

Wildlflower meadow


Wildflower species


Salad burnet


Greater knapweed


Wild basil


Wild carrot


Oxeye daisy


Birdsfoot trefoil


Sainfoin

SuDS system


Pollarded willow


Silver Birch *(Betula pendula)*


Alder
(Alnus glutinosa)


Yellow Flag
(Iris pseudacorus)


Flowering Rush
(Butomus umbellatus)

Wildflower biodiversity


Butterfly species


Bee species


Reptiles


Invertebrates


Small mammals


Turtle Dove


Grey Partridge


Corn Bunting


Linnet

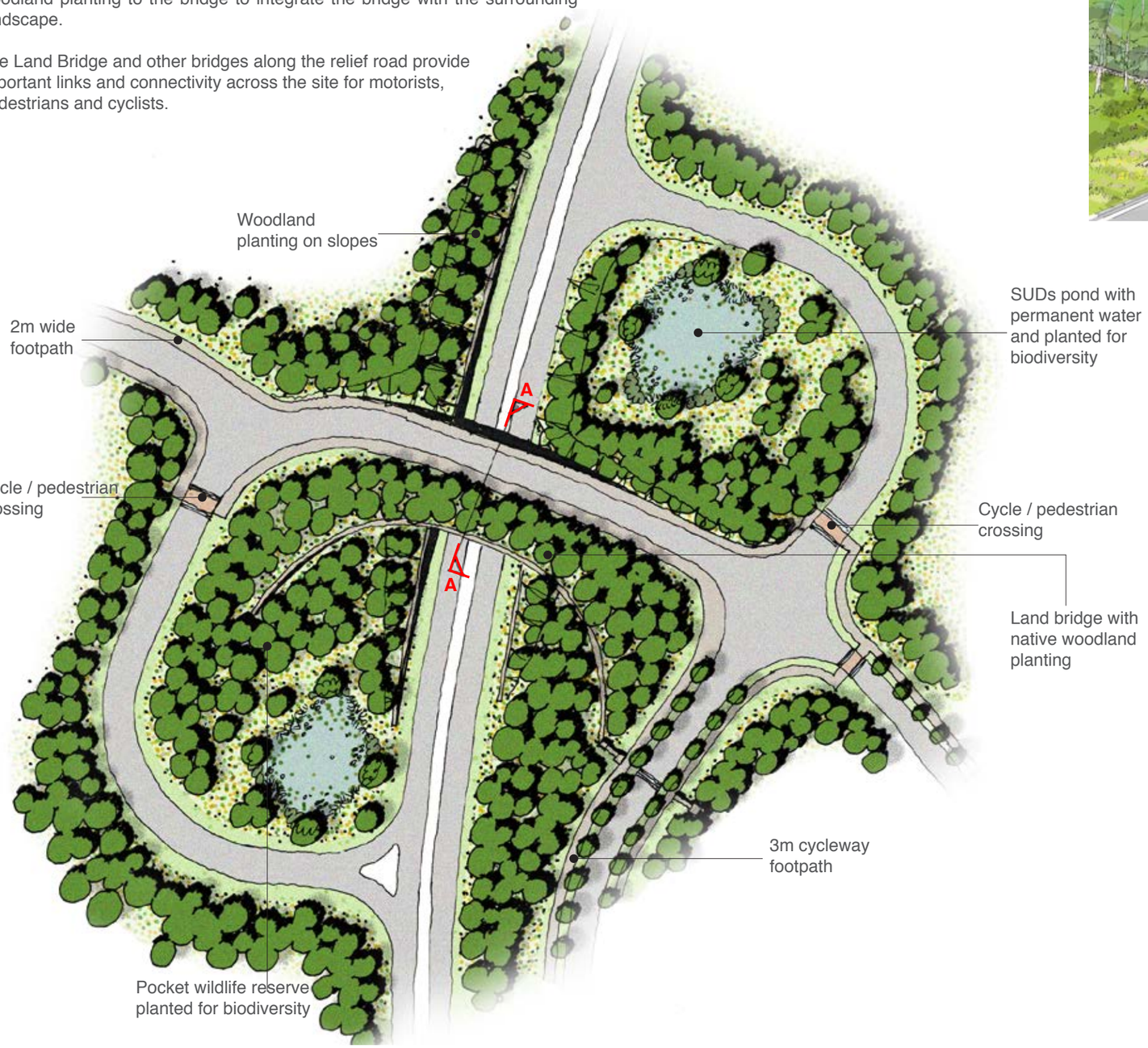

Yellowhammer

5.8 Relief Road Greenspace Design Study

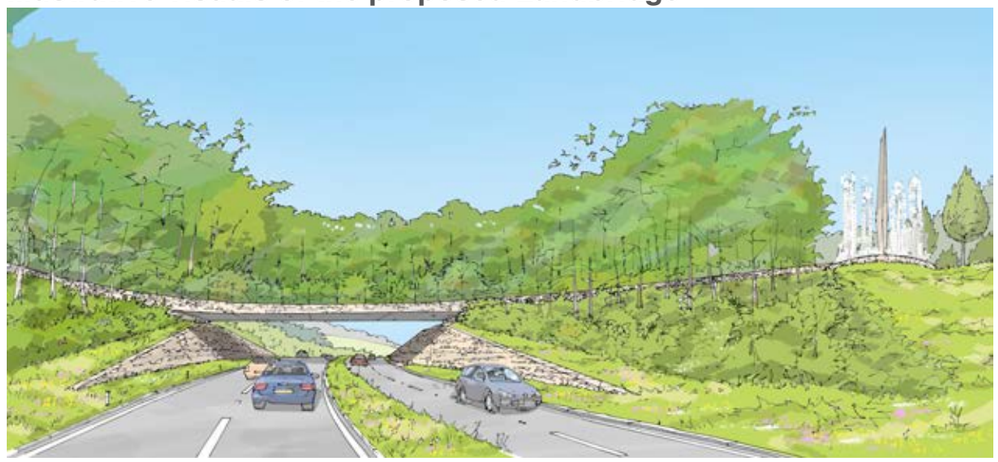
The relief road greenspace will include informal clumps of large tree planting under planted with wildflower grassland to provide visual screening from a distance.

This page illustrates the land bridge proposals, which will incorporate native woodland planting to the bridge to integrate the bridge with the surrounding landscape.

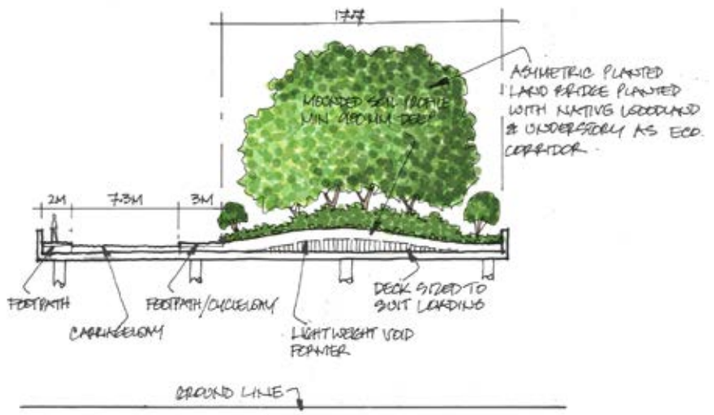
The Land Bridge and other bridges along the relief road provide important links and connectivity across the site for motorists, pedestrians and cyclists.



Illustrative visuals of the proposed Landbridge



Section A-A Typical Section Through Land Bridge



Relief Road Greenspace Planting Strategy

Objectives

- Create a structure of large canopy native tree species underplanted with shade tolerant grasses and wildflowers
- Facilitate views through the planting at the same time creating a planted, green buffer adjacent to the road
- Provision of strategically located earth mounding to emphasise the proposed planting and integrate the road into the surrounding landscape
- Creation of SuDS ponds on part of the site wide strategic drainage strategy
- Provide connectivity and new habitat resources for wildlife along the road corridor.

5.2 Description

A mosaic of wooded vegetation and open grassland will form a rich habitat resource for species such as reptiles, small mammals and invertebrates. This will be further enhanced through features such as south-facing banks and areas of bare substrate, providing basking opportunities for reptiles and invertebrates.

Informal clumps of trees and mounds of grassland promote a multifaceted landscape that provides intermittent buffers and breaks creating both an aesthetically pleasing aspect and diverse mosaic of planting.

SuDs features within breaks in the planted areas will provide permanent water bodies which will be planted with aquatic and wet tolerant meadow species. These ponds will promote greater biodiversity and encourage a variety of wildlife.

Tree types to be predominantly native in character with cultivars of native types where a more formal character of planting is appropriate.

Planting Images

Informal clumps of trees

Wildflower grassland

Planted attenuation basin

6. Landscape Management

Landscape Management

At this stage, it is envisaged that the long term landscape management of existing and new landscape areas will be undertaken by two management companies to be set up by the developer.

One company would deal with the commercial areas of the development including the areas outside the site curtilage of the individual commercial buildings, which include the roads, footpaths, street lighting and communal soft and hard landscaped areas.

A residential estate management company would oversee the maintenance of the common areas within the residential estate, such as the unadopted roads and footpaths, communal areas and amenities such as the play areas and equipment, and the natural green-spaces, including litter picking and dog waste. This management company may also manage the sports hub / facilities within the development.

It is envisaged that the majority of the open spaces will be accessible to new and existing residents unless there is a need to limit or prohibit access for safety or other reasons. Access will be provided to limited areas of ancient woodland where access can be readily managed and controlled and information provided through the use of interpretation signs to educate residents.

A Landscape and Biodiversity Management Strategy (LBMS) will be prepared and agreed with SBC at the appropriate time (following the grant of outline permission and prior to completion of each phase of the development). At this stage, it is anticipated that the contents of LBMS would include or may include all or part of the following:

- Introduction – scope and purpose and long term ‘vision’
- Management Aims and Objectives
- Inventory – Existing and Proposed Landscape Components
- Component Descriptions (by area), Landscape Management Objectives and Prescriptions
- Implementation, Work Programme and Funding
- Monitoring and Review.

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