

Green Infrastructure Framework

Hartley Gardens, Clacton



Client
Tendring District
Council

Date:
December 2020

Version:
Final Report



About Us

Place Services is a specialist provider of integrated Environmental Assessment, Planning, Design and Management Services. With a thorough and demonstrable understanding of environmental decision making within the public sector, Place Services has been established to specifically serve and actively embrace the new powers given to Local Authorities through the Localism Act. From our base at Essex County Council we combine our public sector knowhow with a competitive business approach and in doing so partner and support over 25 local authorities within Essex, London and the wider south eastern region.

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Enablement is a key value – we see ourselves as an extension of our client's team, sharing knowledge, ideas and innovative solutions to help officers, councillors and all stakeholders gain focused outcomes and maximum value for money.

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We believe in helping improve our communities, which is why we commit up to four weeks of the year on community projects

Version	Date	Issued by	Reviewed by	Description of changes
1.0	18.10.2020	Ryan Mills	Peter Dawson	First Draft Report
2.0	23.10.2020	Ryan Mills	Peter Dawson	Final Draft Report
3.0	03.12.2020	Ryan Mills	Peter Dawson	Final Report
Title of report				
		Hartley Gardens Green Infrastructure Framework Study		
Client				
		Tendring District Council		
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1. Introduction

1.1 Purpose of this document

- 1.1.1 Tendring District Council (TDC) commissioned Place Services in September 2020 to undertake Green Infrastructure Study & Framework for the Hartley Gardens site which is subject to Policy SAMU 2 Hartley Gardens in the Tendring District Council section 2 publication Local Plan 2013-2033. The study is to provide evidence in support of Policy SAMU 2 Hartley Gardens, in particular how the following policy requirement can be met:

“To create a connected and multi-functional green infrastructure network which protects and enhances existing site features of landscape and ecological value such as the expansion of the Pickers Ditch green corridor, the copses at T Grove and Long Grove, ancient woodland at Hartley woods, any veteran trees, hedgerows and other important landscape features and important habitats.”

The local plan will be subject to examination early in 2021.

- 1.1.2 Given the strategic nature of the site, multiple ownerships and likelihood of phased individual planning applications across the site it is essential the Council prepares a site wide Green Infrastructure Strategy so each application can contribute to achieving a comprehensive and multi-functional network across the site. This will ensure the following:
- a) The Councils obligations under the Essex Coast Recreational Disturbance Avoidance and Mitigation Strategy (RAMS) are fulfilled (which provides a mechanism for LPAs to comply with their responsibilities to protect habitats and species in accordance with the UK Conservation of Habitats and Species Regulations 2017) and that suitable accessible natural green space is provided within the development in accordance with Natural England guidance
 - b) That 10% biodiversity net gain can be accommodated within the Green infrastructure Network to support the recovery of nature loss and enhance biodiversity in line with the 25-year Environment Plan and Environment Bill
 - c) That accessible natural and semi-natural green space is provided for new and existing residents (who use the site currently for walking etc) in accordance with Policy HP5
 - d) That sufficient green amenity space, allotment space and play provision is provided in accordance with council policy HP5
 - e) That a site wide sustainable urban drainage network is achieved
 - f) That existing landscape and ecological value is protected and enhanced and ensure that the landscape setting and separate identity of Little Clacton is maintained.
 - g) That measures are put in place to protect the significance and setting so listed buildings around the site

This report represents an initial framework to further develop a site-specific green infrastructure strategy as part of a comprehensive evidence base and master planning process.

It has been informed by the Preliminary Ecological Appraisal Report, Biodiversity Net Gain calculation and the Landscape Sensitivity and Character Report.

1.1.3 Policy SAMU2 of the Tendring District Local Plan 2013-2033 Publication Draft June 2017 states:

“Land north of Bockings Elm and west of A133 shown on the Map SAMU2, is designated as a broad location for growth for mixed use development for the phased and comprehensive delivery of the following:

- a. approximately 1,700 new homes of mixed sizes and types to meet evidenced local housing need within the Council’s most up to date Strategic Housing Market Assessment and to include 30% affordable housing as set out in Policy LP5;*
- b. up to 7 hectares of land for employment;*
- c. 2.1 hectares of land for a new two-form entry primary school with co-located 56 place early years and childcare facility (D1 use) and/or financial contributions towards primary school and secondary school provision as required by the Local Education Authority based on evidenced need;*
- d. New facilities and/or financial contributions to support new health provision based on evidenced need;*
- e. Green infrastructure which should provide a multi-functional and connected network, including amenity green space, parks, allotments and natural and semi natural green space (meeting the standards set out in Policy HP5) and provides for attractive green walking and cycling routes;*
- f. To deliver at least 10% biodiversity net gain;*
- g. A sustainable movement network, including principal points of highway access, a hierarchy of streets, public transport and connected walking and cycling routes within the site and beyond; and*
- h. The provision of sufficient utility infrastructure working with the relevant infrastructure providers to ensure that such provision is achieved in a timely manner.*

No planning applications will be approved until a site specific Hartley Gardens DPD has been prepared and adopted by the Council. The purpose of the DPD will be as follows:

- i. To provide further detail on the geographical extent and boundary of the allocation, ensuring a defensible and sensitive boundary to the open countryside beyond*
- ii. To set out how Policy SAMU2 development objectives and master planning principles will be achieved through the site specific DPD which will provide the means to inform, assess and determine planning applications and secure comprehensive, co-ordinated and integrated sustainable development*

- iii. *To facilitate and support the co-ordination and timely delivery of the green, social and physical infrastructure necessary to facilitate growth in this location*

This is to ensure the comprehensive and co-ordinated development of the site, to ensure the master planning principles below are addressed and to provide a clear delivery plan to ensure the right infrastructure is funded and delivered at the right place and at the right time.

The Council will not accept piecemeal development which does not address the policy requirements. Development within the broad location for growth in advance of the Hartley Gardens DPD may be permitted provided that:

- *There would be no prejudice to the delivery of the wider Hartley Gardens development (including its infrastructure requirements) and would not undermine the integrated and co-ordinated approach to the wider development;*
- *The development demonstrably conforms to the policy requirements and principles of Policy SAMU 2 Hartley Gardens;*
- *A site wide highway infrastructure strategy has been agreed by the County Council and District Council, opportunities for sustainable modes of transport have been secured and will be delivered and that the residual impacts upon the transport network will not be severe*

Master planning Principles

The Hartley Gardens DPD will provide further guidance to meet the following principles and all development proposals should accord with these:

- i. *To create a series of permeable and legible well-defined streets which are cycle and pedestrian friendly and link into the existing built up area and local facilities (e.g. Retail and schools);*
- j. *To identify off site highway works required to support new development, their phasing and funding;*
- k. *To identify public transport measures to ensure sufficient access to the site by bus and rail and provide a series of walking and cycling routes within the site with strong and positive linkages to the existing network;*
- l. *To create a high quality built and natural environment that respects the built and landscape character and context of the local area and is in accordance with the National Design Guide and the Essex Design Guide;*
- m. *To incorporate in the design of new development measures to minimise the contribution to climate change and to ensure new development is resilient and adaptable to the effects of climate change;*
- n. *To create a connected multi-functional green infrastructure network which protects and enhances existing site features of landscape and ecological value such as the expansion of the Pickers Ditch Green corridor to the south of the site, the copses at T Grove and Long Grove (both registered on the Priority Habitat Inventory as Deciduous Woodland and the National Forest Inventory as Broadleaved Woodland, ancient woodland (including Hartley Woods to the north of the site), any veteran trees, hedgerows and other important landscape features and important habitats;*

- o. To ensure no net loss of biodiversity and to deliver positive benefits to biodiversity through the restoration, enhancement and creation of appropriate semi-natural habitats within and through the site to maintain, restore and create functional ecological networks;*
 - p. To establish a sustainable drainage system across the site that integrates with the green infrastructure network and utilises where practicable existing watercourses (e.g. Hartley Brook and Pickers Ditch), ponds, ditches and any greenways associated with retained hedgerows and maximise habitat value;*
 - q. To create a landscape structure that retains and utilises existing landscape features (such as hedgerows, trees, Hartley Brook and Pickers Ditch) and uses new planting and landscaping to sensitively integrate new built development and provide an attractive green setting;*
 - r. To use structural planting and the location, orientation and design of new buildings to maintain the landscape setting and separate identity of Little Clacton and to carefully screen and sensitively integrate new infrastructure and buildings from the open countryside to the west to minimise any visual impact;*
 - s. To identify opportunities to preserve and enhance the setting and significance of heritage assets at Bovills Hall, Earls Hall and Dutchess Farmhouse and Bluehouse Farm in accordance with the recommendations for avoiding harm, mitigating impacts and maximising enhancements in the Heritage Impact Assessment;*
 - t. Where an archaeological evaluation (trial trenching where necessary) identifies surviving archaeological deposits, an appropriate mitigation strategy for preservation in situ or by excavation should be submitted;*
 - u. To demonstrate that no internationally designated site would be adversely affected by the development either alone or in combination with other proposals as per the requirements of Policy PPL 4 and future proposals will need to demonstrate no adverse impact on water quality as per the requirements of Policy PPL5; and*
 - v. To demonstrate how a phased approach to development can deliver the required infrastructure when it is required and create an integrated and sustainable community.*
- 1.1.3 A Green Infrastructure (GI) Framework is required by TDC to support draft Policy SAMU2 Policy SAMU2 (incorporating the Council's suggested policy amendments) at local plan examination. At this stage of the planning process evidence is required to understand how the proposed GI network will help shape development capacity, development layout and connect into the wider GI network of Clacton. This work follows on from the Landscape Character and Sensitivity Assessment, Preliminary Ecological Assessment and Ecological Constraints and Opportunities mapping. These studies have been used to inform the decisions proposed within this study.
- 1.1.4 Whilst this is not a current statutory requirement, given the strategic nature of the site, the multiple ownerships and likelihood of multiple and phased planning applications a site wide and comprehensive approach is required by the Council to set out a GI framework for the site that planning applications can then deliver in a phased manner when the statutory requirement is in place.

1.2 Green Infrastructure Policy

1.2.1 GI can be defined as a carefully planned network of high quality natural and semi-natural assets and habitat types, of green and blue spaces, and other strategically planned environmental features that maintain and deliver our ecosystem services. It provides multi-functional benefits integral to the health and wellbeing of our communities and to the ecology and economy of the county. GI is often referred to as a network of these natural and semi-natural assets and spaces, which are joined together connecting urban and rural areas and are habitually strategically planned. GI provision is therefore an important solution to delivering the Lawton principles¹ of “more, bigger, better and joined”.

1.2.2 The national policy approach to delivering green infrastructure is set out in the National Planning Policy Framework and supporting Planning Practice Guidance. National Planning Policy Framework (NPPF): Strategic Policies states:

“Strategic policies should set out an overall strategy for the pattern, scale and quality of development, and make sufficient provision for...conservation and enhancement of the natural, built and historic environment, including landscapes and green infrastructure...”

The NPPF also encourages planning policies and decisions to consider natural and local environment enhancements. Paragraph 171 states that:

- *Plans should:take a strategic approach to maintaining and enhancing networks of habitats and green infrastructure; and*
- *LPA should seek opportunities to provide better facilities for users, for example by adding links to existing rights of way network including national trails.*

1.2.3 The ‘National Planning Practice Guidance: What is a strategic approach to green infrastructure?’ states that:

“Local Plans should identify the strategic location of existing and proposed green infrastructure networks. Where appropriate, supplementary planning documents can set out how the planning, design and management components of the green infrastructure strategy for the area will be delivered.”

1.2.4 The 25 Year Environment Plan ‘A Green Future: Our 25 Year Plan to Improve the Environment’ (2018) sets out a framework to maintain and improve the environment for the next generation. The following six key areas were identified:

- Clean air
- Clean and plentiful water
- Thriving plants and wildlife
- A reduced risk of harm from environmental hazards such as drought and flooding

¹ Lawton Principles advocates a landscape-scale approach to conservation, to create “a coherent and resilient ecological network”, guided by 4 key principles, summarised as “more, bigger, better and joined”.

- Using resources from nature more sustainably and efficiently
- Enhanced beauty, heritage and engagement with the natural environment

1.2.5 On a county scale, the Essex Green Infrastructure Strategy (2020) has recently been published. It aims to enhance the urban and rural environment, through creating connected multi-functional GI that delivers multiple benefits to people and wildlife. It meets Essex County Council's aspirations to improve GI and green spaces in towns, cities and villages, especially close to areas of deprivation.

1.2.6 Locally, the Tendring District Local Plan 2013-2033 Publication Draft June 2017 includes Policy HP 3 Green Infrastructure, which looks to protect and enhance the districts GI. The policy states:

“Green Infrastructure will be used as a way of adapting to, and mitigating the effects of, climate change, through the management and enhancement of existing spaces and habitats and the creation of new spaces and habitats, helping to provide shade during higher temperatures, flood mitigation and benefits to biodiversity, along with increased access.

All new development must be designed to include and protect and enhance existing Green Infrastructure in the local area, as appropriate.

Green Infrastructure as identified on the Policy Map, will be protected, managed and where necessary enhanced by:

- a. managing development to secure a net gain in green infrastructure;*
- b. supporting investment priority projects set out in the Green Infrastructure Delivery Plan;*
- c. not permitting development that compromises the integrity of the overall Green Infrastructure networks;*
- d. investing in enhancement and restoration where opportunities exist; and*
- e. using developer contributions to facilitate improvements to their quality and accessibility.*

The Council will work with all sectors and interest groups to help deliver Green Infrastructure projects. Developers should use the guiding principles set out in the Green Infrastructure Delivery Plan to influence all development proposals from an early stage in the design process. Any new Green Infrastructure proposed must be accompanied by a plan for the long-term sustainable maintenance and management of these assets, as well as phasing plans to demonstrate how they are to be delivered. New Green Infrastructure should incorporate semi-natural habitats and provide net gains in biodiversity wherever possible. The long-term management of assets should include biodiversity recording/monitoring to verify/ensure the ecological integrity of GI networks. Green Infrastructure should, where appropriate, include access for the widest range of user groups.”

1.3 Site Description

- 1.3.1 The Hartley Gardens site (as shown in Figure 1) is the largest broad allocation in the Part 2 Plan. It currently states that the site could deliver c. 1700 homes and 7ha of employment land, subject to evidence.
- 1.3.2 The boundaries are comprised of the A133 to the east and the built-up edge of Clacton to the south (to the north of St Johns Road). To the south there is also a small neighbourhood centre at Legerton Drive (including a small community centre and local Sainsbury's shop), Coppins Hall Wood (Ancient Woodland and designated as a Local Wildlife Site) is also located to the direct south of St Johns Road. To the east of the site lies the Brook Retail Park with phase one anchored by a large Tesco superstore and phase 2 as described above. To the west lies open countryside with open valley views and a wider network of footpaths.
- 1.3.3 In the south of the site there are definitive footpaths linking the built-up area of Clacton to this area of countryside. They appear to be well used by local residents. There are other permissive paths in the central and northern part of the site. There are overhead electricity pylons running east to west across the site, but these are now been undergrounded on the Brook Part West part of the site. There are a series of wind turbines to the north east of the site.
- 1.3.6 Bovills Hall a C15/C16th century house is a Grade II listed building to the direct north of the site off St Osyth's Road in Little Clacton. The site includes an original moat and an extensive area of planting. There are 2 farm buildings on site both served from Little Clacton Road. There are a number of other listed buildings in the vicinity of the site.

1.4 Key Green Infrastructure Assets

- 1.4.1 GI plays an important role in shaping this landscape, its character and sensitivity. The landscape is predominantly open arable farmland with associated farmland ecology. In terms of landscape and ecological features, Hartley Wood (Ancient Woodland and designated as a Local Wildlife Site) is located directly to the north west of the site. This Lowland Mixed Deciduous Woodland covers an area of 29.7ha and is of coppice-with-standards structure, containing Pedunculate Oak (*Quercus robur*), Hornbeam (*Carpinus betulus*), Ash (*Fraxinus excelsior*), Silver Birch (*Betula pendula*), Elm (*Ulmus sp.*) and Sweet Chestnut (*Castanea sativa*).
- 1.4.2 The historic Hartley Brook extends through these woods across the site to Pickers Ditch in the south east corner. These watercourses were wet, with steep banks of up to 2 metres and although mostly shaded by the adjacent hedgerows, these ditches have the possibility to provide breeding habitat for Great Crested Newts, if present within the site.
- 1.4.3 Two other areas of native deciduous woodland are also loated on site; Long Grove and T Grove. Both are registered on the Priority Habitat Inventory as deciduous woodland. Long Wood Grove (1.27ha) is a remnant Ancient Woodland and therefore has very high ecological distinctiveness, as the habitat cannot be recreated in a short timeframe. The site is dominated by Elm (*Ulmus sp.*) and Oak (*Quercus sp.*) with dense areas of self-

seeded Hawthorn scrub. Whereas T Grove contains young trees, which have been planted in this last 5-20 years.

- 1.4.3 An extensive hedgerow network with characteristic elm dominated hedgerows are located throughout the site. These are significant, especially in this part of Essex, providing important habitat for multiple species. In total, 29 of the 34 hedgerows surveyed meet the Priority Habitat criteria.

2. Landscape Character and Sensitivity Summary

2.1 Landscape Features and Value

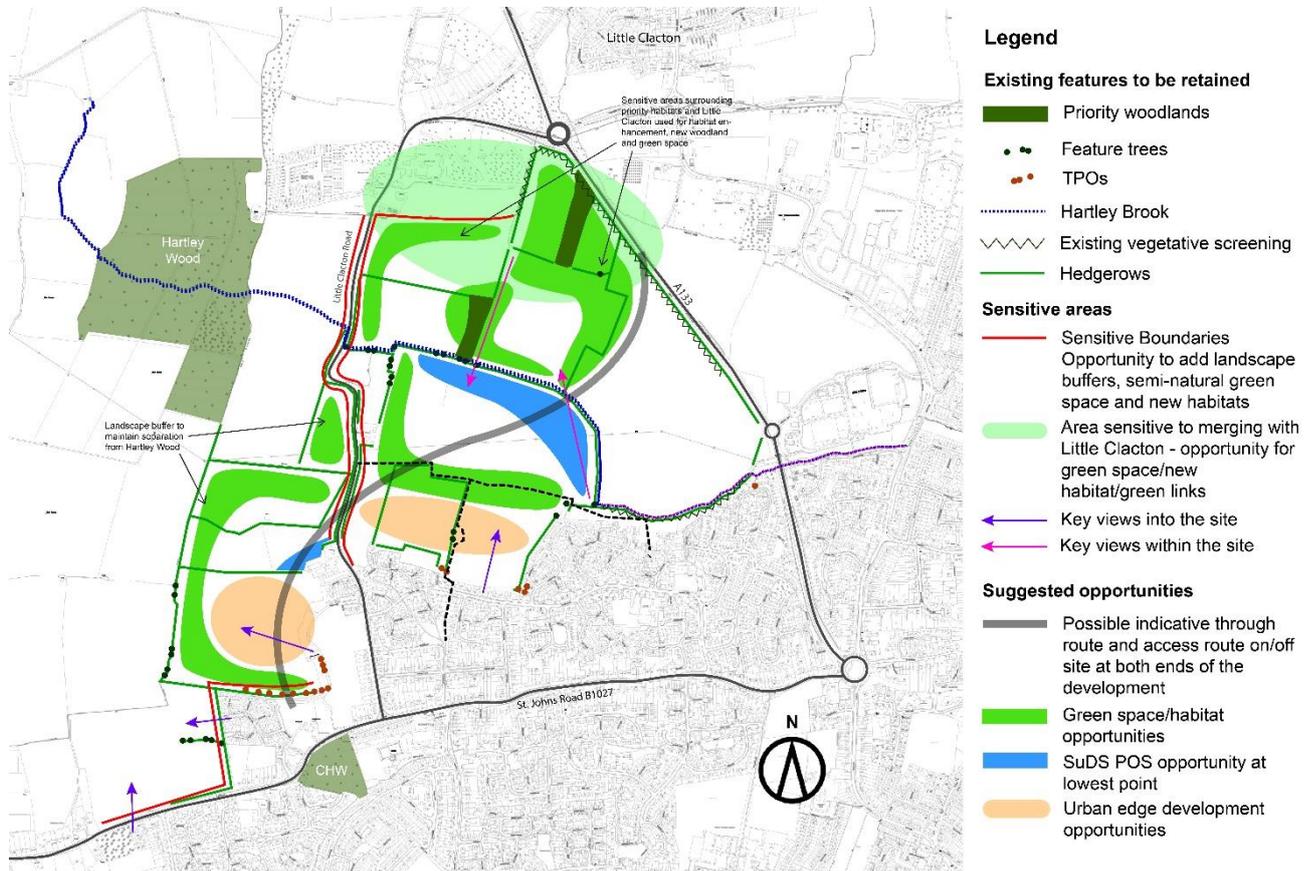


Figure 2: Landscape Framework

- 2.1.1 The recommendations below relate to existing landscape features and landscape opportunities. The aim is to achieve sensitively sited, high quality design appropriate to the sensitivity and character of this area.
- 2.1.2 Long distance views north of the wooded skyline are available from the PRow and surrounding area. Future proposals should encourage this wooded character to extend along green corridors within the site. Existing native deciduous woodland is priority habitat and therefore opportunities to connect these and create a wider green infrastructure (GI) network
- 2.1.3 Other than a small parcel of neutral grassland, the site is primarily arable, which has lowered the landscape's value. Opportunities to introduce further grasslands and meadows should be explored to enhance and diversify habitats across the landscape.
- 2.1.4 Little Clacton Road is key transport corridor, but also provides an important GI corridor, given its strong mature hedgerow boundaries. The lane has historic integrity, valued association and aesthetic value, which could warrant protection through a Protected

Lane Designation. Road widening or re-alignment should be avoided as this would destroy this character.

- 2.1.5 The priority woodlands towards the north of the site are key landscape features within this landscape that need to be retained. Opportunities to enhance the habitats, woodlands and green spaces, whilst also forming a landscape buffer from Little Clacton and the listed buildings in the north west should be explored.
- 2.1.6 Characteristic elm hedgerows are located throughout the site. These need to be preserved, and in turn a sensitive approach to development should be undertaken to ensure adequate landscape provision is provided that is sympathetic to existing features such as these hedgerows.
- 2.1.7 To reduce the impact of the development proposals upon the existing PRow, it is recommended that green space and vegetation is proposed along both edges of the PRow to reduce the visual and landscape sensitivity.
- 2.1.8 Woodland habitats should be enhanced where possible. These habitats are characteristic of this landscape and would also ensure visual separation from Little Clacton and the Ancient Woodland (Hartley Wood) to the west.
- 2.1.9 Pickers Ditch and Hartley Brook are strong landscape features within the landscape and should be retained and enhanced to become part of the wider green corridors.

2.2 Landscape Character

- 2.2.1 The Tendring LCA states that the overall landscape character of the landscape weak and could be considered poor in some urban fringe locations. This is primarily due the loss of elms, hedgerow loss and associated agricultural intensification and built development on the urban fringes.
- 2.2.2 Furthermore, reference is made to Clacton and the Sokens Clay Plateau being one of the most “densely developed rural landscapes in Tendring” and therefore a strategy should be in place to strengthen and enhance the chacter of the landscape.
Enhancements include:
 - Increase extent of native deciduous woodland using natural regeneration or locally occurring native species to enhance the wooded character of the landscape and link existing sites.
 - Conserve hedgerows as important wildlife habitats and landscape features
 - Consider opportunities for the creation of meadows to restore grassland habitats lost though agricultural classification.
 - Maintain the historic leafy lanes with their ancient oaks and unimproved roadside verges. Resist road improvements or widening that would threaten the rural character.
- 2.2.3 The study divided the landscape into 9 Local Landscape Character Areas:
 - 1. Wooded Fringe
 - 2. Brook Fields

3. Eastern Fields
4. Urban Fringe
5. Arable Plains
6. Elcombe Edge
7. Hartley Fields
8. Constable Fringe
9. St Johns Edge



Figure 3: Hartley Gardens Landscape Character Areas (Place Services, 2020)

2.2.4 The brook, deciduous woodland and extensive hedgerow networks are all important landscape features within this landscape. Specifically, the elm dominated hedgerows in Brook Fields LCA are key characteristics which are significant, especially in this part of Essex, and should be retained.

2.3 Landscape and Visual Sensitivity

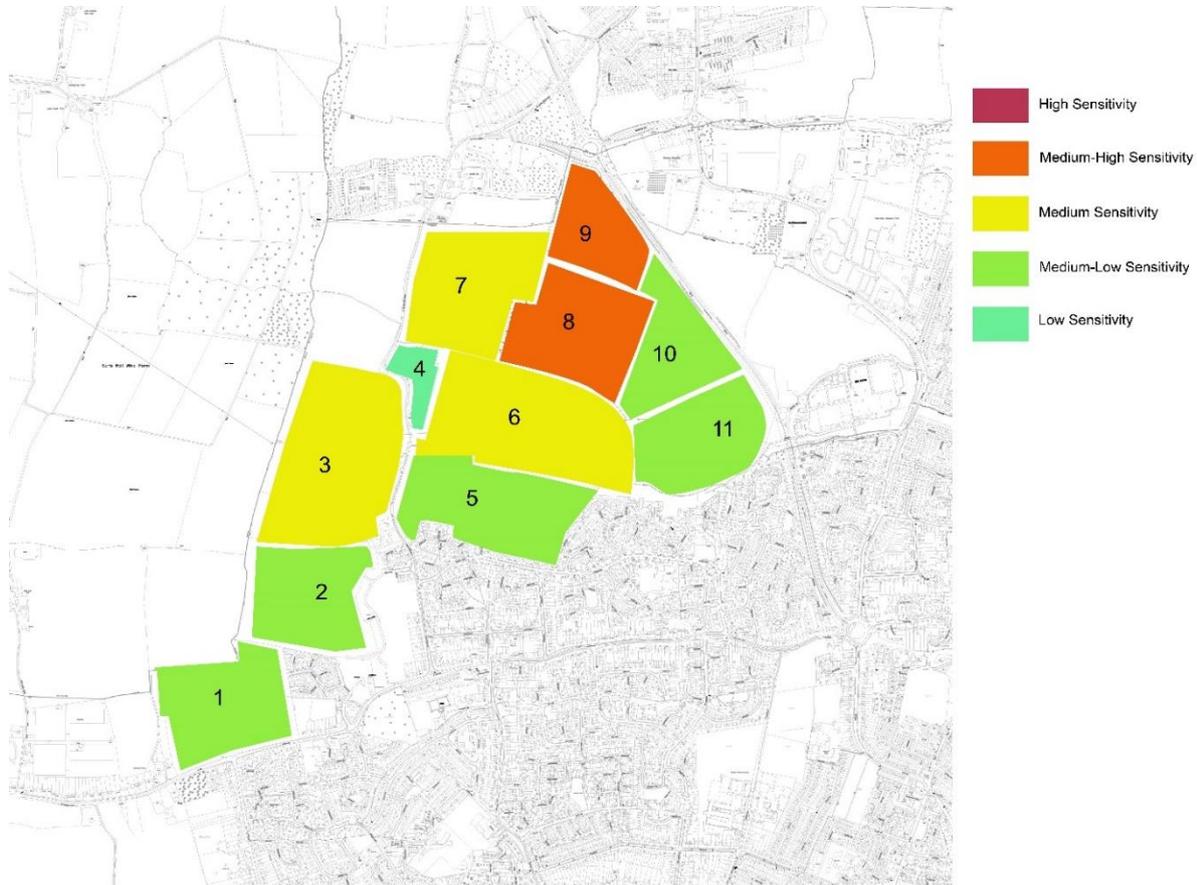


Figure 4: Overall Sensitivity Results

- 2.3.1 The landscape and visual sensitivity findings confirmed that the sensitivity at Hartley Gardens site is highest in the northern parcels due to the presence of priority woodlands and the perceptual quality created by the enclosed nature of the landscape.
- 2.3.2 Areas close to the existing settlement edge such as Constable Fringe and St Johns Edge are of lower sensitivity due to the urban context surrounding them. Although it's important to note that there are important landscape features such as hedgerows and mature trees that provide landscape and ecological value and should be retained as part of any potential development design.

3. Ecological Summary

3.1 Preliminary Ecological Assessment (PEA)

- 3.1.1 The PEA report should be read in conjunction with this GI Framework Study.
- 3.1.2 There are no statutory designated sites present within a kilometre of the site. However, the site falls within the 9.7km Zone of Influence (ZOI) for the Colne Estuary Special Protection Area (SPA) and Ramsar site, situated 3.7km to the west of the site; the 8km ZOI for Hamford Water SPA and Ramsar, situated 7.5km to the east of the site; and the 22km ZOI Blackwater Estuary SPA and Ramsar site, situated within 13.6km to the south-west of the site. In addition, the site also falls under the ZOI for the Essex Estuaries Special Area of Conservation (SAC). The site therefore also falls under the Impact Risk Zones (IRZ) from the underpinning Sites of Special Scientific Interest for these Habitats Sites.
- 3.1.3 Therefore, as the site falls within the site falls within the evidenced ZOI for recreational impacts on the identified Habitats Sites, Tendring District Council will be required to produce a Habitats Regulation Assessment (HRA) - Appropriate Assessment to assess potential impacts from the development (either alone or in combination with other plans and projects) and identify any necessary mitigation measures. In line with Natural England's advice to the LPA, this is "typically a combination of 'on-site' informal open space provision and promotion (i.e. in and around the development site) and 'off-site' visitor access management measures (i.e. at the Habitats Sites predicted to be affected)".
- 3.1.4 The desk studies noted two Priority Habitats in the red line boundary. This included two well established Woodlands, which meet the Priority Habitat criteria for Lowland Mixed Deciduous Woodland (T Grove and Long Grove). In addition, a number hedgerows meet the Priority Habitat Criteria.
- 3.1.5 It has been proposed that the Lowland Mixed Deciduous Woodland will be avoided. However, a number of Hedgerows, or sections of hedgerows, will need to be removed to facilitate the development. Consequently, proportionate compensation will need to be delivered and demonstrated.

3.2 Biodiversity Net Gain

- 3.2.1 A biodiversity net gain calculation for the site has been undertaken as part of the ecological evidence base to support the SAMU 2 Hartley Gardens broad location for growth policy. It has been undertaken to provide a quantitative measure of the biodiversity on site then applies a development scenario (set out in Section 4 of this document within the Green Infrastructure Framework Plan) that meets the policy SAMU 2 Hartley Gardens requirements to indicate the potential loss of habitat and how this could be compensated for onsite together with ecological enhancements (10%) to inform future ecological and net gain planning for the site. This is to evidence how 10% net gain can be achieved on site and assist in demonstrating the soundness and

deliverability of the policy requirements. The baseline metric calculation will need to be updated when the new metric is published by Natural England and to inform the site wide approach that the DPD will define and subsequent planning applications. Insert the summary findings of this work in terms of what the baseline calculation and number of units is for habitat and hedgerows, the indicative loss of habitat through application of the development scenario, the compensatory habitat provided and the 10% net gain.

3.3 Ecological Constraints and Opportunities

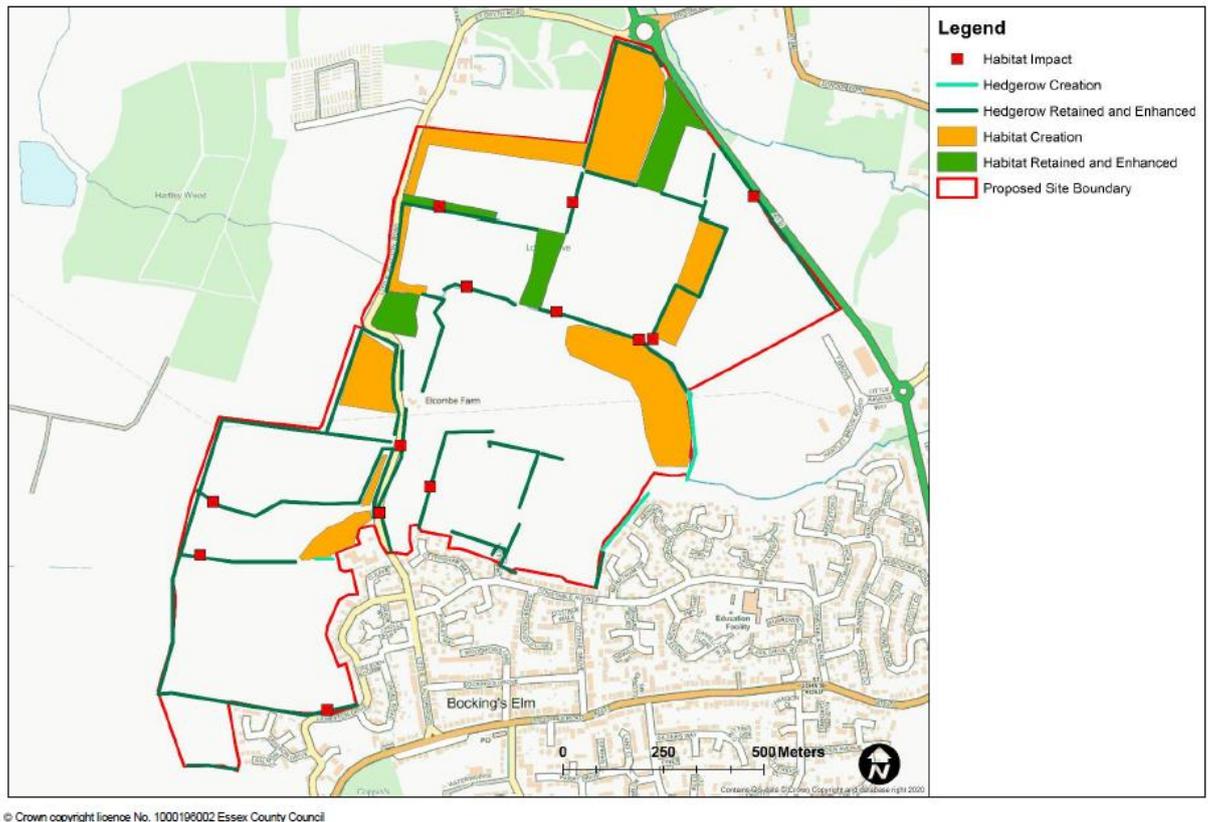


Figure 1: Ecological Constraints and Opportunities Plan

- 3.3.1 Habitat creation and enhancement is required to offset any habitat losses and increase landscape connectivity.
- 3.3.2 The habitat opportunities include the creation of new vegetated gardens of an estimated 15ha, 13 hectares of lowland mixed deciduous woodland, 19 hectares of neutral grassland, sustainable urban drainage features and ponds covering 5.5 hectares, as well as 660m, of additional hedgerow planting. This has been summarised within the Figure 1.
- 3.3.3 The retained and created habitats will need to be appropriately enhanced and managed to ensure that options reflect the changes specified within the Biodiversity Net Gain Baseline Calculations. This includes the enhancement of all retained habitats and hedgerows that are not already in 'good' condition and habitat creation to achieve a stated specification and standards.

4. Green Infrastructure Framework

4.1 Green Infrastructure Objectives

- 4.1.1 A Green Infrastructure Framework Plan has been prepared to indicate how the policy requirements of Policy SAMU 2 Hartley Gardens could be met spatially on site. These policy requirements are as follows:
- a. *Green Infrastructure should provide a multi-functional and connected network including amenity green space, allotments, and natural and semi-natural green space (meeting the standards set out in Policy HP5) and provides for attractive walking and cycling routes*
 - b. *To create a connected and multi-functional green infrastructure network which protects and enhances existing site features of landscape and ecological value such as the expansion of the Pickers Ditch green corridor, the copses at T Grove and Long Grove, ancient woodland at Hartley woods, any veteran trees, hedgerows and other important landscape features and important habitats*
 - c. *To deliver at least 10% biodiversity net gain*
 - d. *To ensure no net loss of biodiversity and to deliver positive benefits to biodiversity through the restoration, enhancement and creation of appropriate semi-natural habitats within and through the site to maintain, restore and create functional ecological networks*
 - e. *To establish a sustainable drainage system across the site that integrates with the green infrastructure network and utilises where practicable existing watercourses (e.g. Hartley Brook and Pickers Ditch), ponds, ditches and any greenways associated with retained hedgerows and maximise habitat value;*
 - f. *To create a landscape structure that retains and utilises existing landscape features (such as hedgerows, trees, Hartley Brook and Pickers Ditch) and uses new planting and landscaping to sensitively integrate new built development and provide an attractive green setting;*
 - g. *To use structural planting and the location, orientation and design of new buildings to maintain the landscape setting and separate identity of Little Clacton and to carefully screen and sensitively integrate new infrastructure and buildings from the open countryside to the west to minimise any visual impact; and*
 - h. *To identify opportunities to preserve and enhance the setting and significance of heritage assets at Bovills Hall, Earls Hall and Dutchess Farmhouse and Bluehouse Farm in accordance with the recommendations for avoiding harm, mitigating impacts and maximising enhancements in the Heritage Impact Assessment.*

4.1.2 In addition, the Framework shows how The Councils obligations under the Essex Coast Recreational Disturbance Avoidance and Mitigation Strategy (RAMS) could be fulfilled (which provides a mechanism for LPAs to comply with their responsibilities to protect habitats and species in accordance with the UK Conservation of Habitats and Species Regulations 2017) and that suitable accessible natural green space is provided within the development in accordance with Natural England guidance.

4.2 Green Infrastructure Design Concept

4.2.1 The Green Infrastructure Framework Plan includes a typical development scenario that would meet the Policy SAMU 2 Hartley Gardens other land use requirements, namely 1700 homes (at 35 dph) 7 ha employment land and 2.1 hectares reserved for a primary school.

4.2.2 The heart of the site centres around the school, the proposed amenity green space and main area of play provision (NEAP and MUGA), all located in close proximity to the existing Hartley Wood Brook and associated landscape features and habitats of value.

4.2.3 The framework is structured around a series of green corridors and public open spaces that incorporate a strategic network of mature hedgerows and woodlands, as well as dedicated footpaths and cycle paths that will ensure that residents will be provided with high-quality, convenient and safe routes for both recreation and movement between key destinations.

4.2.4 One of the most important green spaces within the masterplan framework is the central green corridor, which follows the alignment of the existing Pickers Ditch and Hartley Brook watercourses that run through the site and will not only provide a key movement corridor, but also provide other functions, such as drainage for the site (discussed further later in this section) and wildlife habitat.

4.2.5 Careful consideration in any development proposals will need to be given to the relationship between the site and the existing rural edge. As shown in figure XX, the Landscape Sensitivity study identified that the northern most parcel (Parcel 9) was identified as the most sensitive due to its rurality, key landscape features and ecological importance. For these reasons, a sensitive landscape treatment will need to be provided in this area, with no built development allocated. This area will also act as a significant green gap between the proposed development and Little Clacton, as well provide significant space for establishing further deciduous woodland that would extend and enhance landscape and ecological corridors and align with landscape character guidelines.

4.2.6 The interface with the existing settlement boundary is also important. Key existing pedestrian connections, residential views and boundary trees (many of which have tree preservation orders (TPO) on them) need to be considered as part of the Hartley Gardens GI framework to ensure the site is connected to the wider network. Semi natural green space has been proposed on boundaries to encapsulate existing

landscape features, both providing wildlife and recreational corridors, but also an attractive setting for existing and future development.

4.2.7 The amount of open space required to meet Policy HP5 Open space, sports and Recreation Facilities is set out below:

Table 1: Site Requirements

Type of space	On Site Requirement
Parks and Gardens	0.46 ha
Amenity Green space	5.87 ha
Natural and Semi-Natural Greenspace	13.68 ha
Allotments	0.88 ha (65 allotments)
Play Provision	1 MUGA, 1 NEAP and 2 LEAPS

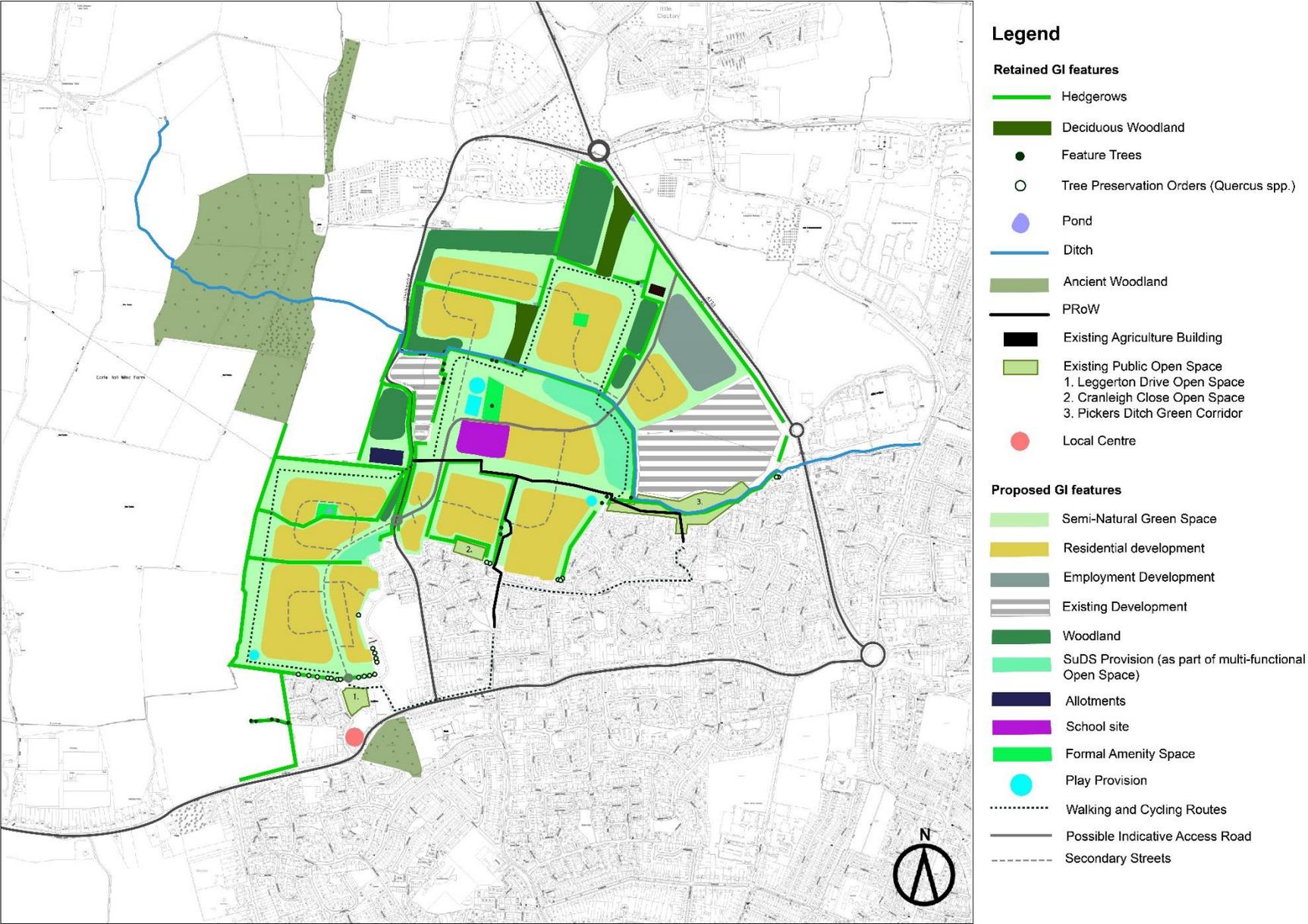


Figure 5: Hartley Gardens Green Infrastructure Framework

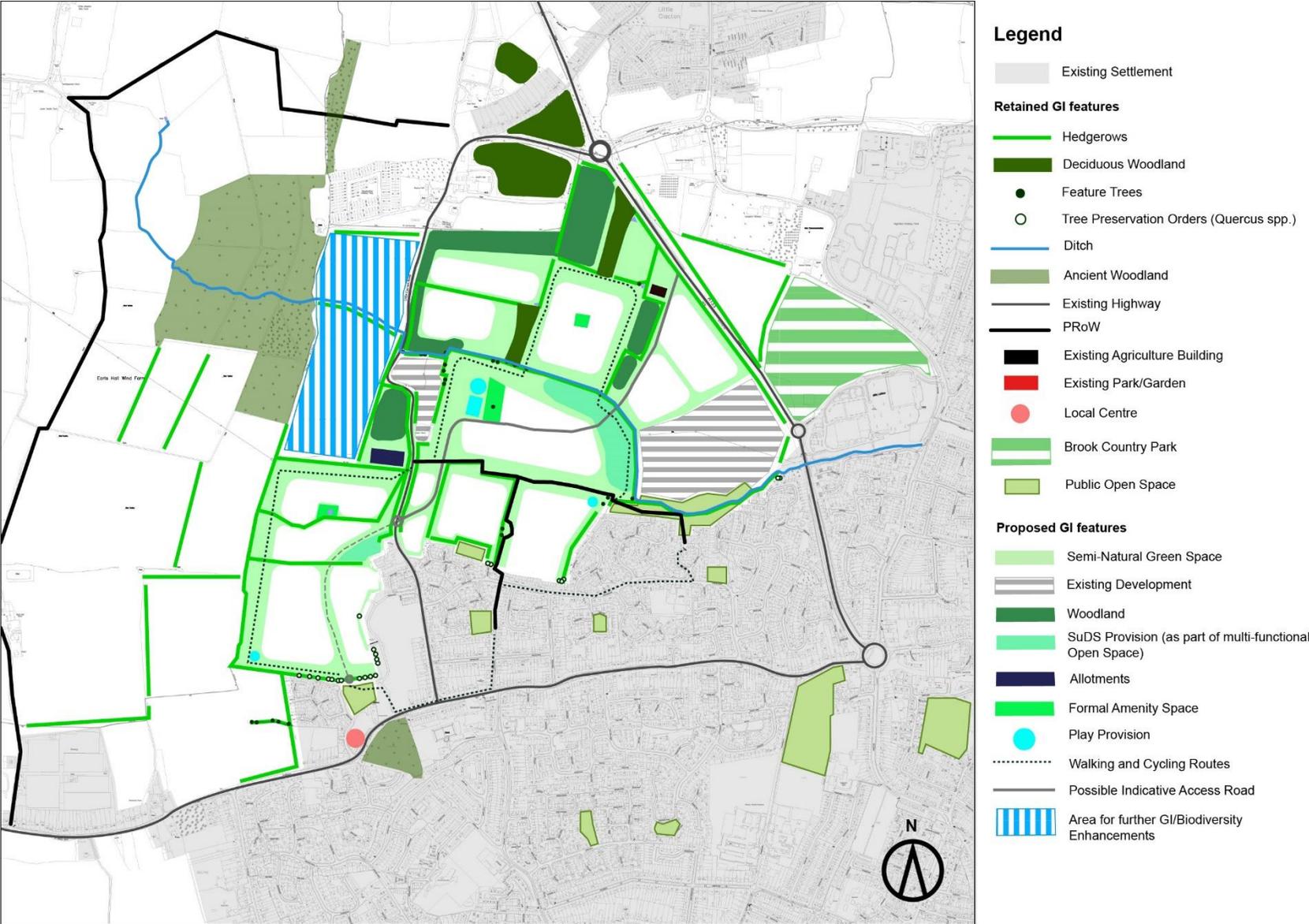


Figure 6: Green Infrastructure Network

4.3 Green Infrastructure Requirements

As shown in Figure 5, the GI Framework has been designed to meet the Policy SAMU 2 Hartley Gardens requirements:

4.3.1 *“Green Infrastructure should provide a multi-functional and connected network including amenity green space, allotments, and natural and semi-natural green space (meeting the standards set out in Policy HP5) and provides for attractive walking and cycling routes”*

A network of multi-functional green corridors are proposed across the site. These include existing landscape features, as well as new natural/semi-natural habitats such as woodland, wetlands and meadow grasslands. More formalised landscapes such as play provision, allotments and amenity green space are also defined across the site in suitable locations. As part of the GI network, a walking/cycling route has been proposed that connects into the existing PRoW and meets the requirements under the Essex Coast RAMS.

4.3.2 *“To create a connected and multi-functional green infrastructure network which protects and enhances existing site features of landscape and ecological value such as the expansion of the Pickers Ditch green corridor, the copses at T Grove and Long Grove, ancient woodland at Hartley woods, any veteran trees, hedgerows and other important landscape features and important habitats”*

Removal of existing landscape features has been kept to a minimum, with gaps in hedgerows only proposed where highway connections would be necessary. All other hedgerows are proposed for enhancement, along with the retention of the existing deciduous woodland, trees of significance (high quality, veteran and TPOs) and Pickers Ditch green corridor.

4.3.3 *“To deliver at least 10% biodiversity net gain”*

A biodiversity net gain calculation for the site has been undertaken as part of the ecological evidence base to support the SAMU 2 Hartley Gardens broad location for growth policy. It has been undertaken to provide a quantitative measure of the biodiversity on site then applies a development scenario (set out in Section 4 of this document within the Green Infrastructure Framework Plan) that meets the policy SAMU 2 Hartley Gardens requirements to indicate the potential loss of habitat and how this could be compensated for onsite together with ecological enhancements (10%) to inform future ecological and net gain planning for the site. This is to evidence how 10% net gain can be achieved on site and assist in demonstrating the soundness and deliverability of the policy requirements. The baseline metric calculation will need to be updated when the new metric is published by Natural England and to inform the site wide approach that the DPD will define and subsequent planning applications. Insert the summary findings of this work in terms of what the baseline calculation and number of units is for habitat and hedgerows, the indicative loss of habitat through application of the development scenario, the compensatory habitat provided and the 10% net gain.

To aid this process, the field between Hartley Woods and Little Clacton Road has been included as a parcel within the GI Network (Figure 6) that could provide further GI and biodiversity enhancements (through new hedgerow and tree planting to create ecological corridors and buffer planting to the ancient woodland), which would enable the 10% biodiversity net gain to be achieved.

4.3.4 *“To ensure no net loss of biodiversity and to deliver positive benefits to biodiversity through the restoration, enhancement and creation of appropriate semi-natural habitats within and through the site to maintain, restore and create functional ecological networks”*

It has been proposed that the Lowland Mixed Deciduous Woodland will be avoided. However, a number of Hedgerows, or sections of hedgerows, will need to be removed to facilitate the development. Consequently, proportionate compensation will need to be delivered and demonstrated. This is proposed in the form of woodland planting, various grassland mixes and hedgerow enhancements.

4.3.5 *“To establish a sustainable drainage system across the site that integrates with the green infrastructure network and utilises where practicable existing watercourses (e.g. Hartley Brook and Pickers Ditch), ponds, ditches and any greenways associated with retained hedgerows and maximise habitat value”*

The GI framework provides a wide green corridor adjacent to the existing watercourse, Hartley Brook at the lowest point on the site. Its proposed that this SuDS feature would connect with a network of informal SuDS features within proposed green corridors and residential parcels.

4.3.6 *“To create a landscape structure that retains and utilises existing landscape features (such as hedgerows, trees, Hartley Brook and Pickers Ditch) and uses new planting and landscaping to sensitively integrate new built development and provide an attractive green setting”*

Existing landscape features have been retained across the site, ensuring the existing landscape structure is preserved. Existing features such as deciduous woodland, trees of significance (high quality, veteran and TPOs) will be integrated with new landscape proposals such as wetland areas, flowering meadows and species-rich lawns.

4.3.7 *“To use structural planting and the location, orientation and design of new buildings to maintain the landscape setting and separate identity of Little Clacton and to carefully screen and sensitively integrate new infrastructure and buildings from the open countryside to the west to minimise any visual impact”*

The sensitivity of the northern landscape parcels was identified in the Landscape Character and Sensitivity Assessment. This key component has been retained in the GI Framework with landscape enhancements such as woodland planting and hedgerow improvements proposed in the northern section of the site to strengthen the wooded character of the landscape and ensure separation and visual mitigation is provided.

Residential parcels to the west of Little Clacton Road will be bounded by GI corridors and existing hedgerows that will ensure any proposed development is sympathetic to its countryside setting.

4.3.8 *“To identify opportunities to preserve and enhance the setting and significance of heritage assets at Bovills Hall, Earls Hall and Dutchess Farmhouse and Bluehouse Farm in accordance with the recommendations for avoiding harm, mitigating impacts and maximising enhancements in the Heritage Impact Assessment”*

Bovill’s Hall and its associated pig sties and barn (Grade II listed) buildings and its setting are well screened by vegetation and landscaping so there are no views into or out of the site. In addition, the immediate landscape character area, the wooded fringe’ is to be retained in its current character with no development proposed to change the character of the wider setting. The Dutchess Farmhouse (Grade II listed) a timber framed 17th century house is situated off St Johns road to the south of the site. The significance and setting of this listed building is not likely to be affected by the proposed development as the site boundary has been set back from the field adjacent to the Farmhouse and development hedgerow boundaries will be retained and enhanced. A Heritage Impact Assessment is being undertaken by the Council to understand potential significant impacts on these heritage assets and to further avoid or mitigate harm and provide enhancement recommendations where appropriate.

4.4 Green Infrastructure Features

The following section provides details of the different GI features proposed, along with the rationale behind the proposed layout.

4.4.1 Habitat Enhancements

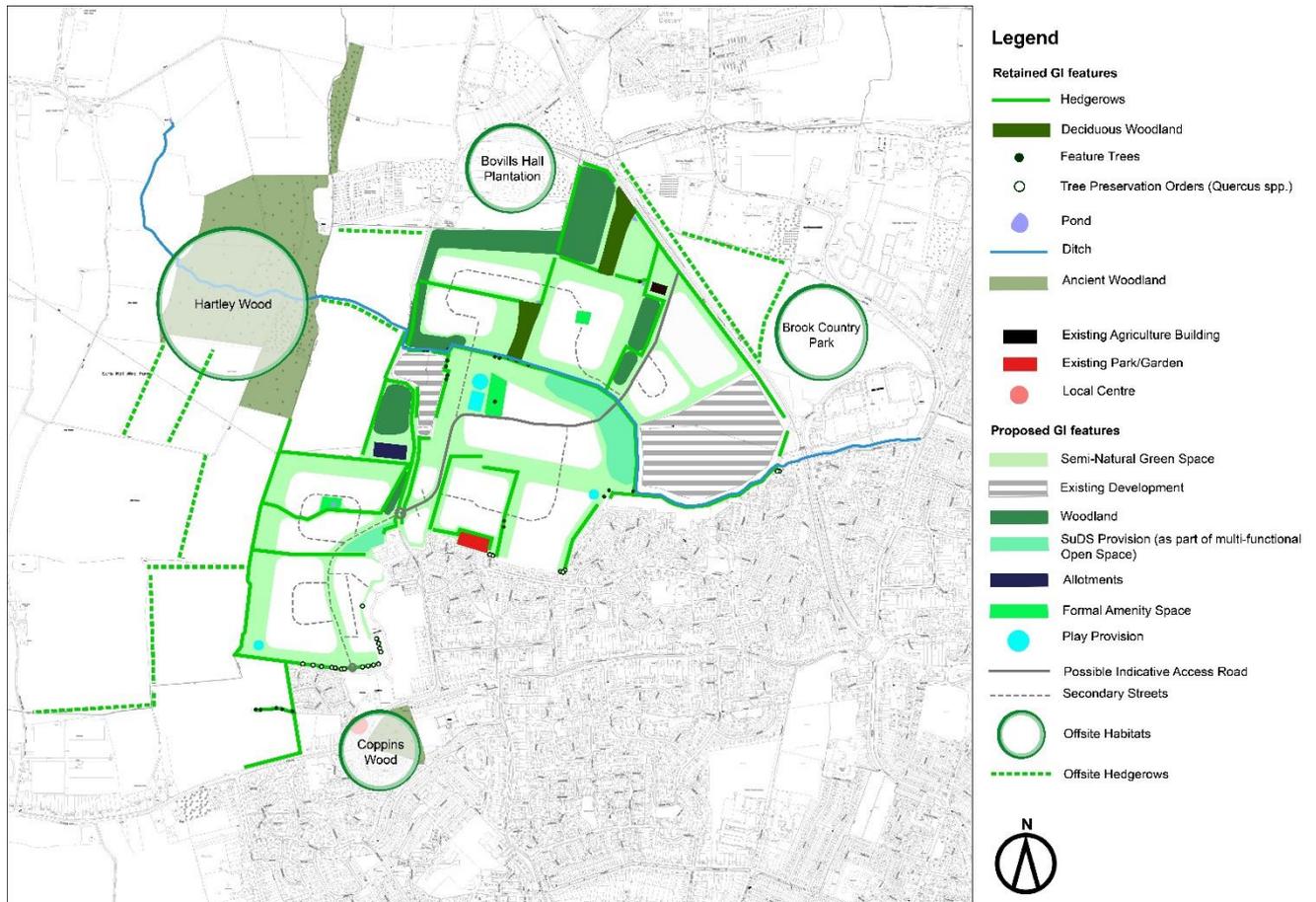


Figure 7: Hartley Gardens habitat enhancements

4.4.1.1 It was identified that the multiple hedgerows across the site are of both landscape and ecological importance. Specifically, the elm dominant hedgerows that are characteristic of this part of Tendring and Essex, but also the mature Priority habitat mixed native hedgerows. It is proposed that all existing hedgerows are retained. However, consideration has been given to potential road infrastructure, and therefore capacity for some hedgerows to be partly removed has been included. To mitigate any loss, it is proposed that remaining hedgerows would be enhanced and widened where possible, new native species-rich hedgerows planted, and incomplete hedgerows restored by infill planting and appropriate restoration e.g. coppicing of elm hedgerows. This aims to ensure Biodiversity Net Gain is still achieved for hedgerows as well as for other habitats, as required by the Defra Biodiversity Metric v 2.0.

4.4.1.2 Woodland character forms an important part of this landscape, with mixed deciduous woodland (Priority Habitat) parcels on site and Hartley Wood (Ancient Woodland) to the

west and Coppins Wood (Ancient Woodland) to the south. It is proposed that further parcels of Priority habitat mixed deciduous woodland will be introduced to enhance the character, but to also extend the habitat connectivity and improve the GI network.

4.4.1.3As shown on the framework plan, where existing hedgerows are retained, strategic green corridors have also been included to ensure an appropriate transition space is proposed between the development and the Priority habitats. It is anticipated that these landscapes will be semi-natural, with areas of meadow planting, species rich lawns and flowering lawns for pollinators to ensure Biodiversity Net Gain is achieved.

4.4.2 SuDS Provision

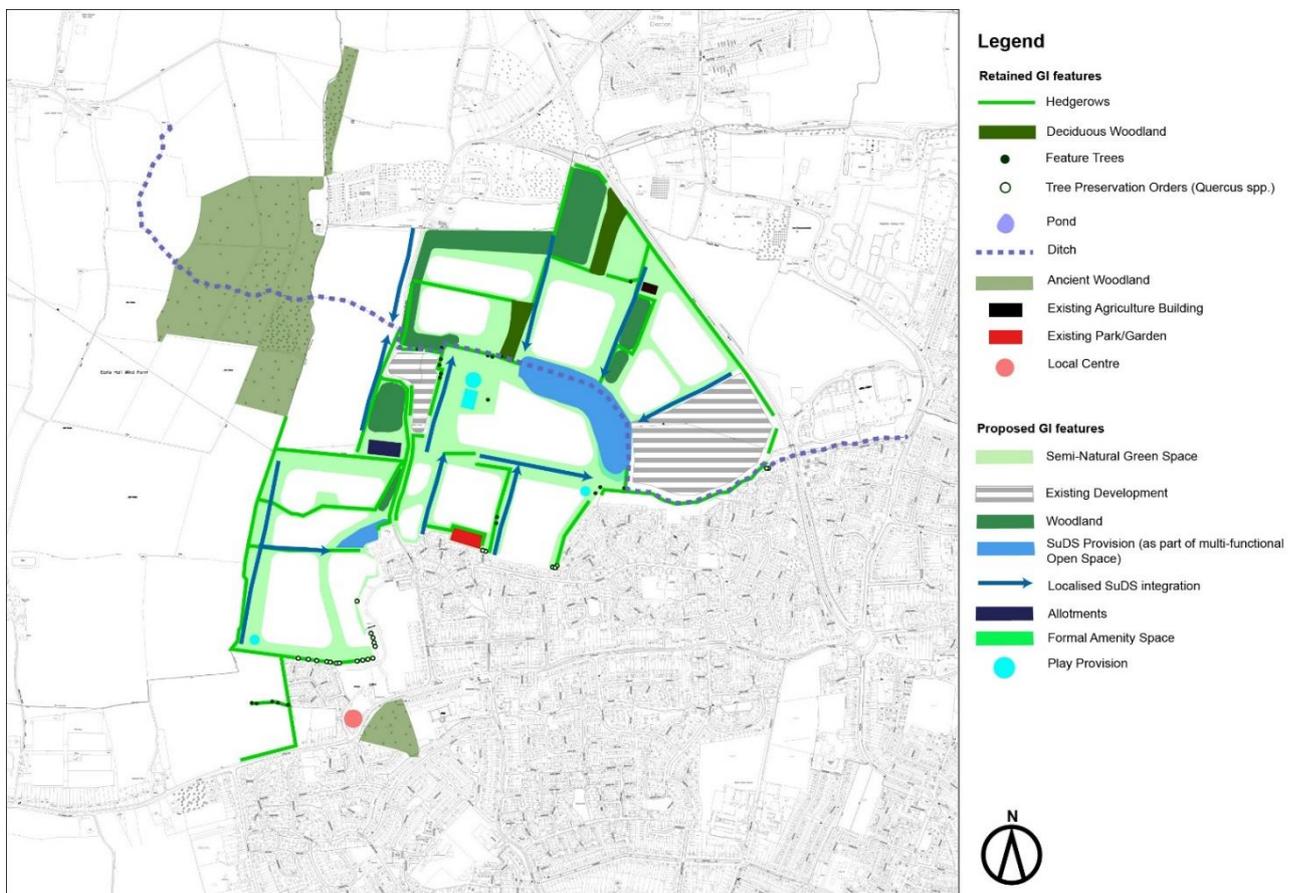


Figure 8: SuDS Proposal

4.4.2.1As shown in figure 5, the GI framework provides a wide green corridor adjacent to the existing watercourse, Hartley Brook at the lowest point on the site. Its proposed that the opportunity should be taken to use this space to incorporate the main drainage provision in a way which enhances the setting of the corridor.

4.4.2.2Figure 8 also shows an indicative location for a further drainage basin which could be provided in the parcels to the west.

4.4.2.3 It would be expected that as well as the strategic SuDS provision within the green corridor, localised SuDS provision should be provided alongside grey infrastructure and integrated with residential parcels to ensure a multi-system network that doesn't have reliance on one system.

4.4.2.4 Any future drainage proposals will need to take in account the Lead Local Flood Authority advice. They will also need to demonstrate how the opportunity has been taken to use sustainable urban drainage systems (SUDS) to meet the drainage requirements of any future development, whilst ensuring multi-functionality and creating an attractive environment for residents and visitors and encouraging biodiversity.

4.4.3 Infrastructure and Facilities

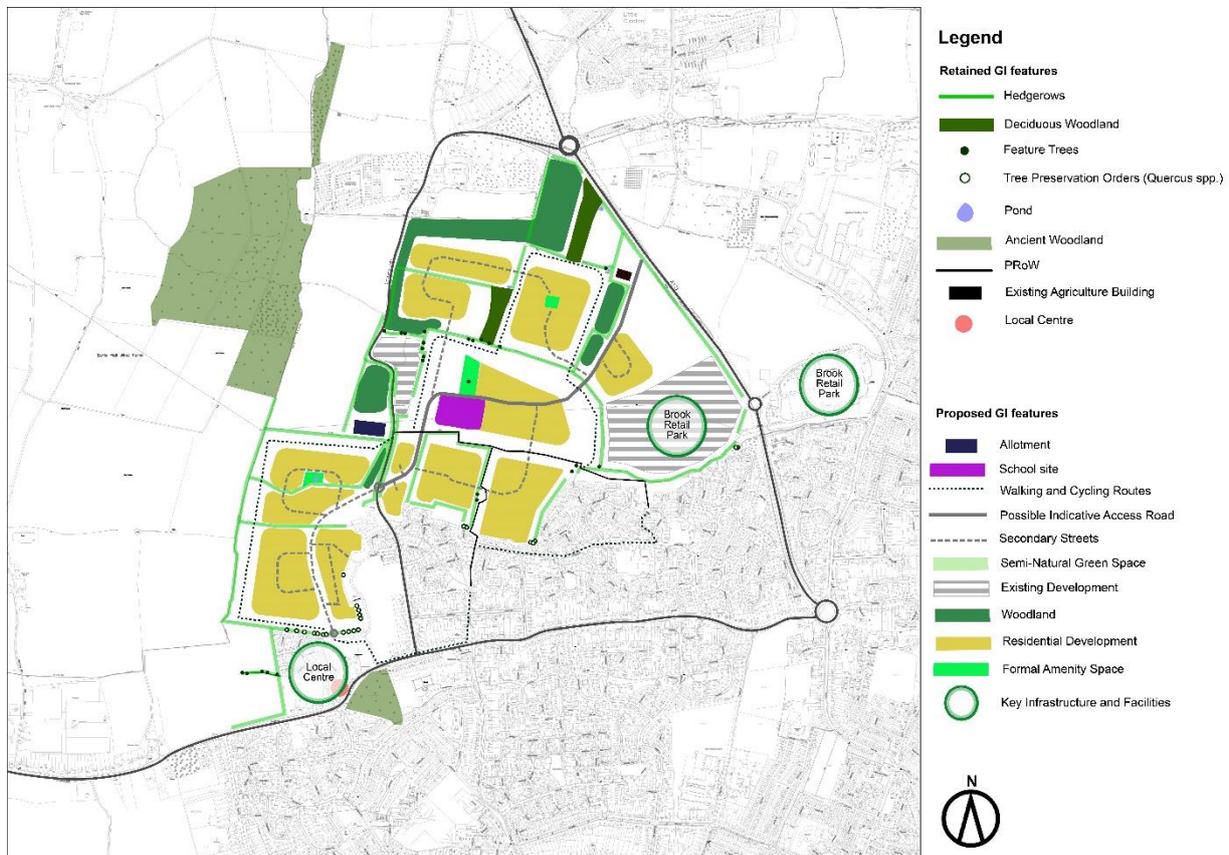


Figure 9: Local Facilities and Infrastructure

4.4.3.1 In addition to the central green corridor, the GI framework provides the capacity to link the potential development with the A133 and Clacton. But also provide existing residents in Clacton and the surrounding area access to the development and its new facilities. Although The grey and green corridor link will be beneficial but is not essential to the viability of the development. The location of this link is shown on the GI Framework diagram along with potential connections into proposed development parcels. We would envisage this link will incorporate a dedicated footpath and cycle path as well as verge tree planting and on-street SuDS.

4.4.3.2 Proposed allotments are located off Little Clacton Road in close proximity to the existing PRoW and the proposed walking and cycling route, ensuring easy access for local residents. There is potential for a small car park to be provided within the field parcel, to allow people to access by vehicle, however this should be avoided if possible as this would result in a loss of hedgerow and an additional access road off Little Clacton Road.

4.4.3.3 The school site is located at the core of the development adjacent to play facilities and amenity space, making it an ideal location for all users. Sustainable transport options such as cycling and walking are available to future residents, with a proposed road network allowing for bus provision in the future.

4.4.3.4 The site has the potential to provide additional facilities such as a local supermarket and community centre. However, the current framework does not allow for this and instead utilises the facilities and provisions located within the existing settlement (off Legerton Drive).

4.4.4 Play and Amenity Provision

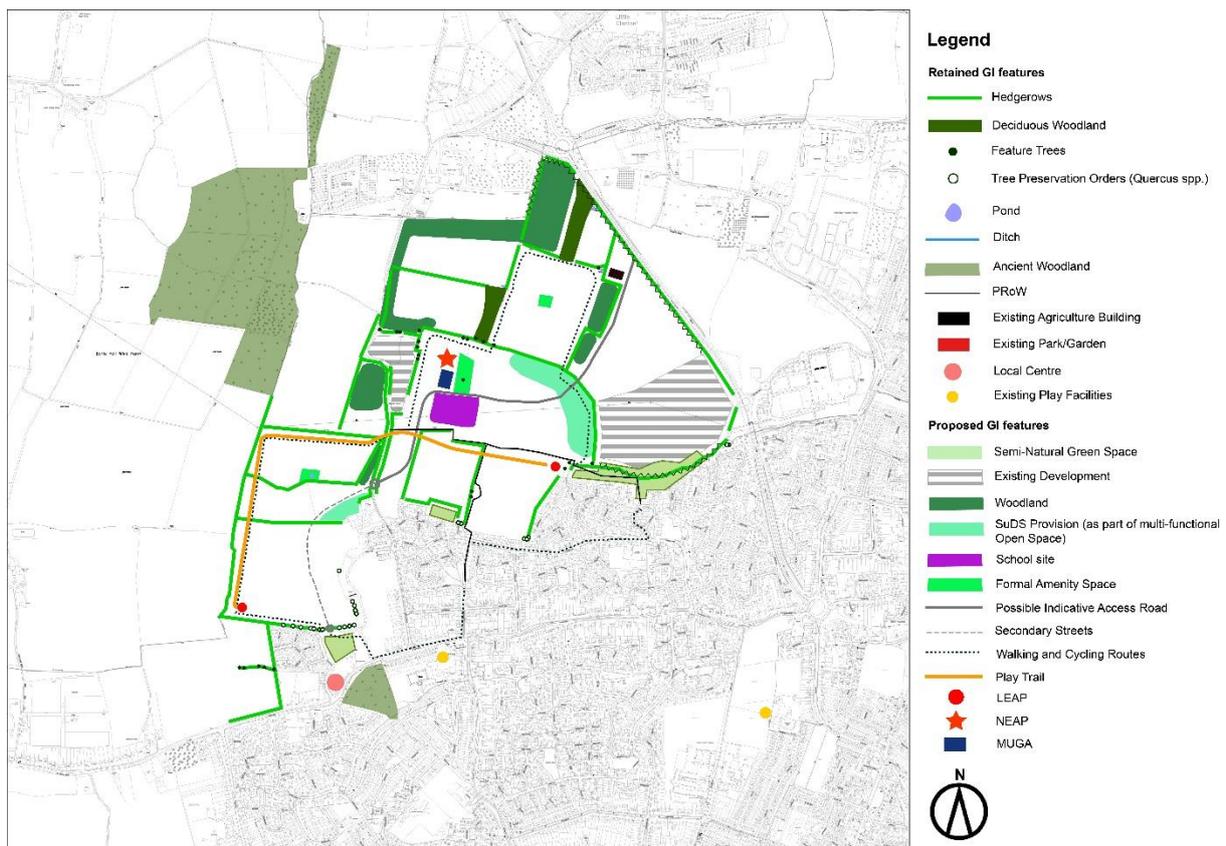


Figure 10: Proposed Play and Amenity Provision

4.4.4.1 As shown in figure 5, the GI framework provides a series of play spaces in strategic locations around the site to ensure sufficient accessibility for residents. Provision of play spaces will need to meet the type, quantum and accessibility standards for new

development set out within national guidance (Guidance for Outdoor Sport and Play, Fields in Trust).

4.4.4.2 The main area of play provision (NEAP and MUGA) is located at the centre of the development, close to the proposed school location and potential local centre. This location provides good connections to the rest of the developable area, but also to Clacton and the surrounding area due to its proximity to the link road.

4.4.4.3 Two LEAPs are proposed across the site in line with the green space requirements. The character of these play spaces should be dependent on their location. For instance, the LEAP proposed in the south west corner should have a natural character with informal play features and landscape elements. We would also anticipate that green corridors would include informal play features and doorstep play elements will be located within the residential parcels.

4.4.4.4 Given the formal character of proposed amenity space and parks, it is proposed that these will be located within the residential parcels. Where possible, existing features such as ponds and trees should be retained to give the space a sense of maturity and character when developed.

4.4.5 Connectivity

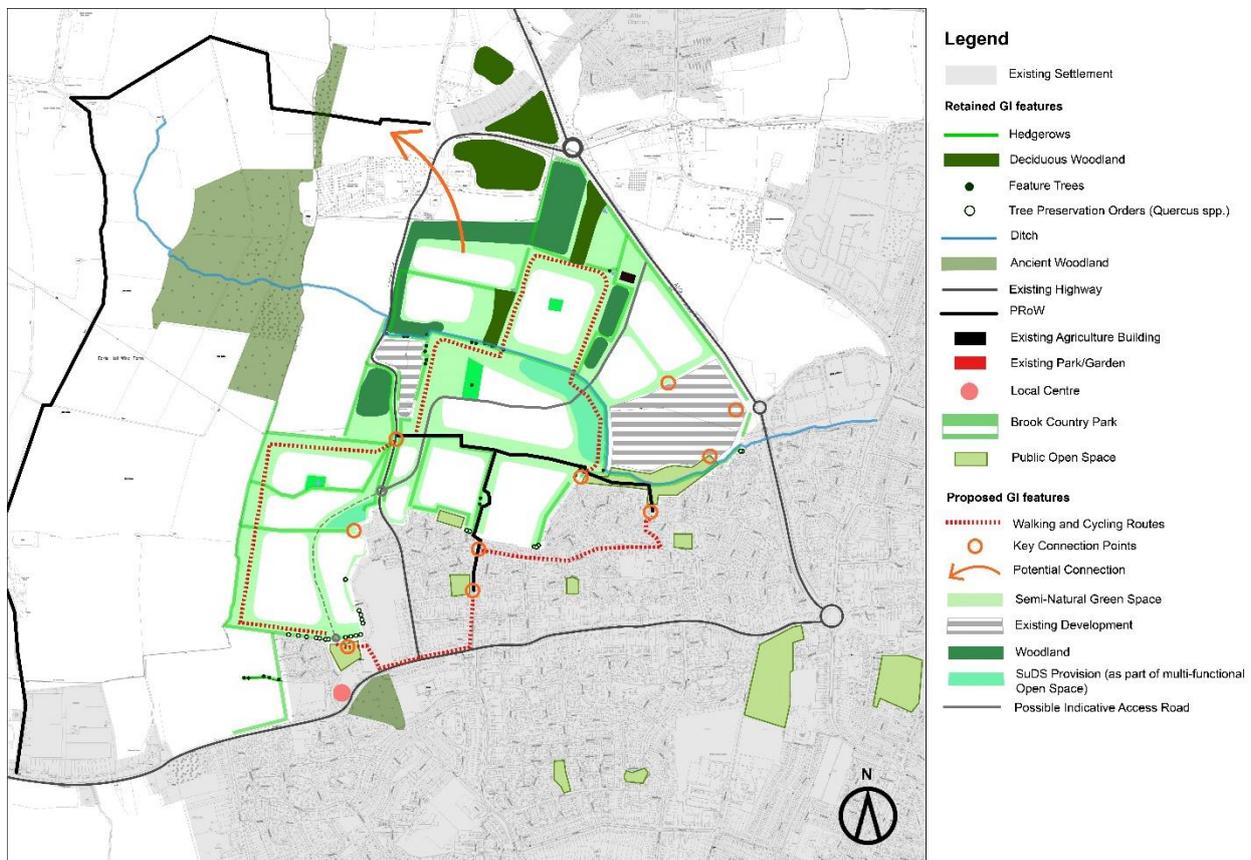


Figure 11: Walking and Cycling network

4.4.5.1 The proposed walking route utilises the proposed green corridor network around the site and connects into the existing PRoW along Pickers Ditch. The proposed circular route is over 4km long meeting the requirements of the Essex Coast RAMS. There is potential for the walking route to connect into the wider movement network, with links to the PRoW to the west of Hartley Wood, to the south, towards Coppins Wood and east, towards Brook Country Park, as shown in Figure 11.

4.4.5.2 There is an expectation that the proposed primary street would be accompanied by a shared walking and cycling route providing direct access to existing and proposed facilities.

5. Indicative Land Use Budget

5.1 The table (Table 2:Land Use Budget) and plan (Figure 12) Indicative Development Parcels below illustrate how the land use policy requirements of policy SAMU 2 Hartley Gardens can be physically accommodated on site using the indicative development scenario included in the Green Infrastructure Framework Plan. This includes parcels of residential land which amount to c.1700 units using a density assumption of 35 dph, 7 hectares of employment land adjacent to the A133 in the most visible, prominent and commercially attractive location on the site and a community hub in the central part of the site comprising the primary school, neighbourhood play provision and accessible green space.

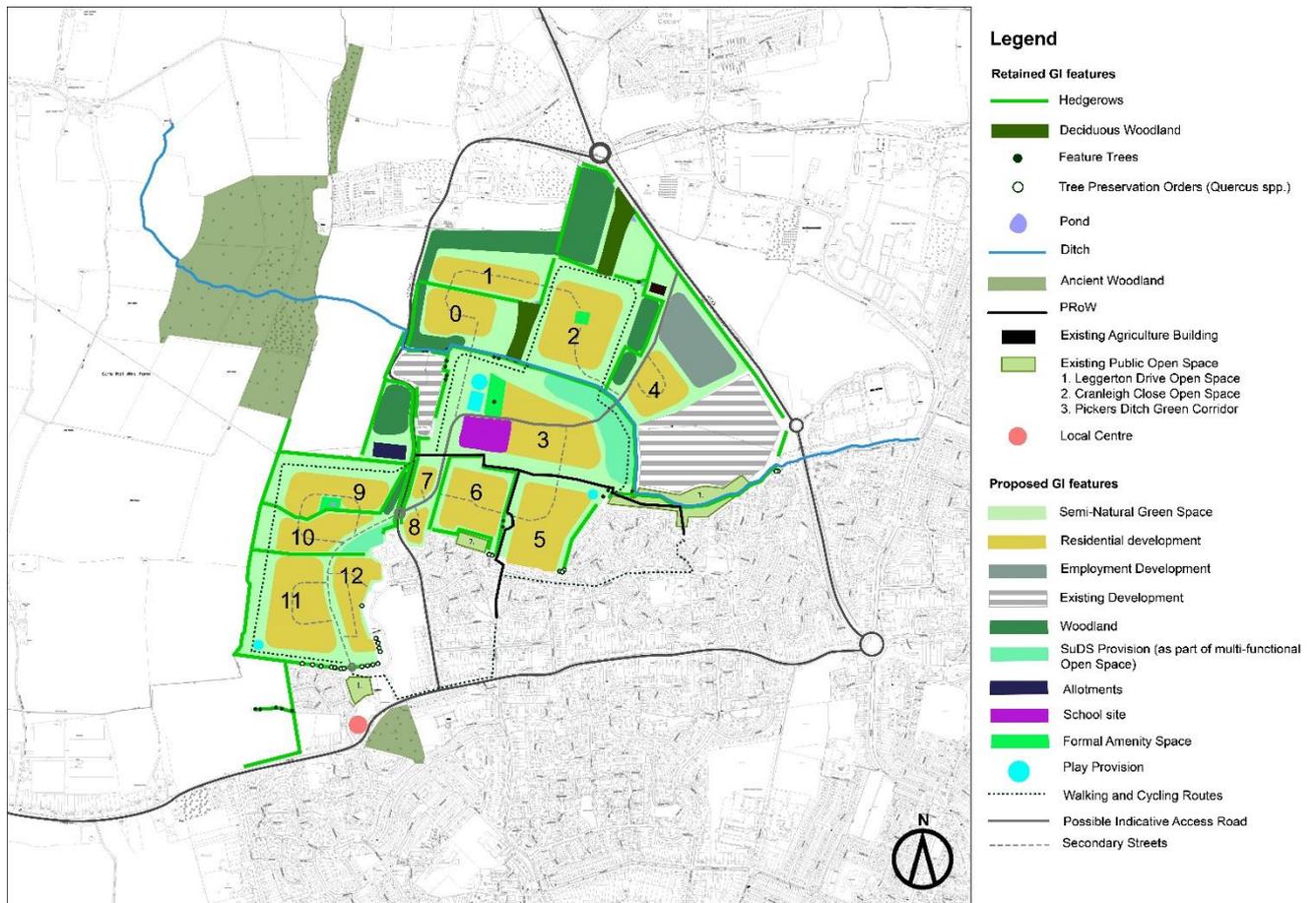


Figure 12: Residential Parcels

Table 2: Land Use Budget

Land Use	Gross Site Area Requirement (ha)	Net Area Proposed (ha)	
Parks and Gardens	0.46	0.29	
Amenity Green space	5.87	6	
Natural and Semi-Natural Greenspace	13.68	25	
Allotments	0.88 ha (65 allotments)	0.9	
Play Provision	MUGA (0.07), NEAP 0.1 and 2No. LEAPS (0.08)	MUGA (0.07), NEAP 0.1 and 2No. LEAPS (0.08)	
Employment	7	7	
Primary School	2.1	2.14	
Residential	Parcel	Net Area (ha)*	Units (35 dph)
Sub parcels	0	3.2	112
	1	3.1	108
	2	5.9	206
	3	7.2	252
	4	2.8	98
	5	5.25	184
	6	3.7	130
	7	0.65	23
	8	0.7	24
	9	3.4	119
	10	2.75	96
	11	6	210
	12	3	105
	Total	47.65	1667

*Net Area includes:

- Access roads
- Private gardens
- Car Parking
- Incidental Open Space

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