



Cairn Homes Properties Ltd
Lands at Newcastle
Landscape Design
Report

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murray & associates
landscape architecture

Newcastle - Landscape Strategy

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Newcastle is situated to the west of Dublin City, approximately 11km from the M50. Within the South Dublin County Development Plan 2016-2022, it is designated as a Small Town in the county settlement hierarchy with a forecasted population of 4,235 in 2022. While this designation stands, the character of the town retains a village atmosphere. The western area of Newcastle is designated as an architectural conservation area (see SDCC Development Plan Maps 3 & 7).

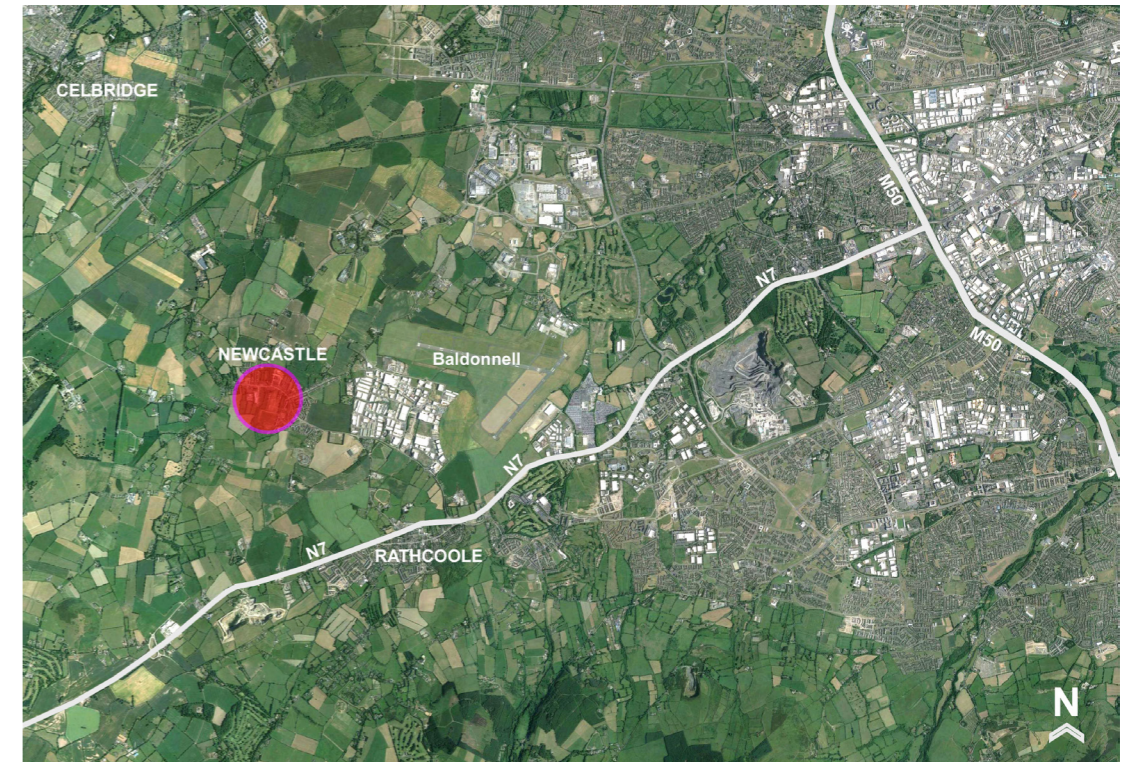
These designated Small Towns are largely within the Hinterland areas and yield a population of 1,500-5,000 persons. The town itself sits in the Newcastle Lowlands Landscape Character Area, as defined by the 2015 Landscape Character Assessment of South Dublin County. The LCA continues further, and calls Newcastle a 'Historic Urban' character area - towns and villages that have developed historically, surrounded by primarily 20th Century residential development, and with significant recent development in the past two decades. The bulk of Newcastle is designated as an area of Archaeological Potential due to the large range of recorded archaeological sites within the environs of the village.

The village of Newcastle underwent significant change with extensive new development over the early 2000's and particularly to the east of the village. In this respect, the Newcastle Local Area Plan (2012) notes that Newcastle has transformed the area from a rural village to a development village with suburban characteristics. Residential development to the west of the village is predominantly low density, one-off dwellings centred on Main Street while development to the east is characterised by medium density, suburban type housing estates to the north and south of main street, the lands generally comprise of greenfield backlands located to the south of Main Street and west of established residential development at Ballynakelly, a mid-noughties development of houses, duplexes and apartments. The application lands comprise of 16 Hectares and are zoned RES-N (to provide for new residential communities in accordance with approved planning schemes), RES (to protect and/or improve residential amenity), OS (To preserve and provide for open space and recreational amenities) and RU (to protect/improve rural amenity and provide for development of agriculture).

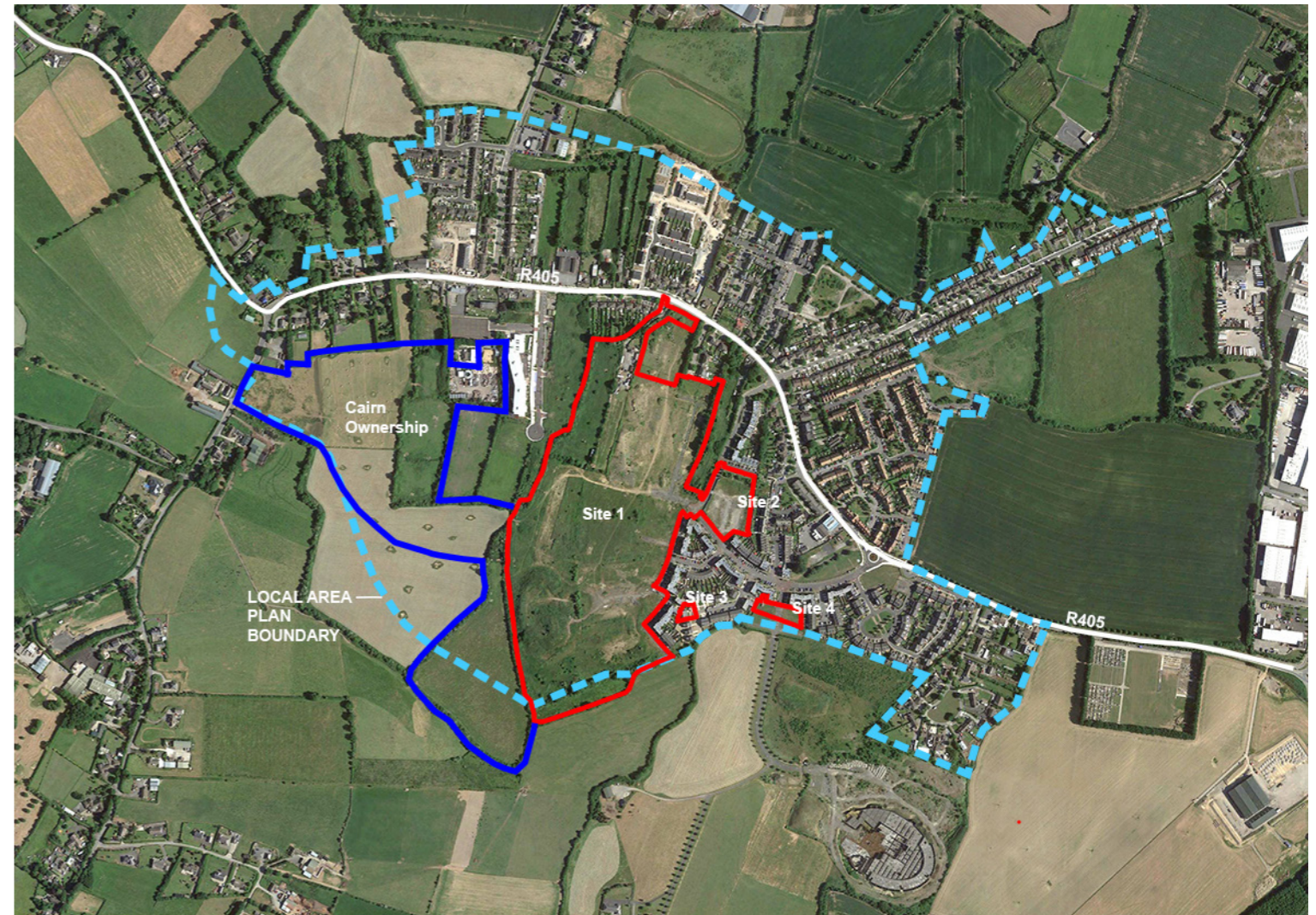
The overriding feature within this landscape are the existing elements of the original burgage plot field system, dating from the Anglo-Norman manorial system. These are long rectangular field boundaries extending perpendicularly from properties fronting onto Main Street. This landholding system and pattern has been identified as of regional importance.

'This significance is due to....the remnant field-systems which encapsulate the historic fabric of the village. The burgage plots, open- or three-field system and the commons beyond can still be traced in the hedgerows which surround and comprise the historic core of the village. This land-holding system was the product of a form of farming common on the European Continent which was introduced into Ireland by the Anglo-Normans.' (Newcastle Lyons Historic Area Assessment 2011)

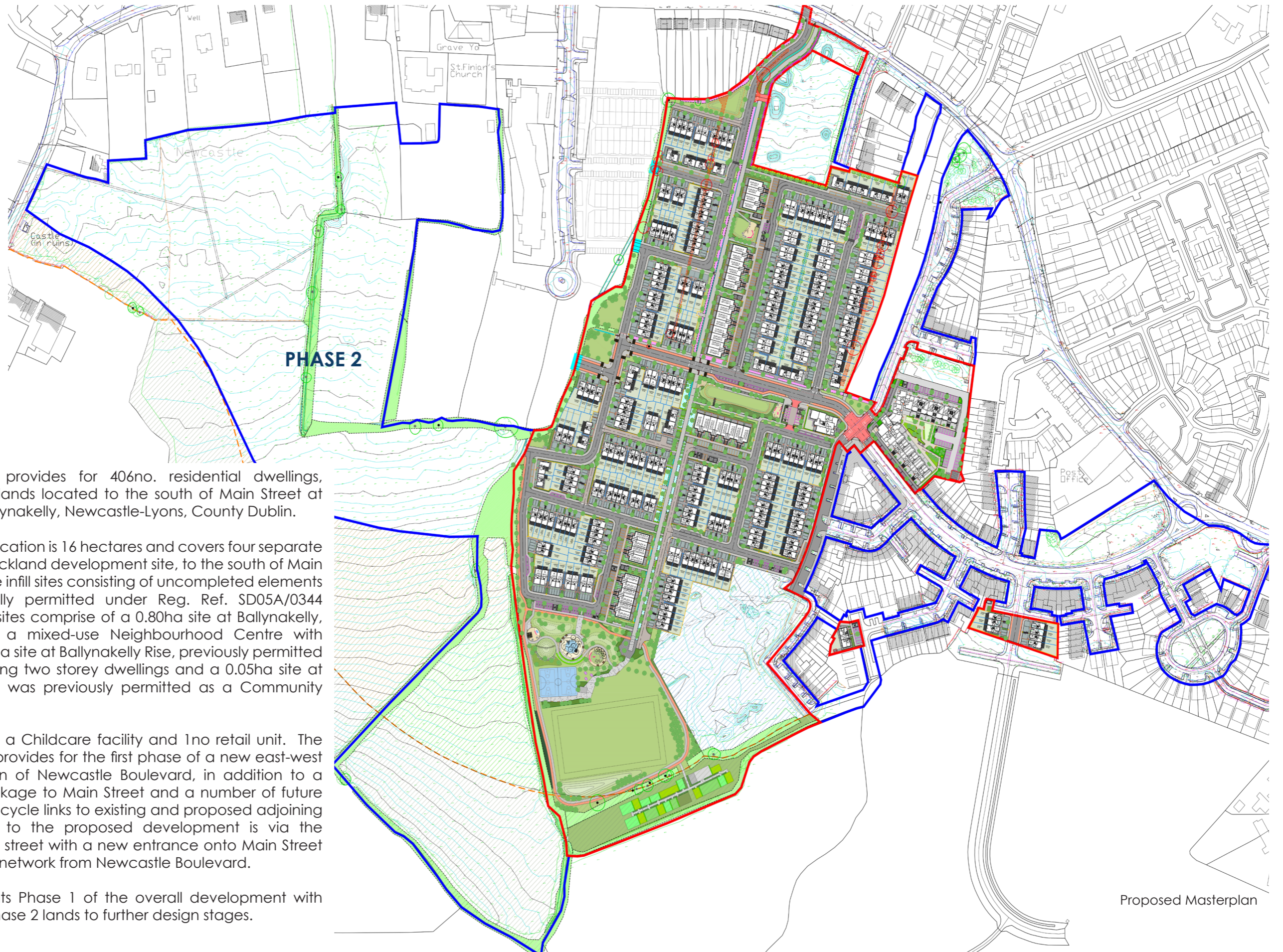
The retention and enhancement of these landscape elements have been a central part of the design process, and is detailed in the following pages.



Newcastle Location



Site Location within Newcastle



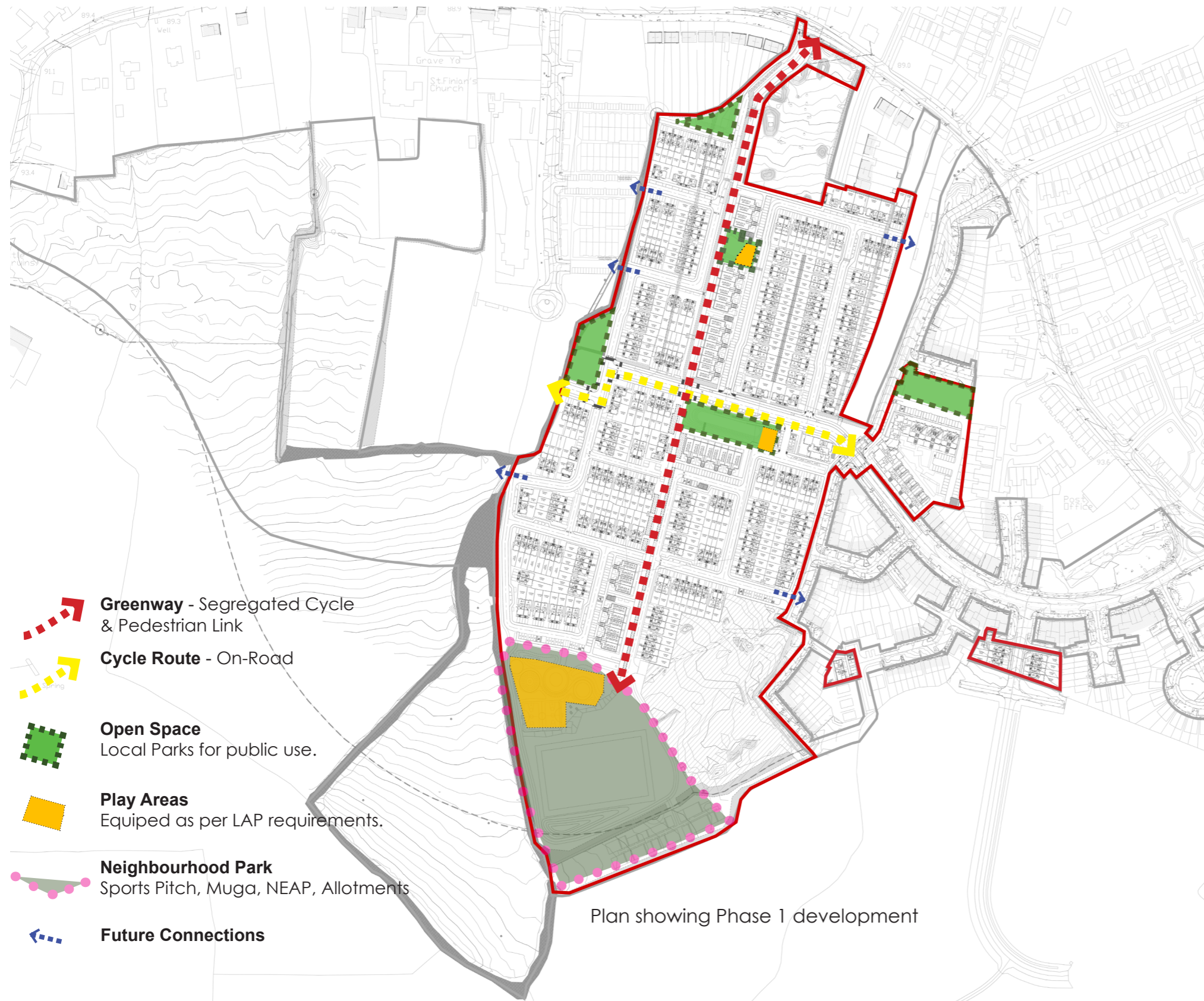
The preliminary design provides for 406no. residential dwellings, representing Phase 1 of lands located to the south of Main Street at Newcastle South and Ballynakelly, Newcastle-Lyons, County Dublin.

The total area of the application is 16 hectares and covers four separate areas. There is a main, backland development site, to the south of Main Street, together with three infill sites consisting of uncompleted elements of development originally permitted under Reg. Ref. SD05A/0344 (PL06S.217096). The infill sites comprise of a 0.80ha site at Ballynakelly, previously permitted as a mixed-use Neighbourhood Centre with residential above; a 0.18ha site at Ballynakelly Rise, previously permitted as part of a site comprising two storey dwellings and a 0.05ha site at Ballynakelly Edge, which was previously permitted as a Community Centre under Part 8.

Further proposals include a Childcare facility and 1no retail unit. The proposed development provides for the first phase of a new east-west link street, a continuation of Newcastle Boulevard, in addition to a new north-south street linkage to Main Street and a number of future potential pedestrian and cycle links to existing and proposed adjoining developments. Access to the proposed development is via the proposed north-south link street with a new entrance onto Main Street and via the existing road network from Newcastle Boulevard.

This application represents Phase 1 of the overall development with future development of Phase 2 lands to further design stages.

Proposed Masterplan



Plan showing Phase 1 development

Design Approach & Open Space Planning Context

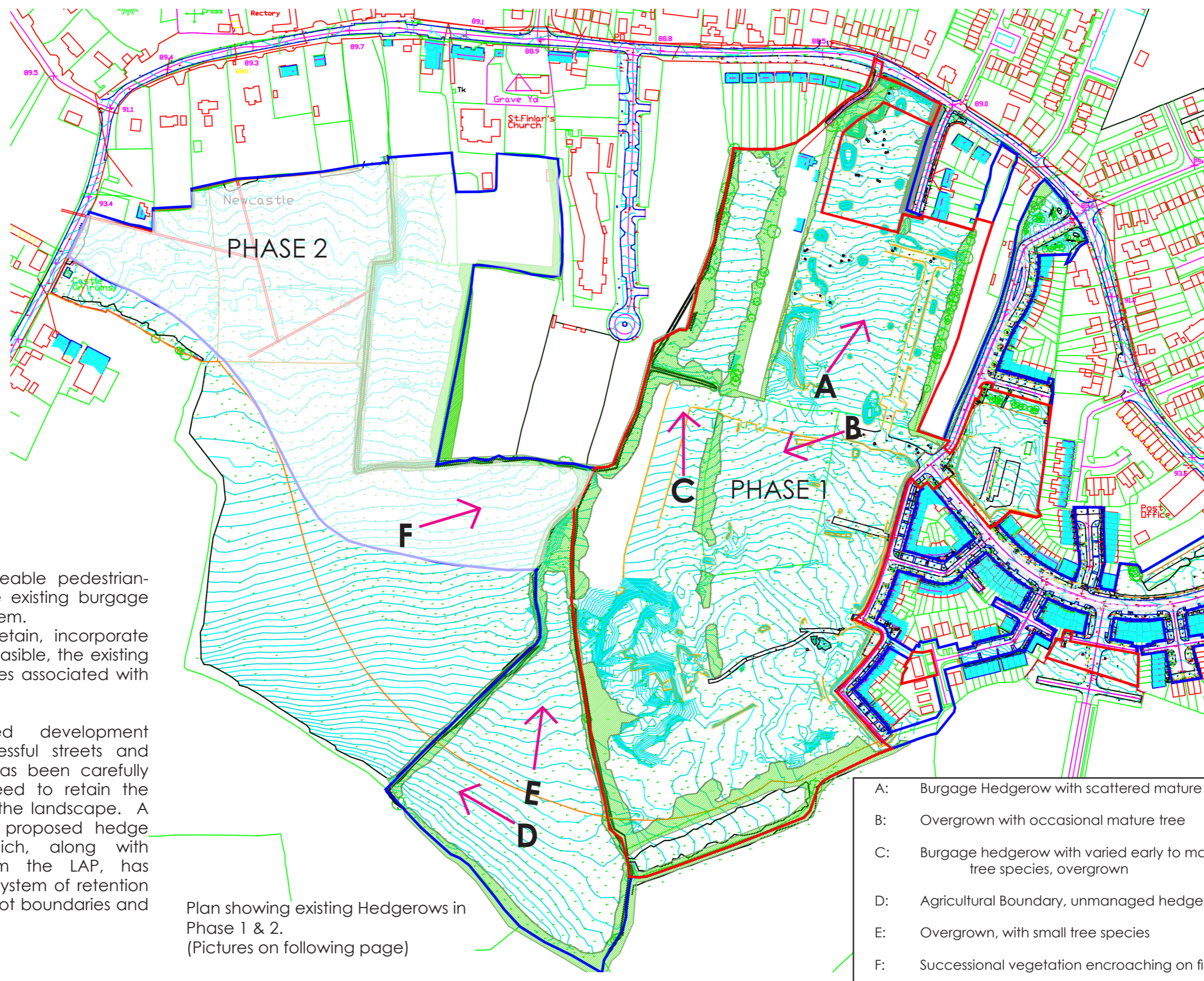
The design intent is to create a high quality and appropriate landscape for future residents, which will meet their recreational needs and provide an attractive visual setting and associated social amenity spaces. The principles of inclusivity for all age groups, universal accessibility and sustainable development are applied to ensure an inclusive and environmentally responsible design solution.

The objective of the landscape strategy for the proposed development is not simply to apply greenery to open areas but to place the new residential and community facilities within a cohesive landscape that responds to and integrates the proposed development within the site. The landscape developments that are proposed are in accordance with the relevant Green Infrastructure policies of the South Dublin County Council Development Plan 2016 - 2022 and the Newcastle Local Area Plan 2012.

The Local Area Plan seeks to create a permeable network of green infrastructure and open spaces across the LAP lands. This allows for the creation of a series of local parks within easy walking distance of future residents, along with a larger village park area (Taobh Chnoic Park) zoned to the south of the lands, with approximately 2 ha. Each of the smaller open spaces will cater for active and passive needs while the Taobh Chnoic Park will cater for more formal play activities, with the inclusion of a senior size playing pitch, a multi-use games area and a play area catering for a large range of age groups.

These open spaces are linked with a Greenway pedestrian/cycle network. The central spine of the greenway connects the existing village centre of Newcastle to the north with the new Taobh Chnoic Park to the south of the development lands. The proposed greenway incorporates existing hedgerows where feasible and is separated from the proposed roadway system as much as possible.

A restrained palette of materials will also be used to integrate the proposed architectural forms and materials within the landscape. There are several open spaces identified within the Phase 1 Lands, totaling 3.9 Hectares. This mosaic of open spaces gives every resident easy and convenient access to recreational amenity and allows distinct landscape treatments and elements to be applied to different spaces. This aids way-finding and contributes towards giving areas within the development a recognisable character.



Burgage Plots

Overarching this permeable pedestrian-focused network is the existing burgage plot and hedgerow system.

The LAP sets out to retain, incorporate and reinstate, where feasible, the existing burgage plot boundaries associated with Newcastle.

Within the proposed development the creation of successful streets and urban configurations has been carefully balanced with the need to retain the burgage character of the landscape. A study of existing and proposed hedge typology follows, which, along with recommendations from the LAP, has formed the basis of a system of retention and reinstatement of plot boundaries and hedgerows.

Plan showing existing Hedgerows in Phase 1 & 2. (Pictures on following page)

- A: Burgage Hedgerow with scattered mature trees
- B: Overgrown with occasional mature tree
- C: Burgage hedgerow with varied early to mature tree species, overgrown
- D: Agricultural Boundary, unmanaged hedgerow
- E: Overgrown, with small tree species
- F: Successional vegetation encroaching on field



- A: Burgage Hedgerow with scattered mature trees
- B: Overgrown with occasional mature tree
- C: Burgage hedgerow with varied early to mature tree species, overgrown
- D: Agricultural Boundary, unmanaged hedgerow
- E: Overgrown, with small tree species
- F: Successional vegetation encroaching on field



The existing hedgerows on site form a defining pattern on the landscape, but have suffered from a lack of maintenance in recent years.

The following are typical examples of the various conditions on site:

1: Blackthorn and other hedgerow vegetation encroaching on field through natural succession;

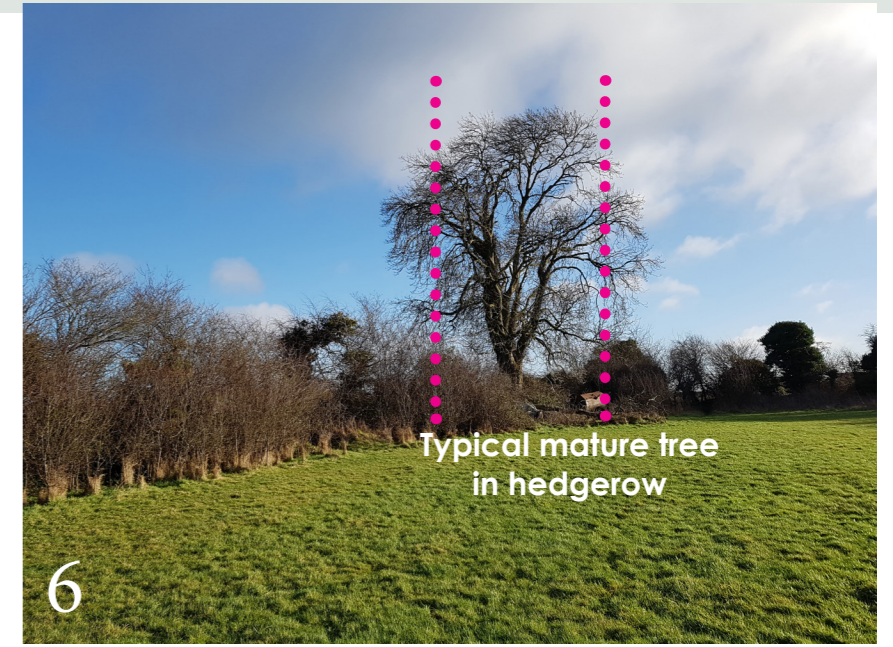
2: Trees growing on top of the mound (single or multi stemmed) ;

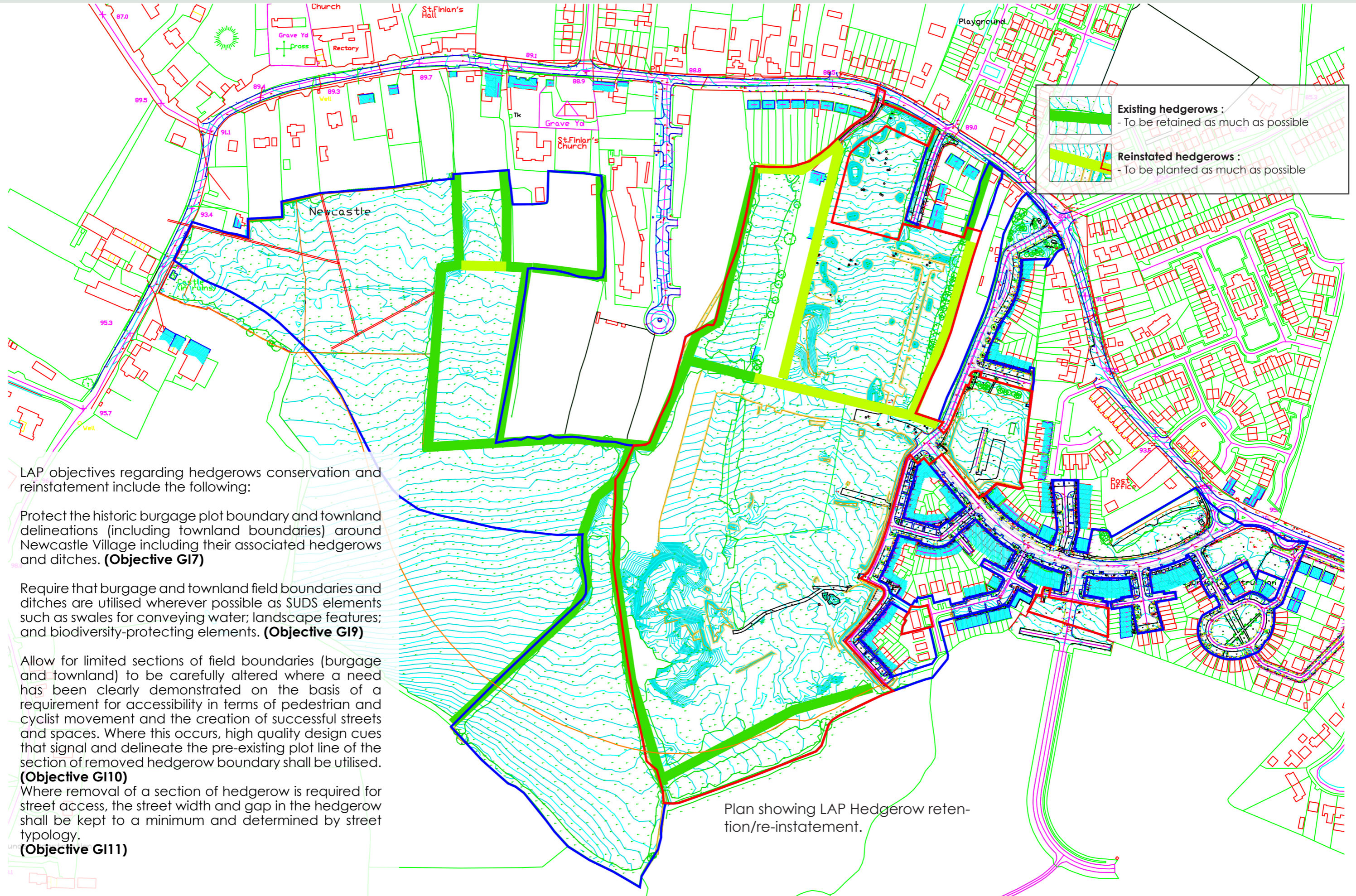
3: Brambles and/or ivy spreading colonising the hedgerows ;

4: drainage ditches along the hedgerows;

5: gaps and discontinuity in the vegetation;

6: Typical mature tree in central location of original hedge line





LAP objectives regarding hedgerows conservation and reinstatement include the following:

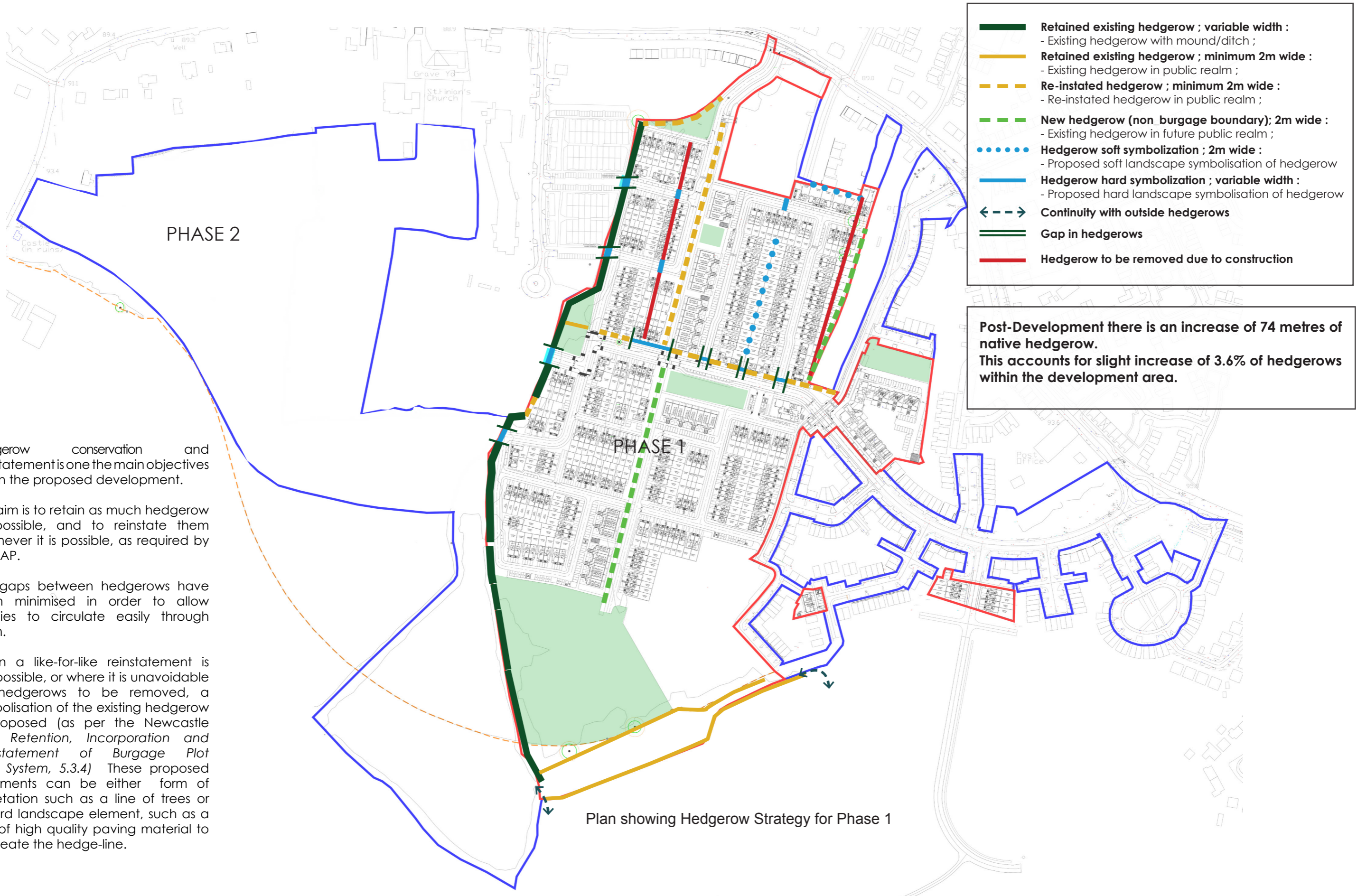
Protect the historic burgage plot boundary and townland delineations (including townland boundaries) around Newcastle Village including their associated hedgerows and ditches. **(Objective G17)**

Require that burgage and townland field boundaries and ditches are utilised wherever possible as SUDS elements such as swales for conveying water; landscape features; and biodiversity-protecting elements. **(Objective G19)**

Allow for limited sections of field boundaries (burgage and townland) to be carefully altered where a need has been clearly demonstrated on the basis of a requirement for accessibility in terms of pedestrian and cyclist movement and the creation of successful streets and spaces. Where this occurs, high quality design cues that signal and delineate the pre-existing plot line of the section of removed hedgerow boundary shall be utilised. **(Objective G110)**

Where removal of a section of hedgerow is required for street access, the street width and gap in the hedgerow shall be kept to a minimum and determined by street typology. **(Objective G111)**

Plan showing LAP Hedgerow retention/re-instatement.



- **Retained existing hedgerow ; variable width :**
- Existing hedgerow with mound/ditch ;
- **Retained existing hedgerow ; minimum 2m wide :**
- Existing hedgerow in public realm ;
- - - **Re-instated hedgerow ; minimum 2m wide :**
- Re-instated hedgerow in public realm ;
- - - **New hedgerow (non_burgage boundary); 2m wide :**
- Existing hedgerow in future public realm ;
- **Hedgerow soft symbolization ; 2m wide :**
- Proposed soft landscape symbolisation of hedgerow
- **Hedgerow hard symbolization ; variable width :**
- Proposed hard landscape symbolisation of hedgerow
- = = = **Continuity with outside hedgerows**
- = = = **Gap in hedgerows**
- **Hedgerow to be removed due to construction**

Post-Development there is an increase of 74 metres of native hedgerow. This accounts for slight increase of 3.6% of hedgerows within the development area.

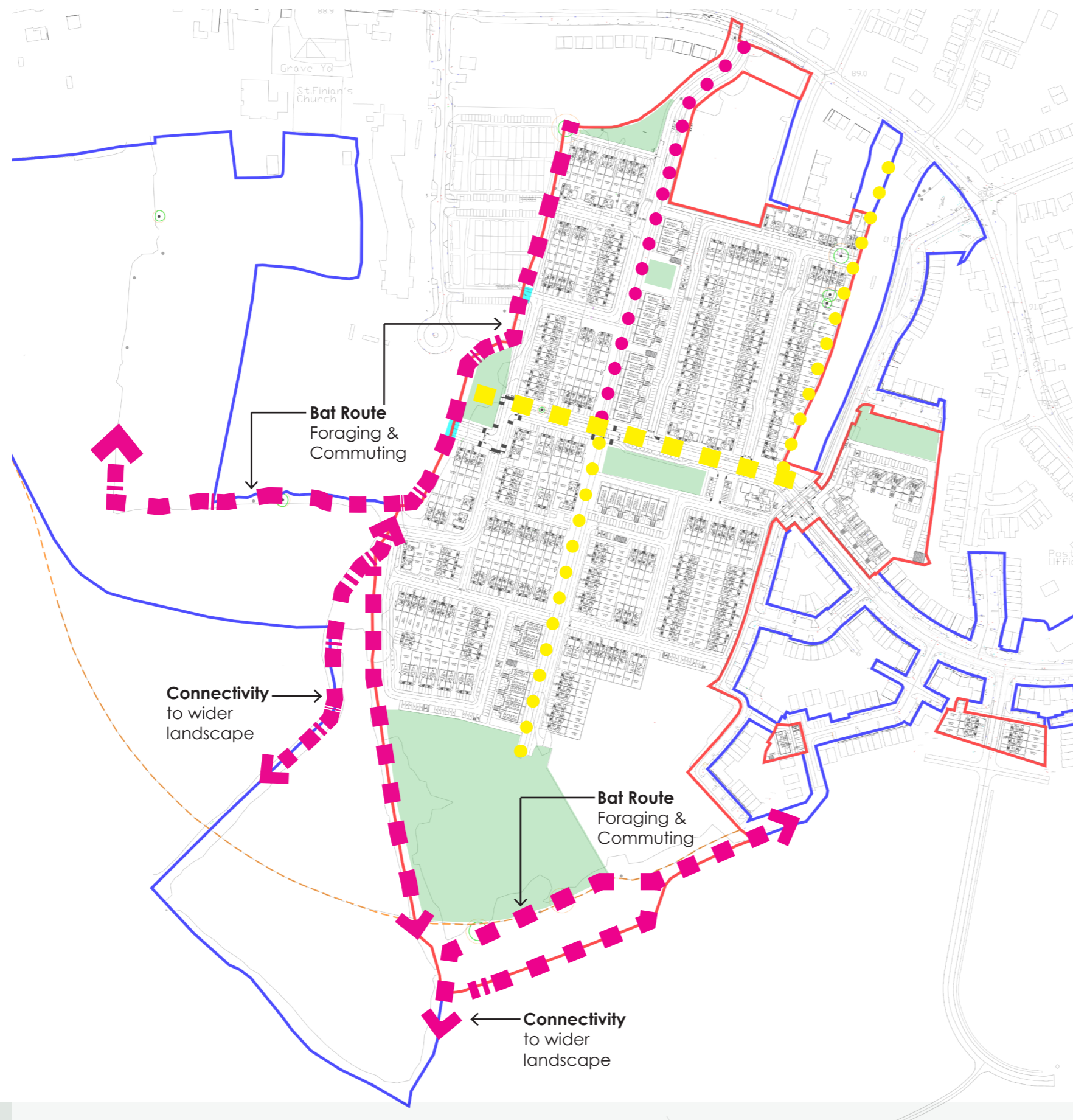
Hedgerow conservation and reinstatement is one of the main objectives within the proposed development.





The aim is to retain as much hedgerow as possible, and to reinstate them whenever it is possible, as required by the LAP.

The gaps between hedgerows have been minimised in order to allow species to circulate easily through them.

When a like-for-like reinstatement is not possible, or where it is unavoidable for hedgerows to be removed, a symbolisation of the existing hedgerow is proposed (as per the Newcastle LAP: *Retention, Incorporation and Reinstatement of Burgage Plot Field System*, 5.3.4) These proposed treatments can be either form of vegetation such as a line of trees or a hard landscape element, such as a row of high quality paving material to delineate the hedge-line.

Plan showing Hedgerow Strategy for Phase 1



-  Primary Linkage in Public Realm
- Existing Hedgerow Retained
-  Secondary Linkage in Public Realm
- Existing Hedgerow Retained and Reinstated
-  Primary Linkage in Public Realm
- Re-instated Hedgerow
-  Secondary Linkage in Public Realm
- Re-instated Hedgerow

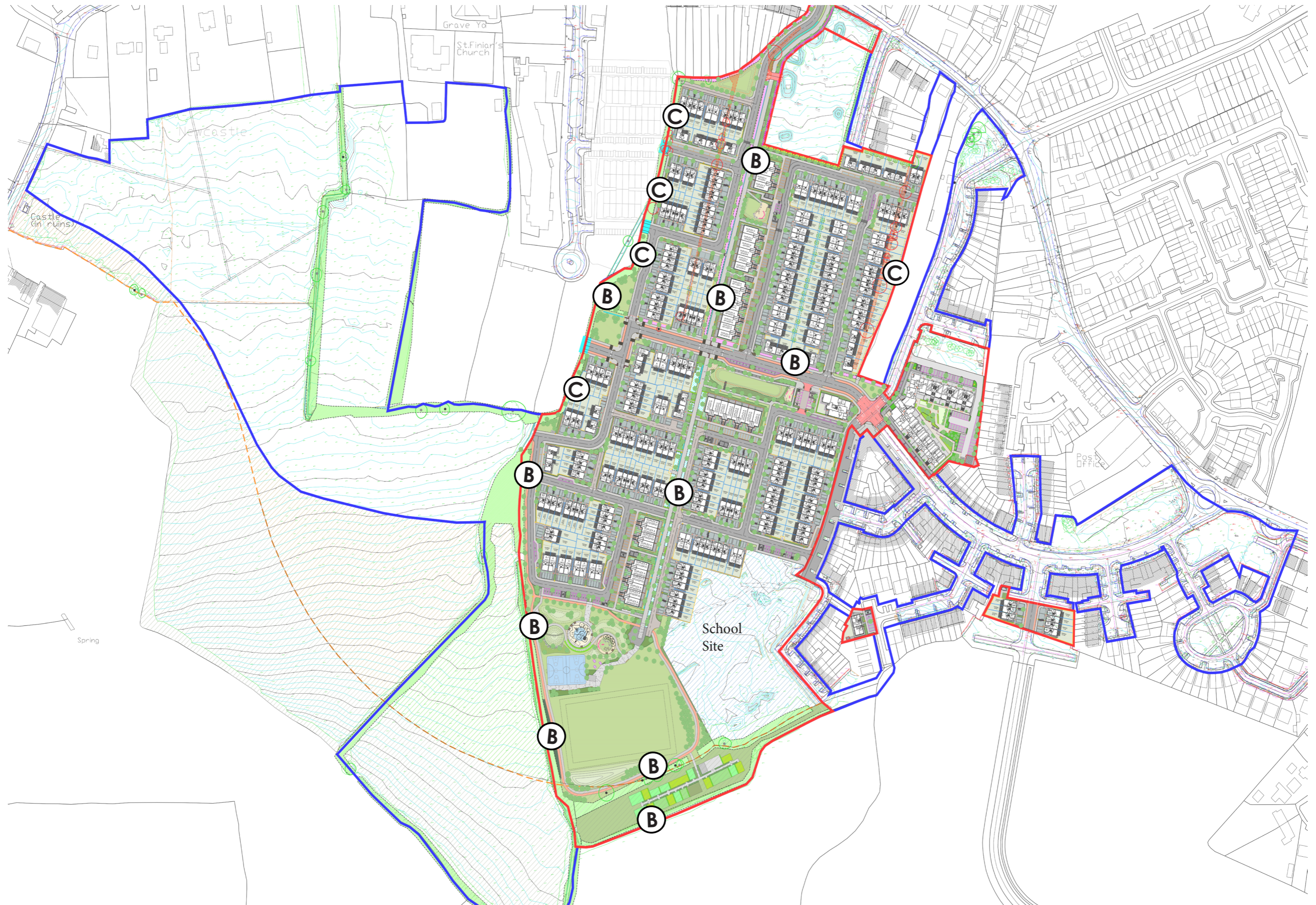


Linear Habitat Map (fig 5, Bat Eco Services report, 117-NW)

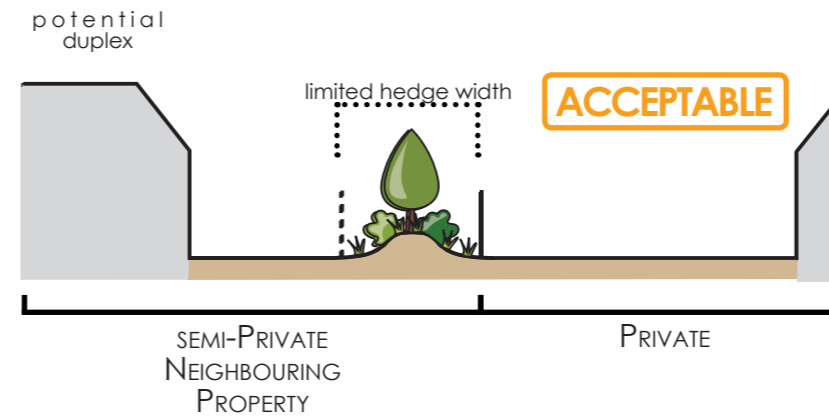
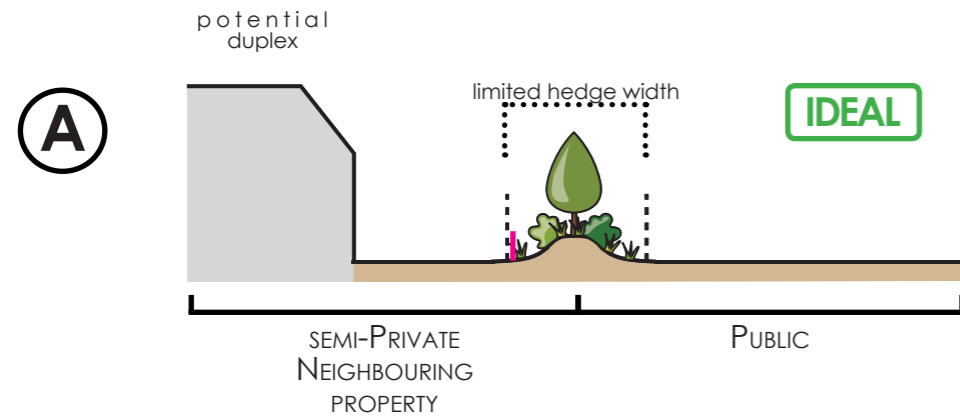
The above map marks the principal commuting and foraging linear habitats recorded during the bat survey by Bat Eco Services. To ensure connectivity in the immediate landscape for local bat populations, these linear habitats are retained post development and protected during construction.

Any existing gaps, and those created by proposed roadways, are to be planted along the boundary of the proposed development, which will aid in maintaining the bat foraging routes. The shrub / tree mixture will be native plant species, a replication of what already exists in the landscape.

For every mature tree felled, three trees (semi-mature size) will be planted along these boundaries as part of the landscape plan for the proposed development.
(See *Bat Eco Services* report for further details)



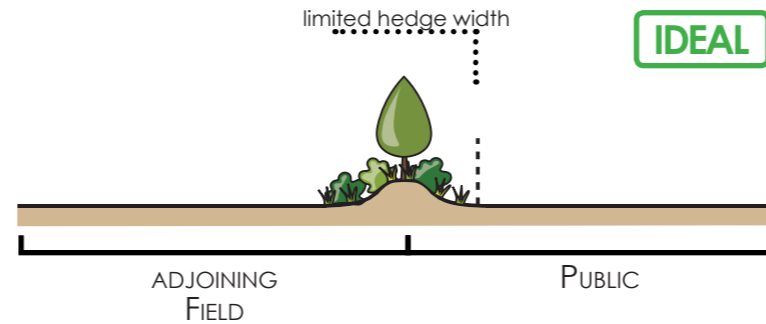
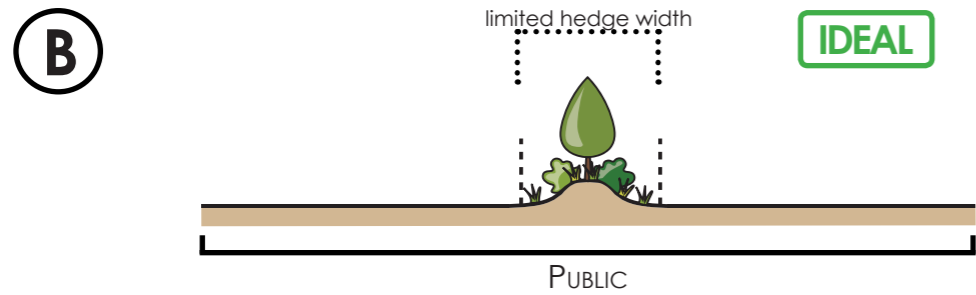
POSSIBLE ENCOUNTERED SITUATIONS :



SITUATION A :
Hedgerow is next to a potential duplex :

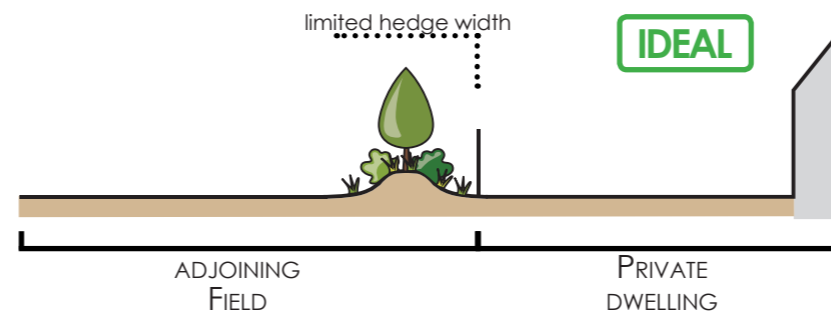
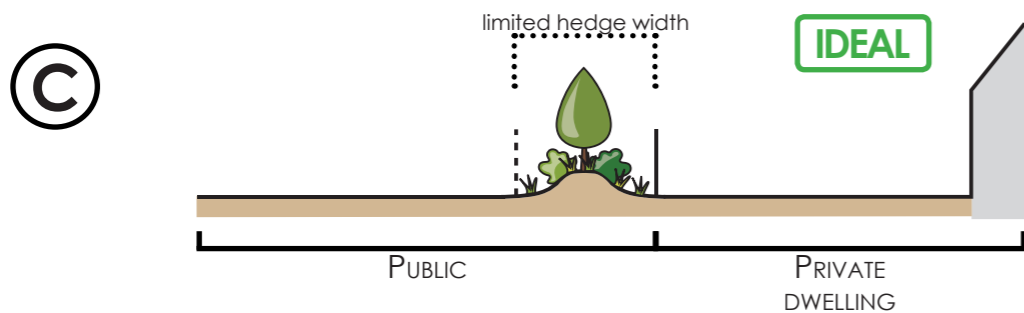
- When next to a public space, only a minimal fence is needed to delineate property boundary, with the existing hedge being bolstered with new planting. The existing hedge's width needs to be limited.

- When next to a private property, hedge's width is limited on a side and fenced on the private side.



SITUATION B :
Hedgerow is in open public space :

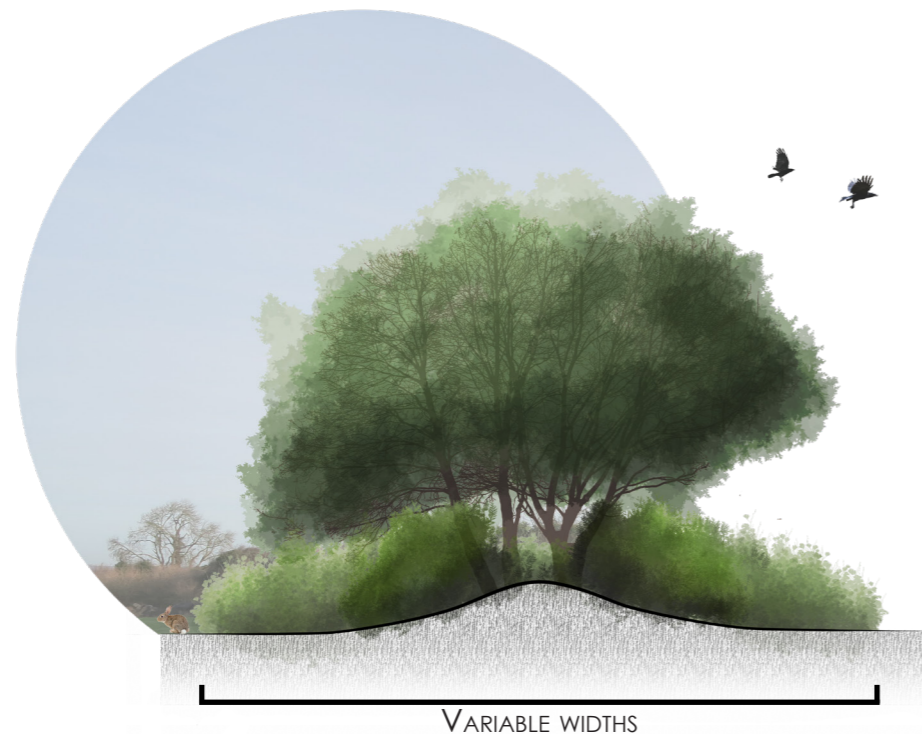
The hedgerow is limited in width (5m or more) but is not enclosed with fences. If next to a private neighbouring, the hedge is only limited on the public side.



SITUATION C :
Hedgerow is between a property and a public space :

Gardens and hedgerows are separated by fences, and the hedge remain in the public domain. Its width is determined by the fence on the private side, and limited to 5m on the public space. No fences on public side.

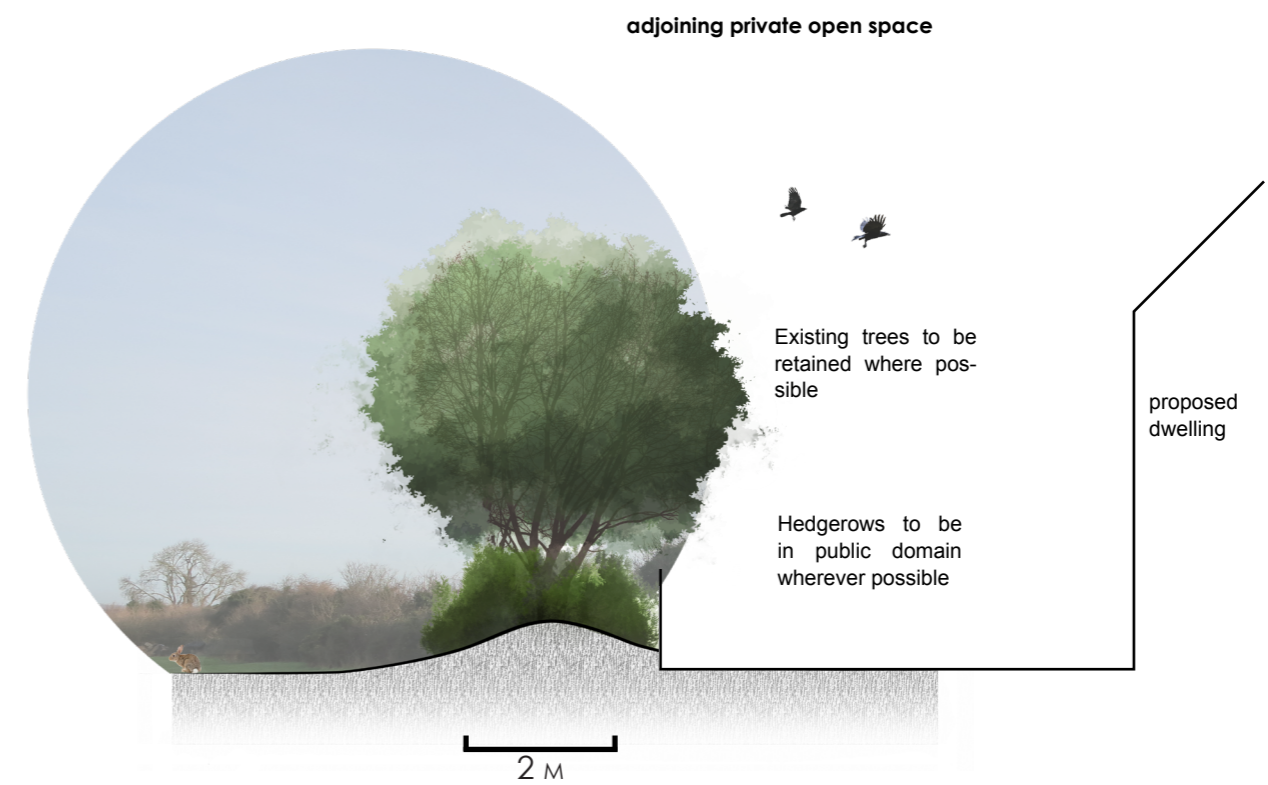
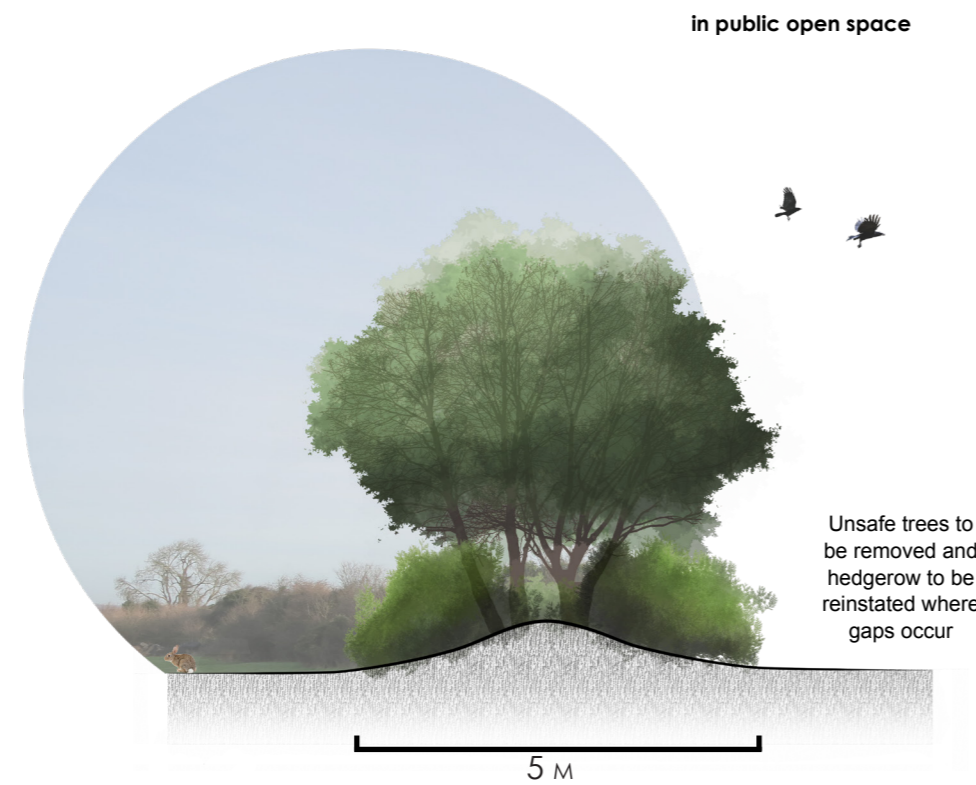
EXISTING CONDITION OF HEDGEROWS :



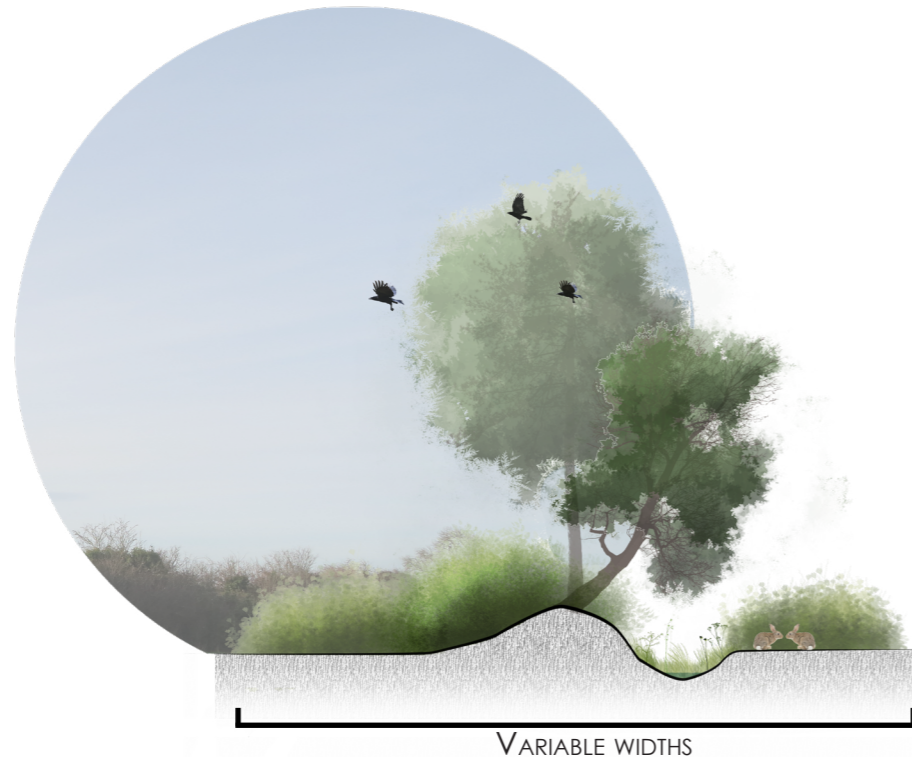
Type 1 : Trees and shrubs on a mound.

- tree to be retained if possible
- limiting shrubs width to maximum of 5m in public space
- limiting shrubs width to minimum of 2m adjoining private space
- gaps in hedgerows to be reinstated with native hedgerow species

PROPOSED CONDITION OF HEDGEROWS :



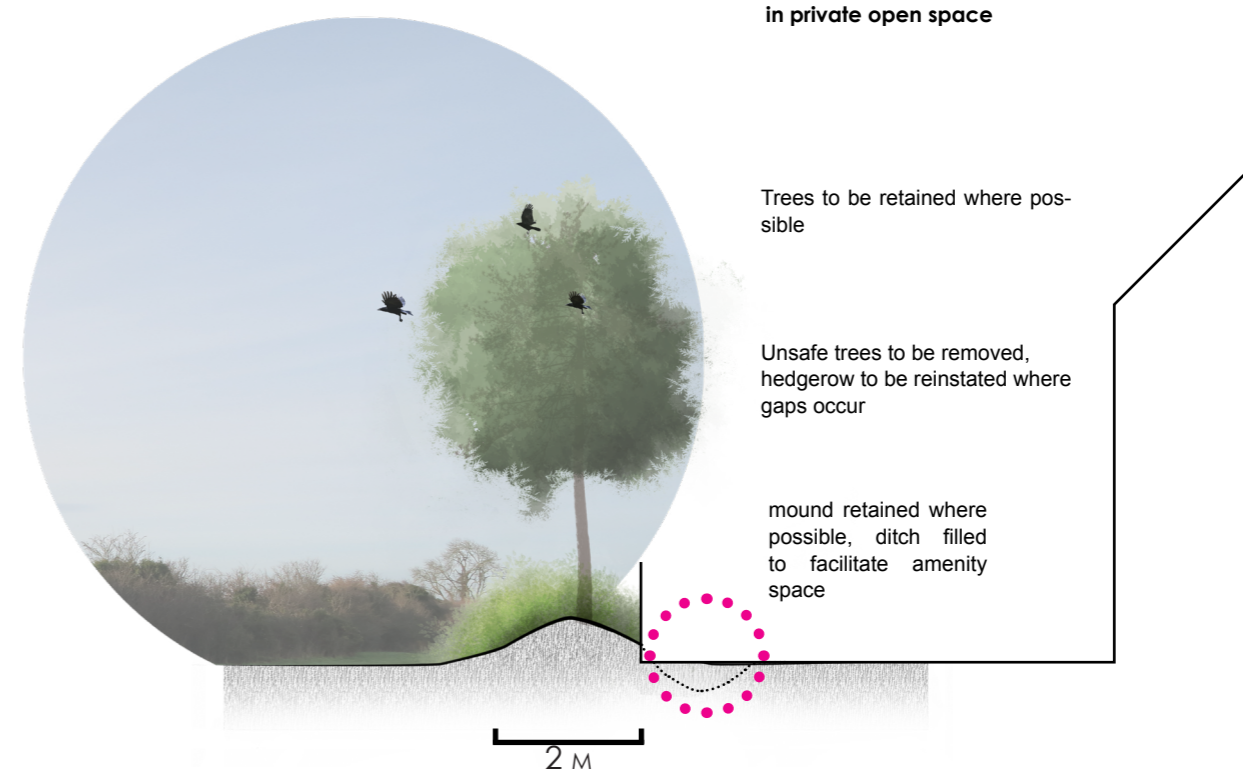
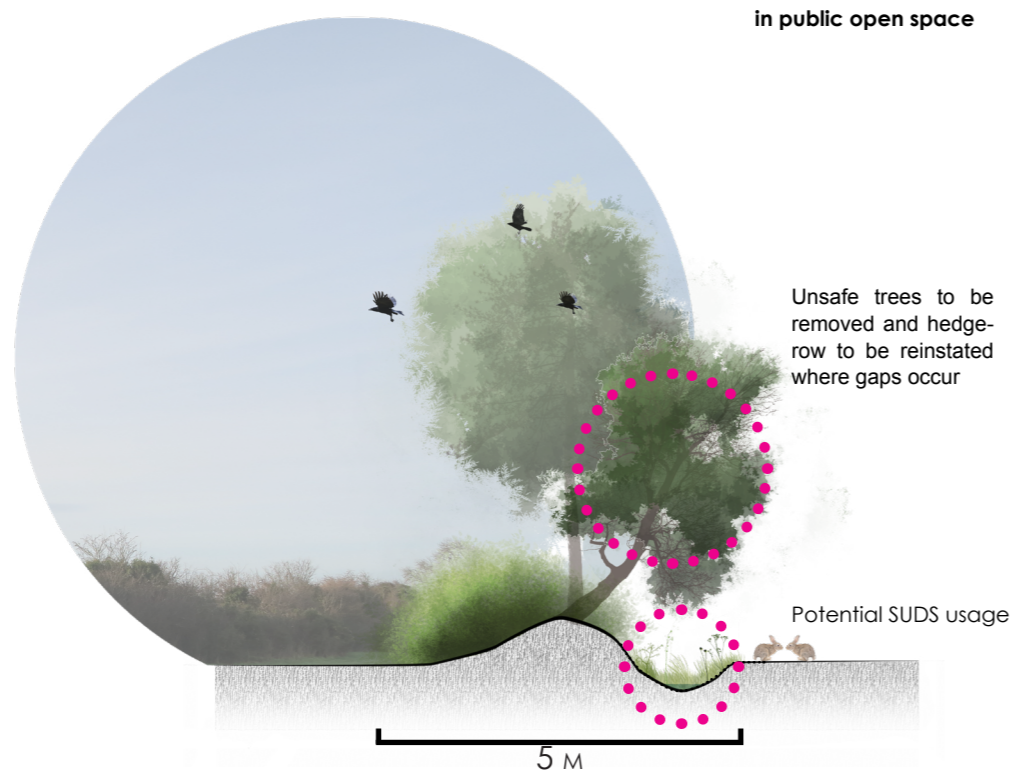
EXISTING CONDITION OF HEDGEROWS :



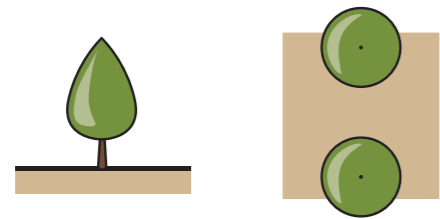
Type 2 : occasional trees, shrubs on a mound with a ditch.

- tree to be retained if possible
- limiting hedgerow width to maximum of 5m in public space
- limiting hedgerow width to minimum of 2m in private space
- gaps in hedgerows to be reinstated with native planting
- ditch to be removed if in private space

PROPOSED CONDITION OF HEDGEROWS :

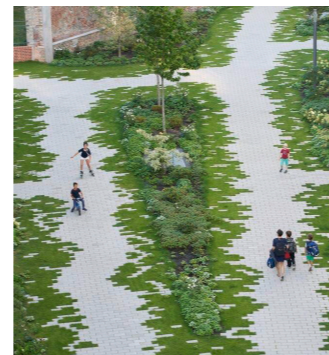
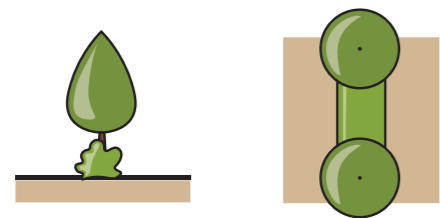
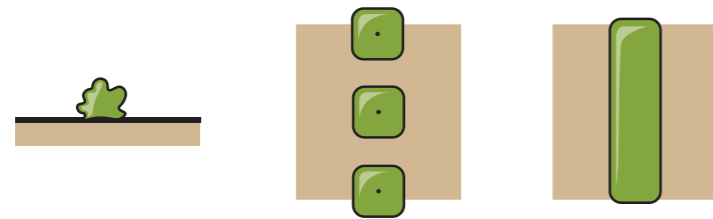


POSSIBLE WAYS OF SYMBOLIZATION :



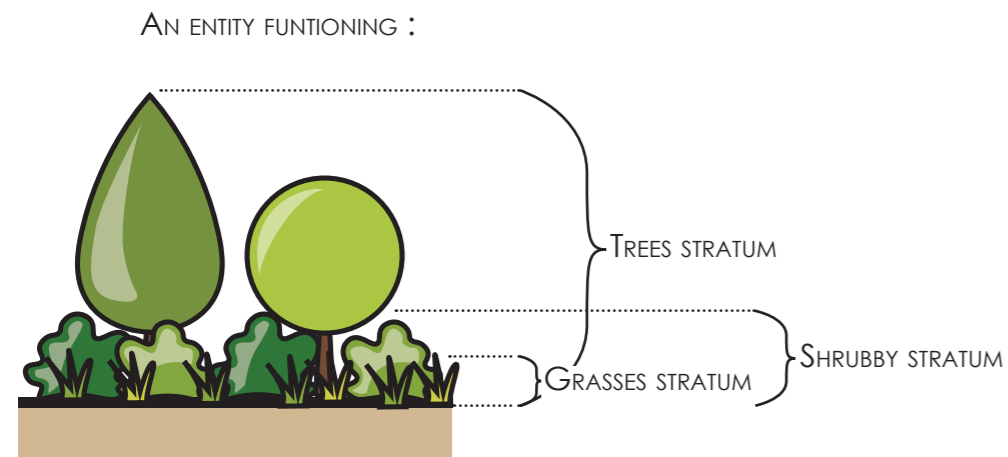
Depending on the available surface and the use of the said surface, different processing can be implemented in order to symbolise where the hedgerow, either burgage or agricultural, used to be.

Where space and soil are concomitant with planting :



In other places, when neither soil or space allows, other ways of symbolising can be imagined :

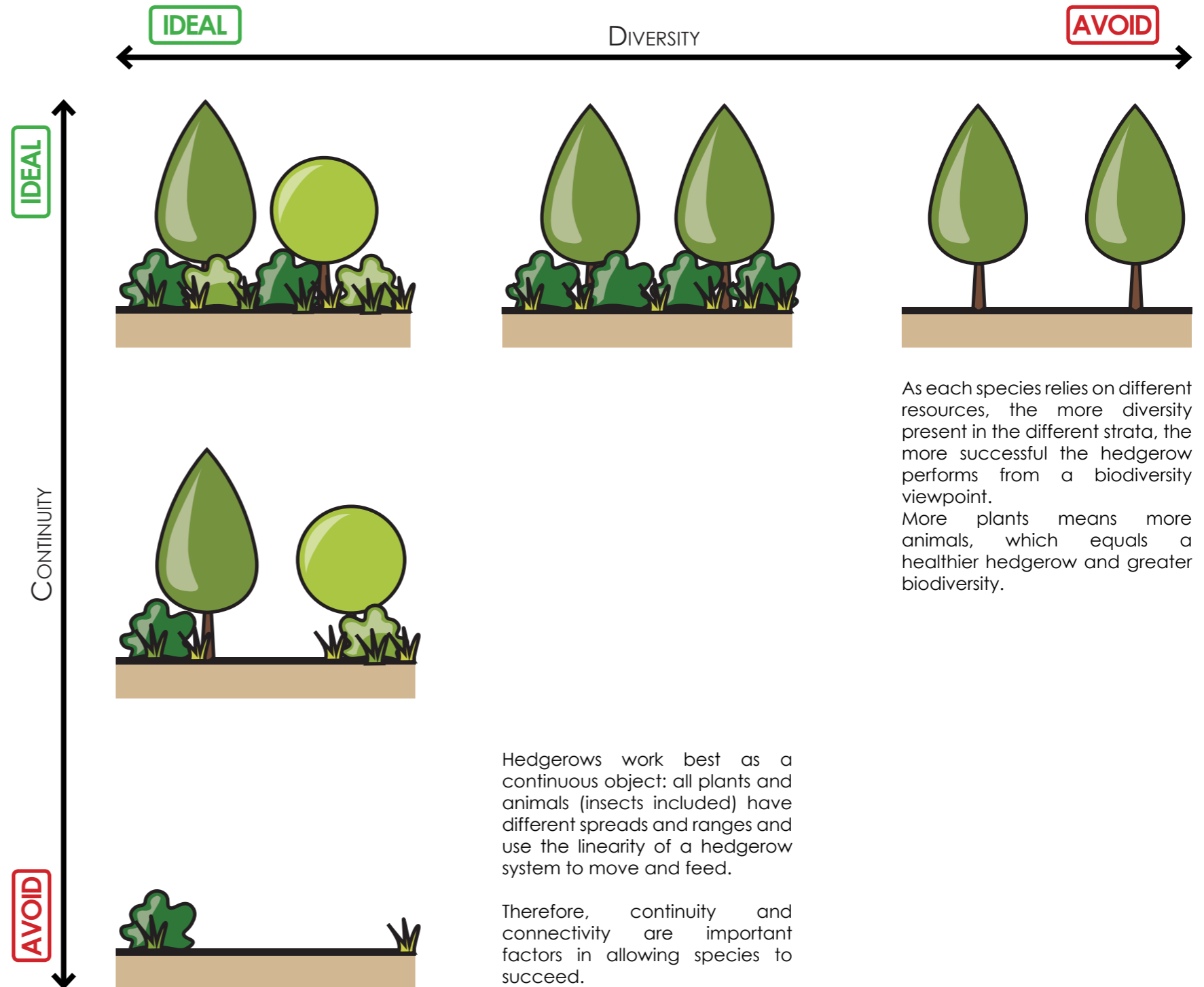
Retaining and reinforcing connectivity and reinstating linkages :

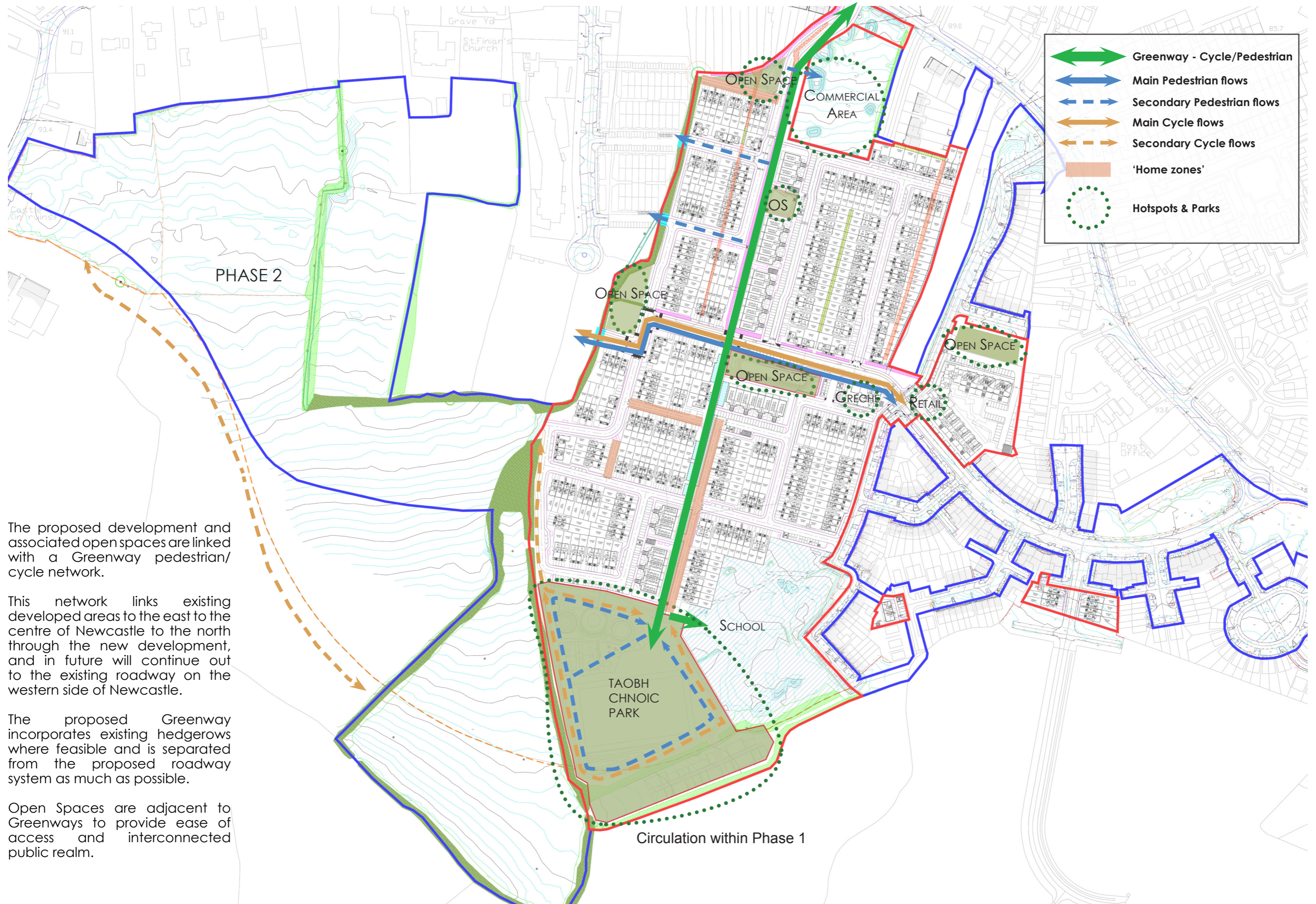


Hedgerows function by layers :

- Trees stratum (TS) ;
- Shrubby stratum (SS) ;
- Grasses stratum, or herbaceous stratum (GS) ;

Each one is important in its own right: and provide the natural habitat for different kinds of plants, animal and insects. They also work together, as each stratum feeds the other one: bird nesting in the TS will feed on insects and berries from SS and GS. Fox will feed on birds from TS, small mammals from GS and berries from SS.





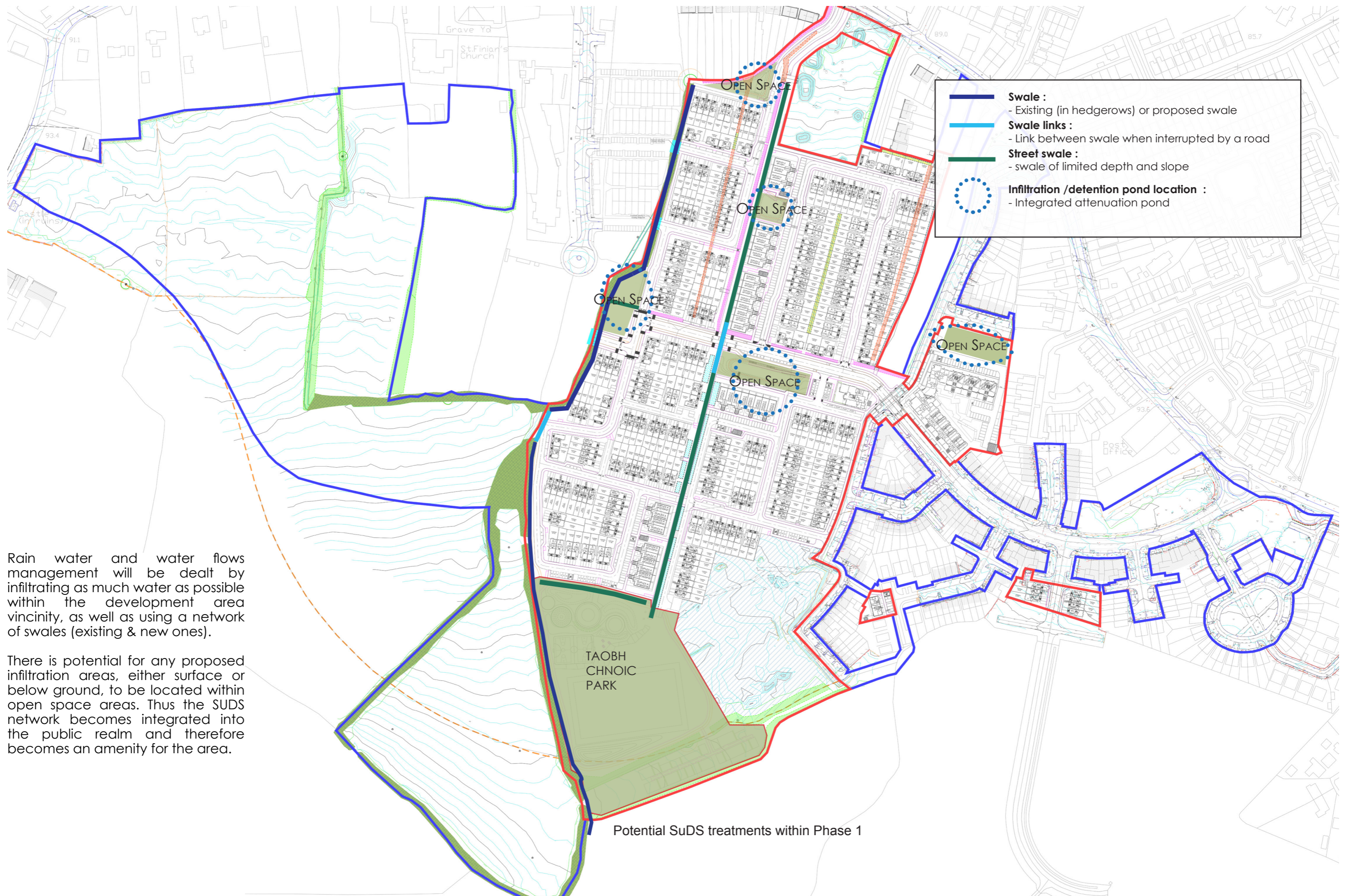
The proposed development and associated open spaces are linked with a Greenway pedestrian/cycle network.

This network links existing developed areas to the east to the centre of Newcastle to the north through the new development, and in future will continue out to the existing roadway on the western side of Newcastle.

The proposed Greenway incorporates existing hedgerows where feasible and is separated from the proposed roadway system as much as possible.

Open Spaces are adjacent to Greenways to provide ease of access and interconnected public realm.

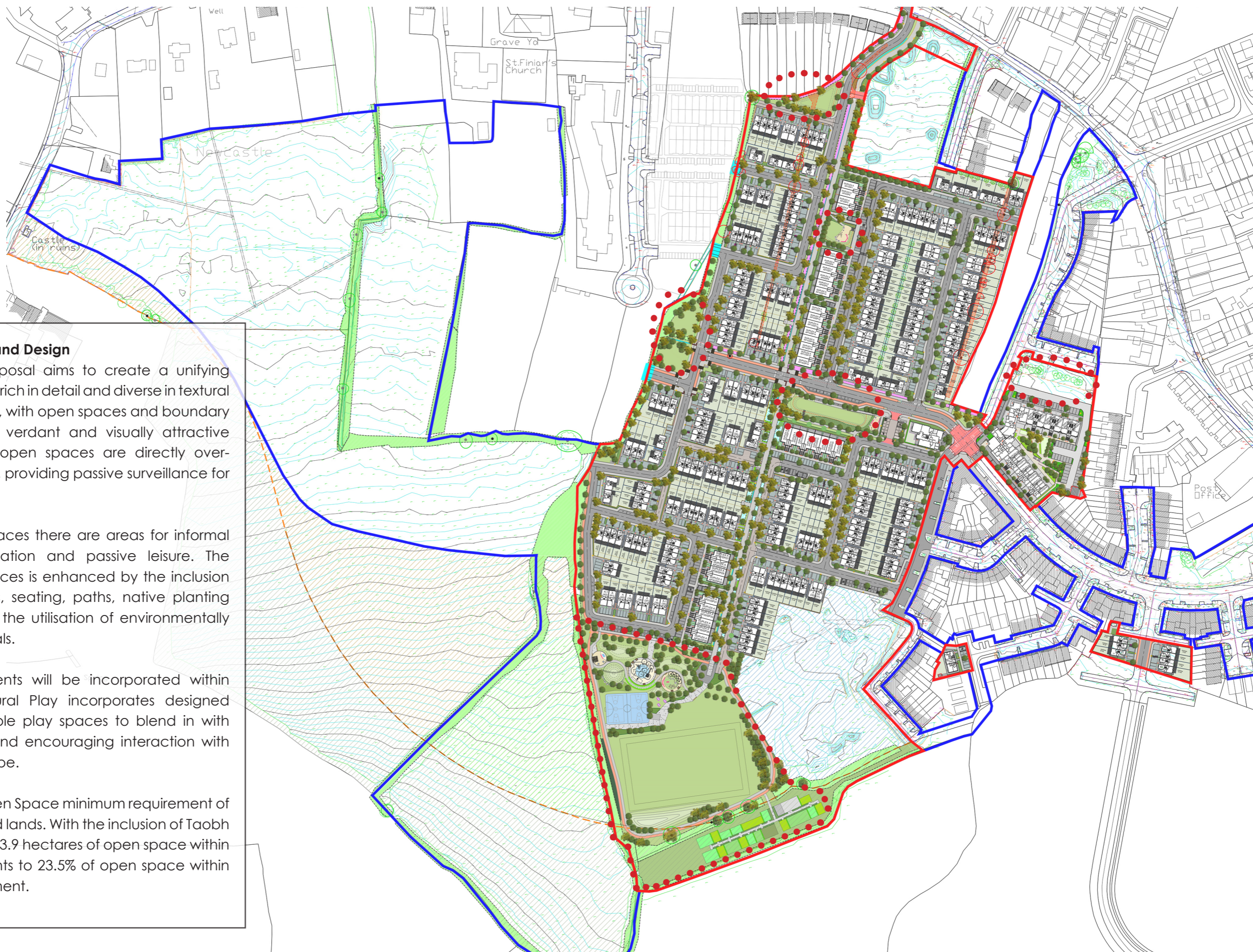
Circulation within Phase 1



Rain water and water flows management will be dealt by infiltrating as much water as possible within the development area vicinity, as well as using a network of swales (existing & new ones).

There is potential for any proposed infiltration areas, either surface or below ground, to be located within open space areas. Thus the SUDS network becomes integrated into the public realm and therefore becomes an amenity for the area.

Potential SuDS treatments within Phase 1



Landscape Layout and Design

The site layout proposal aims to create a unifying streetscape which is rich in detail and diverse in textural and spatial qualities, with open spaces and boundary planting lending a verdant and visually attractive atmosphere. The open spaces are directly overlooked by dwellings, providing passive surveillance for safety.

Within the open spaces there are areas for informal play, casual recreation and passive leisure. The quality of these spaces is enhanced by the inclusion of features such as, seating, paths, native planting and landform, and the utilisation of environmentally appropriate materials.

Natural Play elements will be incorporated within the spaces. Natural Play incorporates designed elements that enable play spaces to blend in with their surroundings and encouraging interaction with the natural landscape.

There is a Public Open Space minimum requirement of 14% within the zoned lands. With the inclusion of Taobh Chnoic Park there is 3.9 hectares of open space within Phase 1. This amounts to 23.5% of open space within the entire development.

Site



Taobh Chnoic Park is the largest open space area associated with the development, with 1.94Ha being within the Phase 1 application. It's location is a key transition between the urban fringe of the proposed development areas and the wide rural landscape beyond.

In accordance with the LAP, key features include play activities for a wide range of age groups, including:

- Neighbourhood & Local Equipped Play Areas (NEAP & LEAP combined)
- Incorporating Natural Play Elements
- Senior sized Grass Sport Pitch
- Multi-Use Games Area
- Large areas for passive recreation
- Generous plaza space for events
- Circulation paths for cycles
- Nature trails associated with retained hedgerows
- Strong Linkages with proposed school allowing seamless access to open space.
- Allotments.
- SuDS Elements

Open Space Zoning

Good Permeability with School

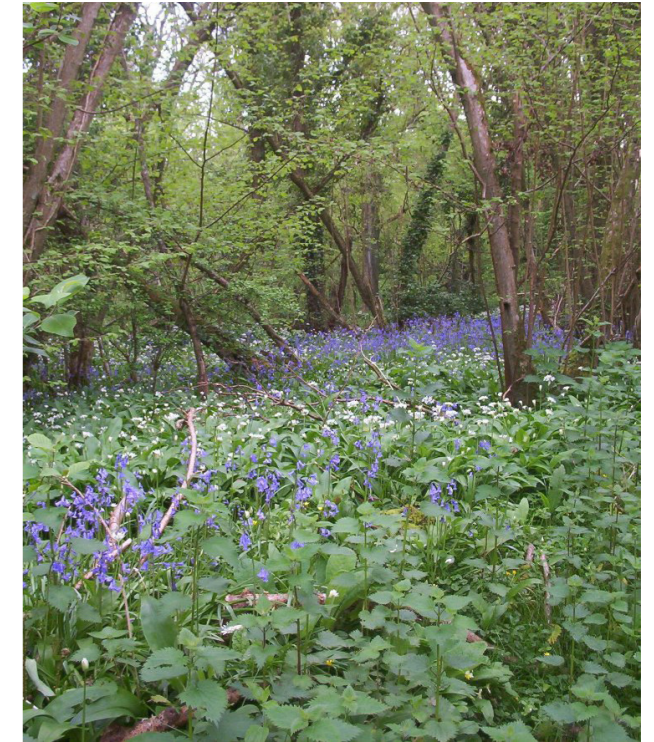
This active space aims to serve all potential users, residents, visitors and school children. In addition to the programmed sports areas, there are looped fitness trails with distance markers inlaid in the path network, aiding the park user to keep track of distances run and timings. These trails also utilise the existing and proposed changes in topography, while accessible access is always available, not exceeding a 1:20 gradient slope, to provide users with a balanced workout that is accessible for all ages.

Information signage is also proposed, detailing how a park user could utilise the open space, suggesting various workouts for all ages and abilities, ranging from 'Heart Healthy' Walks to a more strenuous fitness workout.

Whether on a looped gentle stroll from Newcastle Village, by future inhabitants of the proposed development or by a visitor using the active fitness elements or the sports facilities, there are ample path widths and gentle gradients specified for all users to benefit from the allocated open space provision.



Native Woodland Path



Woodland underplanting with Native Bluebells and Wood Anemone



Fitness Equipment installed along Pathways



Natural Play Spaces within Adventure Play Zone



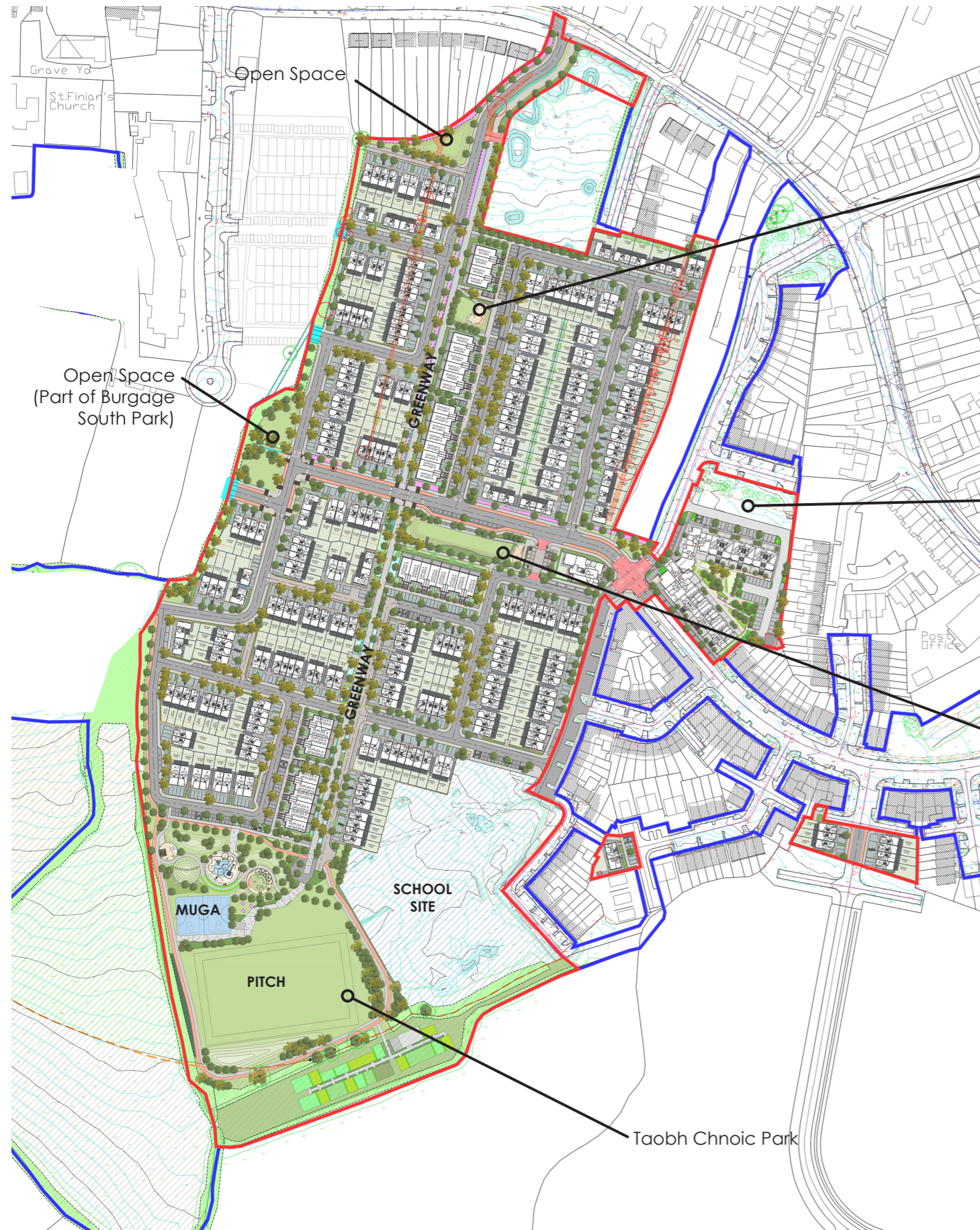
Multi-Use Games Area



Senior Grass Pitch



Shared Paths for Cycling and Fitness Trails



BALLYNAKELLY WEST PARK - 709 SQ.M.

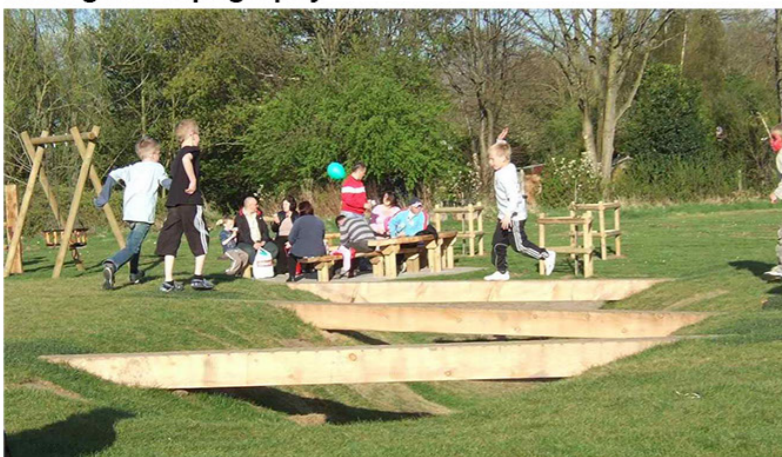
The two smaller open spaces within Phase 1 are each equipped with Young Children's Area of Play (YCAP), as per the LAP requirements. Features include facilities for toddlers and young children up to 6 years old. Areas for passive recreation are catered for with open grassed areas and natural play elements situated within the spaces. Native planting is used throughout where possible and SuDs elements are incorporated within the open space design. These open spaces also act as detention ponds for 1:100 year storm events.

Play Area and Open Space associated with Ballnakelly Development (To future detailed design stage in agreement with SDCC)



BALLYNAKELLY WEST SQUARE - 2258 SQ.M.

Change in Topography



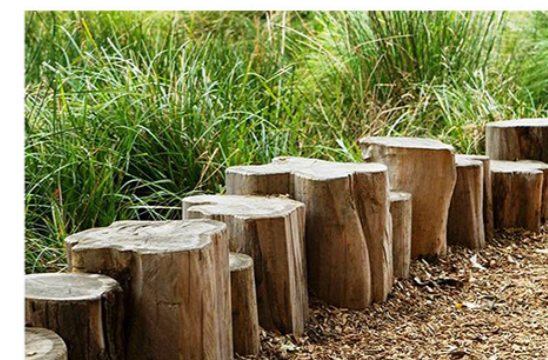
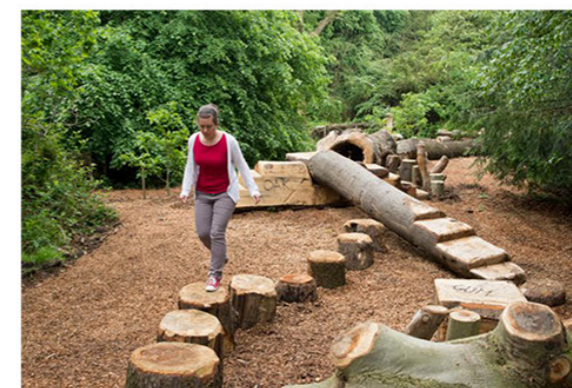
Natural play incorporates a number of elements that enable play spaces to blend in with their natural surroundings, and encourages interaction with the natural landscape.

These components represent the larger wild environment in a way that feels safe and manageable to young visitors. A few man-made components might also be carefully integrated to support creative play, encourage confident exploration and help children develop a lasting affinity for the natural world.

Enclosure



Natural Materials



Planting

The landscape planting proposals reflect the proposed architectural character areas, albeit in a subtle manner, with a variation of planting associated with each character area. This adds a distinctness to each area, contributing towards creating a real sense of place within the development.

The streetscape is proposed to be extensively planted with trees and shrubs to create a strong avenue structure and to give contrasting texture, colour and seasonal variety. Along the boundaries to the Open Spaces it is proposed to plant specimen trees along with native species hedgerow underplanting that will enhance areas of hedgerow that are in poor condition.

The boundaries with existing and retained hedgerows are of particular importance regarding potential impacts. The trees and vegetation planted along these boundaries will sensitively be planted to respect the existing vegetation and to have no impact on the existing root protection areas.

There are portions of existing hedgerows that will be removed to facilitate the development. However, these will be replaced with native hedging along the Greenway and further native hedging will be added to existing hedgerows that are in poor condition, with large gaps and overgrown areas. Further areas of previously-existing burgage hedgerow are to be re-instated.

Although there is a loss of around 27no. existing tree due to the proposed development, there will also be approximately 900 new native trees planted with the residential development and the Open Spaces. See Arboricultural Impact Drawing and Statement for details on trees and hedgerows to be removed.

Boundary and native screen planting mix species, that includes trees, shrubs and extensive areas of native wildflower planting, will be selected from the native local palette to encourage wildlife in the area and enhance biodiversity.

Pollinator-friendly species will be utilised throughout the planting within the proposed open spaces of the development, within existing and proposed hedgerows and throughout the meadows within Taobh Chnoic Park. A focus on pollination will lead to a general biodiversity enhancement throughout the development and within the wider area. Taking note of the objectives and species identified in The All-Ireland Pollinator Plan (2015-2020) will be a central aim of the planting strategy.

This additional planting associated with the proposed development will greatly enhance the existing habitat and landscape potential of the lands, leading to a strongly positive impact on the landscape in the medium to long term.



SuDS and Swale Planting



Native Hedgerows



Street Tree Planting



Native Trees in Open Space



Existing Hedgerow to be enhanced

PROPOSED NATIVE PLANTING WITHIN HEDGEROWS - (ALSO TO REINSTATE AND AMELIORATE EXISTING HEDGES)



Alder (*Alnus glutinosa*)



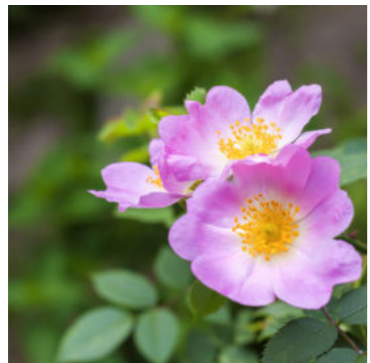
Beech (*Fagus sylvatica*)



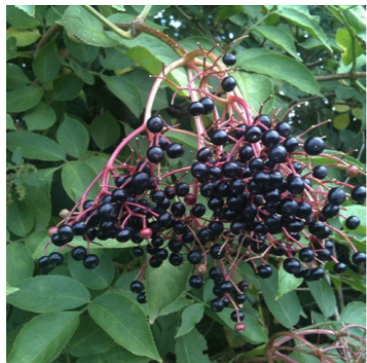
Blackthorn (*Prunus spinosa*)



Crab apple (*Malus campestre*)



Dog rose (*Rosa canina*)



Elder (*Sambucus nigra*)



Flowering Cherry (*Prunus subhirtella*)



Hawthorn (*Crataegus monogyna*)



Hazel (*Corylus avellana*)



Holly (*Ilex aquifolium*)



Oak (*Quercus sp.*)



Rowan (*Sorbus sp.*)



Silver Birch (*Betula pendula*)



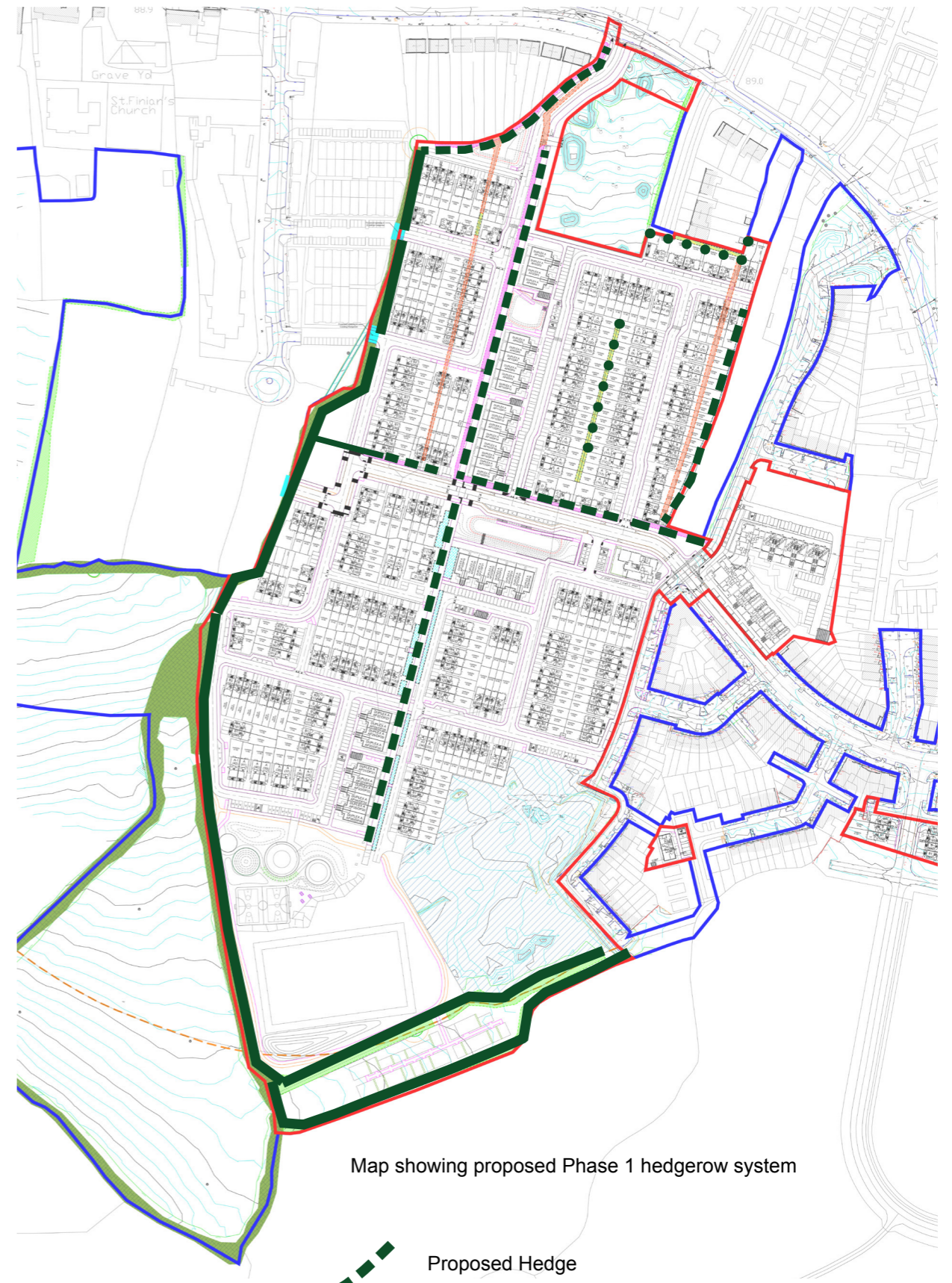
Spindle (*Euonymus europaeus*)

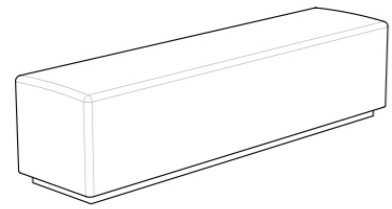
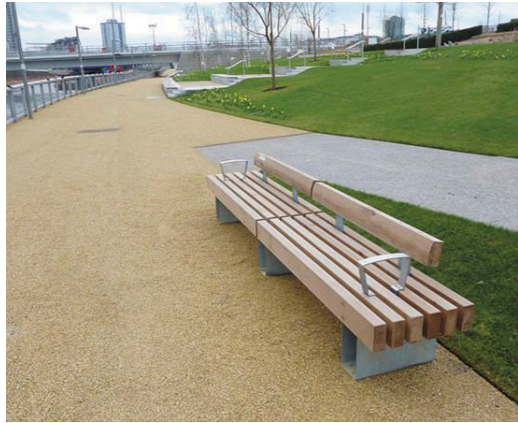


Wild Cherry (*Prunus avium*)

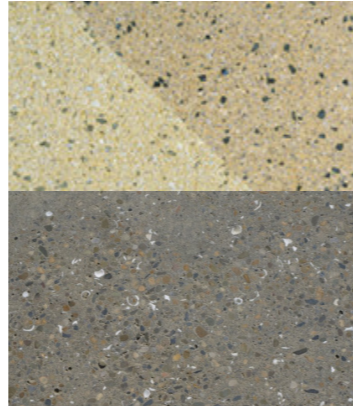


Willow (*Salix sp.*)





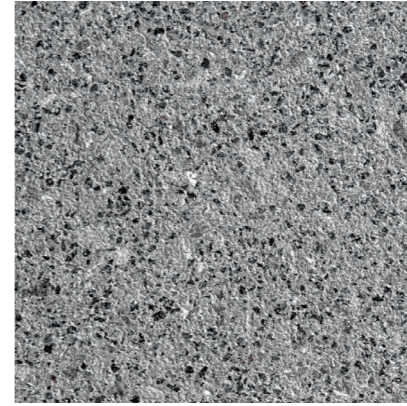
Simple & Robust Street Furniture



Exposed Aggregate Concrete Paths in Open Spaces



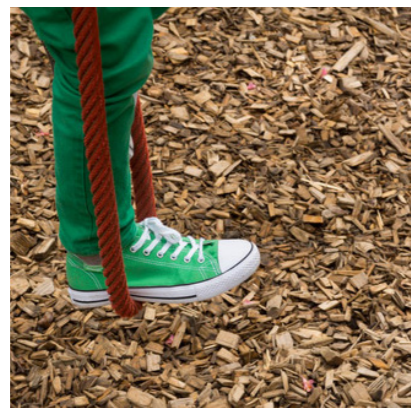
High Quality Concrete Paving to Plaza and Seating Spaces



Permeable Paving - Driveways



Concrete Block Paving to thresholds and private paths



Play Areas - Bark Chip and Grass Matting



Asphalt Cycleways with Line Marking



Homezones - Coloured SMA

