

Ruabon, Wrexham

Landscape Elements Manual

Pure Residential and Commercial

M3246.PD.1000LE-V2

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This manual explains the landscape elements used within the masterplan.

A landscape led approach has been adopted to layout the drainage and landscape infrastructure to achieve an optimum situation.

The SUDS strategy has played an important part in determining the open space layout whereby the surface water drainage can travel through the open spaces before water discharges to stream which run offsite.

This manual describes the pallet of elements that will inform the external spaces.

Key Features**1. Manmade Lake with Stream inlet**

- The site lies at the outer reaches of the former Wynnstay Hall Parkland Estate and it is presumed that the lake was formed as a picturesque addition to the outer parkland;
- The lake is fed by an inlet stream running from the north;
- There is a 600mm diameter pipe outlet to the ha-ha feature as shown and a further 600mm pipe takes water to the adjacent stream system to the southwest of the site.
- The fixed water level of the lake is approximately 800mm below the adjoining ground levels.

2. Ha-ha Feature

- The semi-circular ha-ha feature borders the site on its southern and south-eastern boundaries. This historic feature was presumably constructed as an integral feature within the Wynnstay Hall parkland, maintaining uninterrupted, open views, with the lake forming a visual centerpiece. The highest section of the ha-ha is located at its most southerly point, where there is a solid 'bridging point', with falls leading towards the following two low points;

Point A - At the outfall of the lake's overflow pipe;

Point B - At the eastern end, where the ha-ha becomes a semi-enclosed stream course.

2.1 EXISTING SITE & DRAINAGE

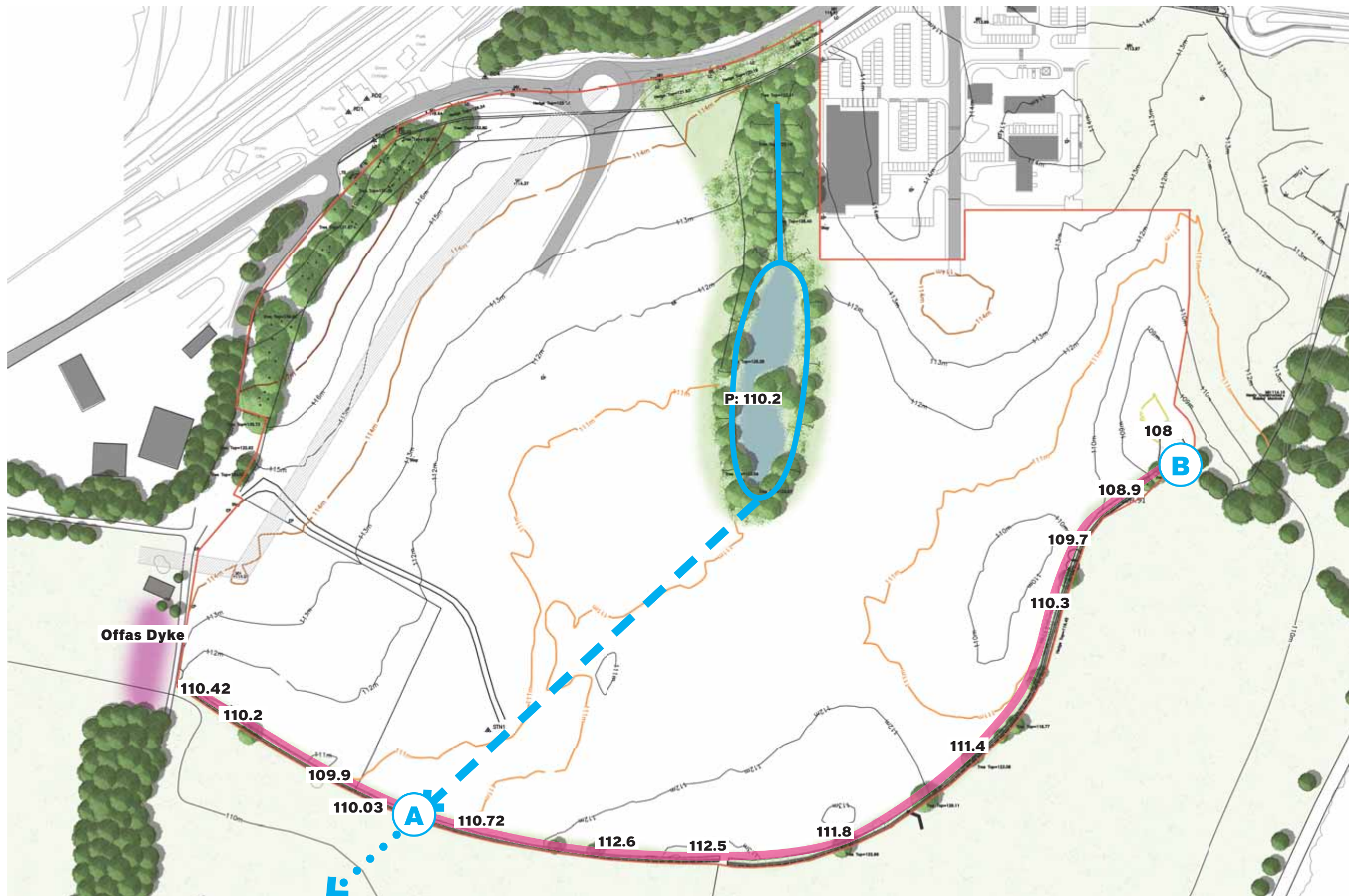


Figure 1: Existing Site Plan

The site is gently undulating, with some areas of steeper sloping ground (circa 1 in 10) located along the north-western boundary and towards the eastern edge of the site.

There is a general trend for the ground to slope from the marginally higher northern boundary towards the lower lying southern boundary;

A large area of flat ground extends from the lake towards the south-west

The topsoil has been cultivated to a thin loamy topsoil with some flint and chalk deposits. There is evidence of large swaths of stiff underlying clays, although there are outcrops of more permeable subsoil (see borehole analysis).

3. Surface Water Run-off

There are two locations where surface water can run off the site;

- **Point A** - A 600mm diameter culverted pipe
- **Point B** - Open watercourse - The channel incorporated remnants of constructed stone blockwork to the sides, consistent with the wall of the ha-ha to the west. The stream course is approximately 1m wide as it leaves the site from its eastern edge.

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2.2 TOPOGRAPHY



Figure 2: Existing Site Analysis

The open space strategy has been developed to incorporate a sustainable Urban Drainage System for the entire site;

- A continuous network of open space will follow the lowest areas and connect to the two surface water drainage outfalls (points A & B)
- A continuous ribbon of open land will run alongside the ha-ha boundary to provide a soft green edge to the site;
- The existing lake will form the visual centerpiece of the open space network;
- The road structure will be aligned from high points to low points to enable the drains to discharge within the open space.

The SUDS capacity will be accommodated within;

- Traditional open drainage ditches linked by pipes under roads and pathways;
- Organically shaped, earth formed basins that will accommodate peak flows to allow for a slow and controlled outflow of water;
- Some constructed ponds within the basins to serve as permanent features.

The combined strategy to incorporate SUDS, ecology and the open space will enable a very robust and attractive townscape to be created around and within a robust green infrastructure network. This network will incorporate pathways and play areas and will be readily accessible to all residents. The majority of houses will directly front onto this attractive network or will be located within a short distance.

GATEWAY FEATURE

Along the main spine road there will be a feature gateway sculpture that will form a focal piece in the landscape and frame the entrance and approach into the estate. Its form and appearance will be designed to be appropriate to the surrounding area and reflect the scale and status of the proposed development.

Planning Condition No. 8(ii)

The timing of the construction and landscaping of the open space areas(s); Public Open space shall be provided on site in accordance with the scheme as approved and thereafter permanently retained.

Response within current application

Construction of the public open space areas are to be complete prior to the occupation of 50% of the open-market dwellings

Planning Condition No. 21

A 10 metre landscape buffer will be created along the southern and part of the eastern boundary of the Site. This will provide a habitat link and important wildlife corridor around the southern boundary of the site which is linked to areas of retained habitat. For example the woodland and scrub habitats located along the northern boundary and the pond within the centre of the site. The location of this landscape buffer is shown on the illustrative Site Masterplan in Appendix 1. The following habitat creation and enhancement measures are proposed within the landscape buffer;

- *Species-rich native hedgerow creation*
- *Wildflower grassland creation*
- *Native bulb planting*
- *Native tree planting*

Response within current application

As part of our proposals we have allowed a minimum 15m buffer zone to allow for the incorporation of the SUDS system. This buffer zone will feature a diverse planting scheme that includes native hedgerows, wildflower meadows, native tree planting and reed beds, which will create a diverse network of habitats. The open space strategy that has been proposed, will create a link between the various existing ecological assets on site, such as the existing pond and woodland to the north, the ditch along the southern boundary and the woodland along the western boundary.

These proposals see an improvement on the proposals submitted for outline approval.

2.3 PUBLIC OPEN SPACE STRATEGY



Figure 3: Public Open Space

- 1 - Seating areas, with bench seats
- 2 - Hogging paths with sett edge trim
- 3 - Mown grass paths
- 4 - Wildflower meadow banks
- 5 - Swale/balancing pond base
- 6 - Ditch drain
- 7 - Wetland marginal planting
- 8 - Native species ‘parkland trees’
- 9 - Water logging tolerant tree species
- 10 - Reinforced grass spillway
- 11 - Stepping stones
- 12 - Existing boundary ditch and Ha-Ha wall
- 13 - Headwalls and drain design detailed by engineers

Each of the amenity areas will operate primarily as public open space with formal hoggin path running through the space and connecting to play/seating areas, these will be located on higher ground to maintain access throughout the year. Additional informal mown paths will enable access around the whole amenity area to encourage ‘free play’ through more natural ‘habitat’ areas of long grass, wildflower and tree planting.

Each amenity area will contain a series of sculpted banks and depressions which will give interest and also act as a swale/balancing pond giving additional capacity in times of extreme rainfall, each of these depressions will be nominally 1m deep. The banked sides of these areas will have a maximum gradient of 1in3 easing at informal access points to 1in5 and, will with the exception of mown grass access routes be planted with wildflower native meadow mixes.

The base of the swales will be planted with meadow mixes suitable for wetlands and additional tree planting that can tolerate possible annual waterlogging of the space, such as Birch, Willow and Alder.

Under this area will be a gravel drainage mat and toe drains at the base of the slopes will link to a spine like drainage ditch running through each of the depressions. The ditch drains will be connected by buried pipes to the site wide SUDS network and will be planted with non-invasive native species wetland seed mixes, coir roles/mats and plugs to create a natural appearance and create additional habitat space for wildlife.

Additional flow capacity through larger pipes or a secondary overflow pipe below the top of bank level is proposed to connect distant swales and/or under access roads. Within each amenity area adjacent swale/balancing ponds could be connected by a reinforced grass spillway formed by a low point in the bank between the two swale/balancing ponds, informal footpaths over these points should take the form of raised decks or large stepping stones to give a natural feel to the space.

2.4 AMENITY SPACE



Figure 4: Typical Indicative Amenity Space Plan - See drawing M3245-SD-06-V1 for full details

2.4 AMENITY SPACE

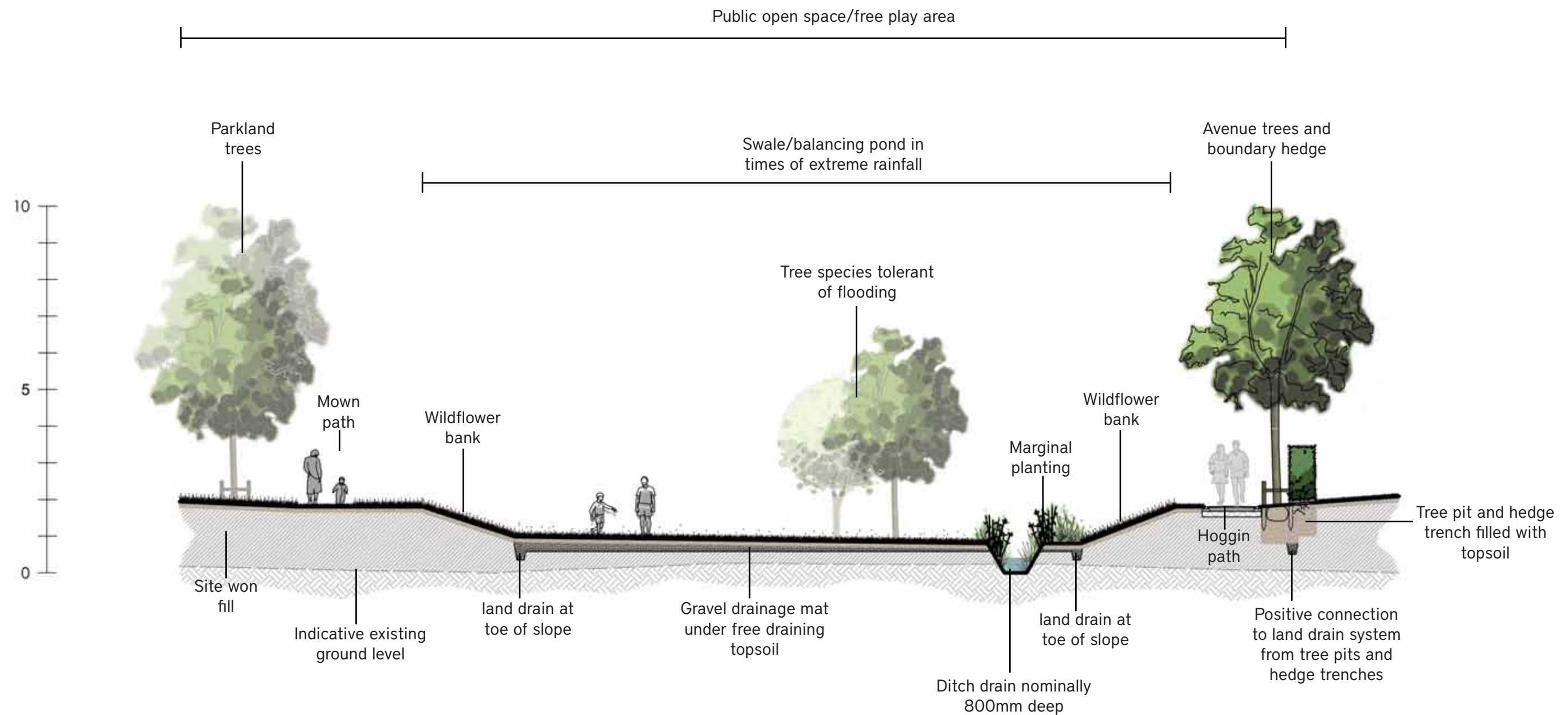


Figure 5: Typical Indicative Amenity Space Section - See drawing M3245-SD-06-V1 for full details

2.5 AMENITY AREAS/FREE PLAY SPACE

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Figure 6: Public Open Space, wildflower banks, parkland trees, managed grassland, long grass, hedges and avenue trees

2.5 DITCH DRAINS

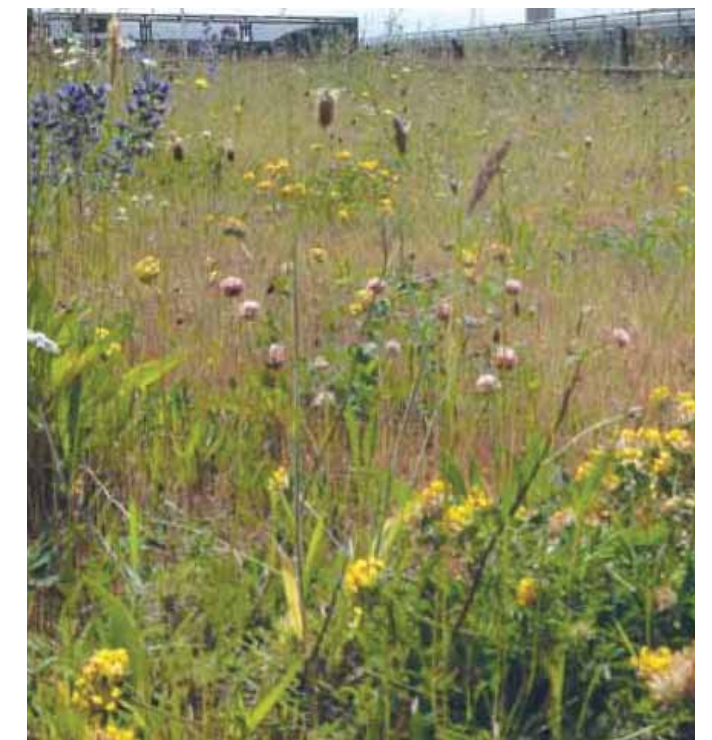


Figure 7: Drainage Ditches - Wetland margin planting, with Coir mats/roles, plugs and seeding of non invasive native species



Figure 8: Access - Formal hoggin paths with a timber edge Informal mown grass paths

2.5 REINFORCED GRASS



Figure 9: Examples of reinforced grass banks to be detailed by engineers and stepping stone access

2.5 SEATING & PLAY EQUIPMENT

M3246.PD.1000LE - LANDSCAPE ELEMENTS



Figure 10: Examples of LAP spaces (equipment to be specified by local authority) and benches/seating





3.3 CLEARANCE PLAN

Existing Vegetation on site is limited to two areas, around the existing pond and along the existing ditch and ha-ha.

Vegetation clearance will be undertaken in these two areas to open these two assets up to allow them to be accessed and viewed once the phase 1 has been completed.

Clearance will be undertaken under the supervision of a qualified ecologist and landscape architect.

3.3 CLEARANCE PLAN

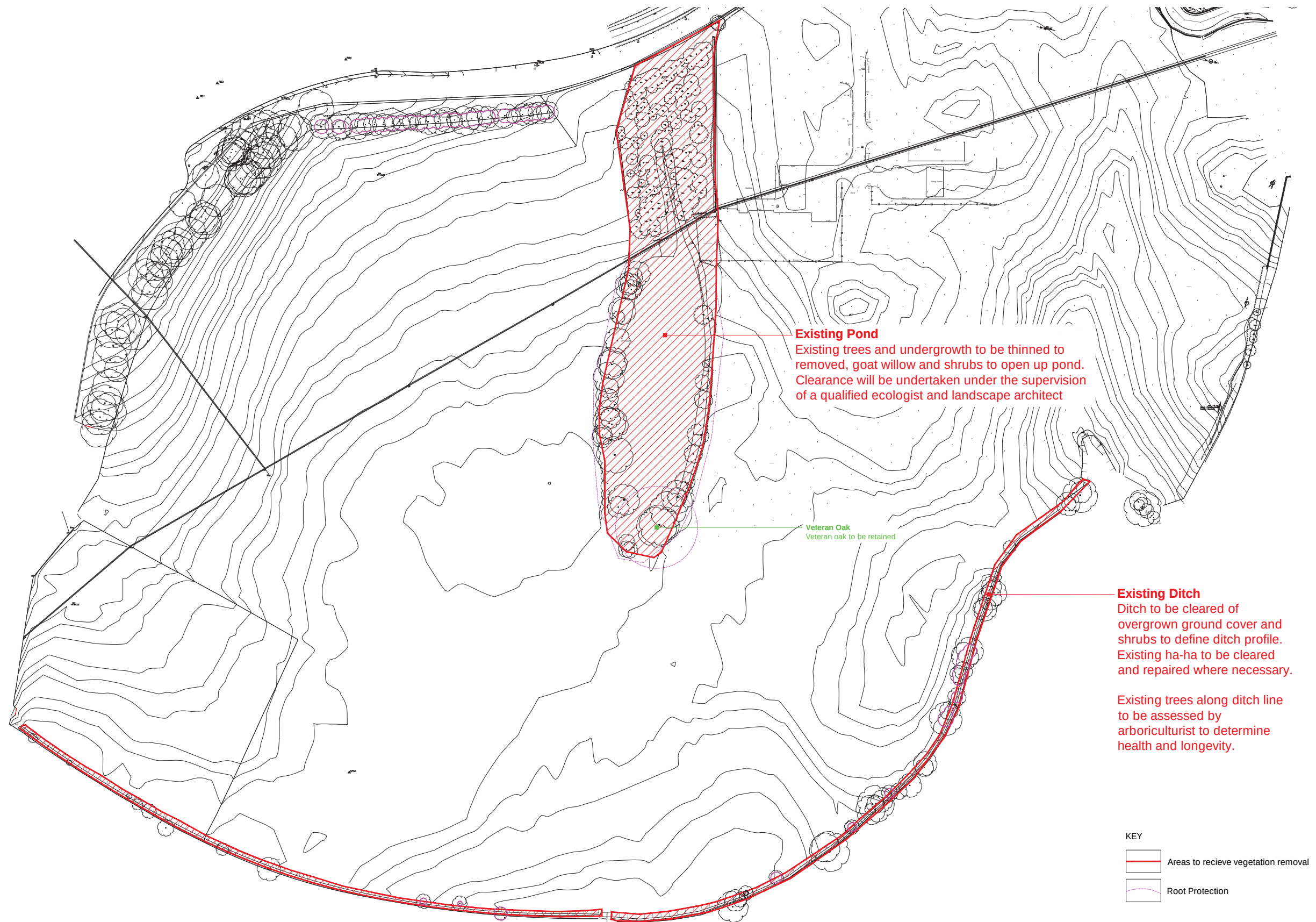
EXISTING POND

There are two hierarchy's to the tree groupings;

- A veteran oak and clusters of mature birch are the most important trees and must be retained to provide an attractive setting for the pond.
- Congested groups of self seeded goat willow will be removed to create more access to the banks.
- Where reed beds exceed 2m in depth, these will be removed as part of ongoing maintenance.

HA-HA & LINE OF TREES

- The ha-ha ditch will be cleared of brambles and weed growth and taken back to a manageable grass and wildflower sward.
- The trees will be given a light tidy up to remove any deadwood and general formative pruning.



4.1

BOUNDARY TREATMENT

Boundaries are important elements within the landscape.

- A range of fences, wall and hedgerows have been chosen to create a satisfying mix of features and treatments
- Rear gardens will be enclosed by either fences or walls whilst front gardens will be given a degree of separation by hedgerows.
- Native hedgerows will be used to frame the public open space.



4.2

HEDGES

Character and Application

- Hedges to be used on property frontages to delineate boundaries
- Native hedges to be used within public open space and along main site boundaries, providing screening and ecological biodiversity.

Property Frontage Hedges, 1.2-1.5m high;

For more detail on planting such as densities and size refer to planting plans M3246-PA- 09 to M3246-PA-17).

Species to include;

Evergreen

- Prunus lusitanica - Laurel
- Griselinia littoralis -

Deciduous

- Carpinus betulus - Hawthorn
- Fagus sylvatica - beech

Public Open Space hedge, 1.5m high

Mixed Native Species Hedge, Species to include;

- | | |
|---------------------------------|-----|
| • Crataegus monogyna - Hawthorn | 60% |
| • Ilex aquifolium - Holly - | 40% |

Public Open Space hedge, 1.5m high

Mixed Native Species Hedge, Species to include;

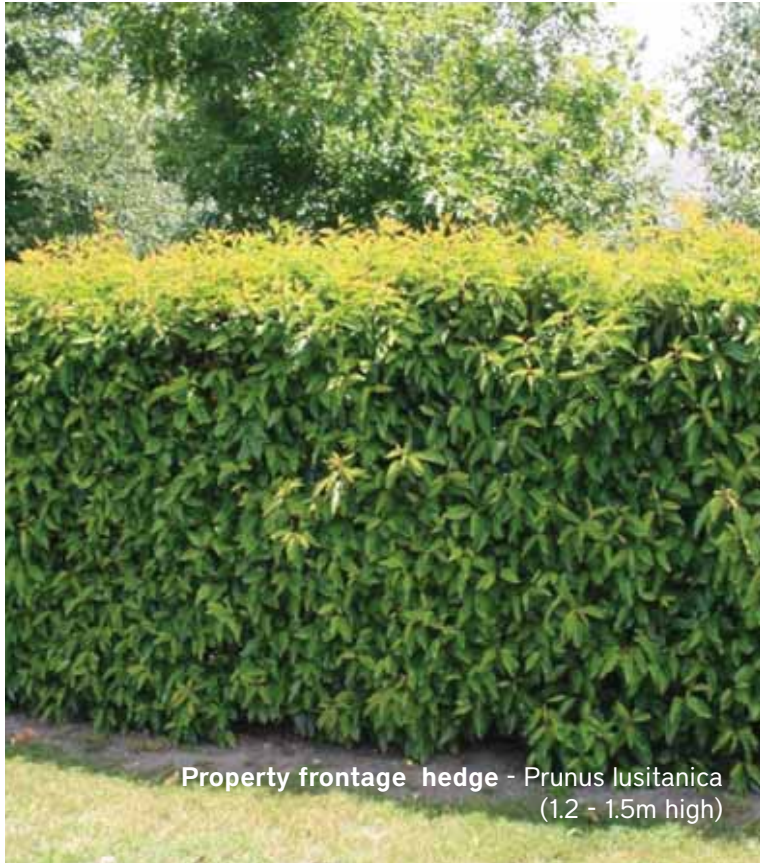
- | | |
|---------------------------------|-----|
| • Crataegus monogyna - Hawthorn | 50% |
| • Corylus avellana, Hazel | 10% |
| • Prunus spinosa, Blackthorn | 15% |
| • Ilex aquifolium, Holly | 15% |
| • Malus sylvestris, Crab apples | 2% |
| • Rosa cania, Dog wood | 3% |
| • Sambucus nigra, Elder | 5% |

4.2

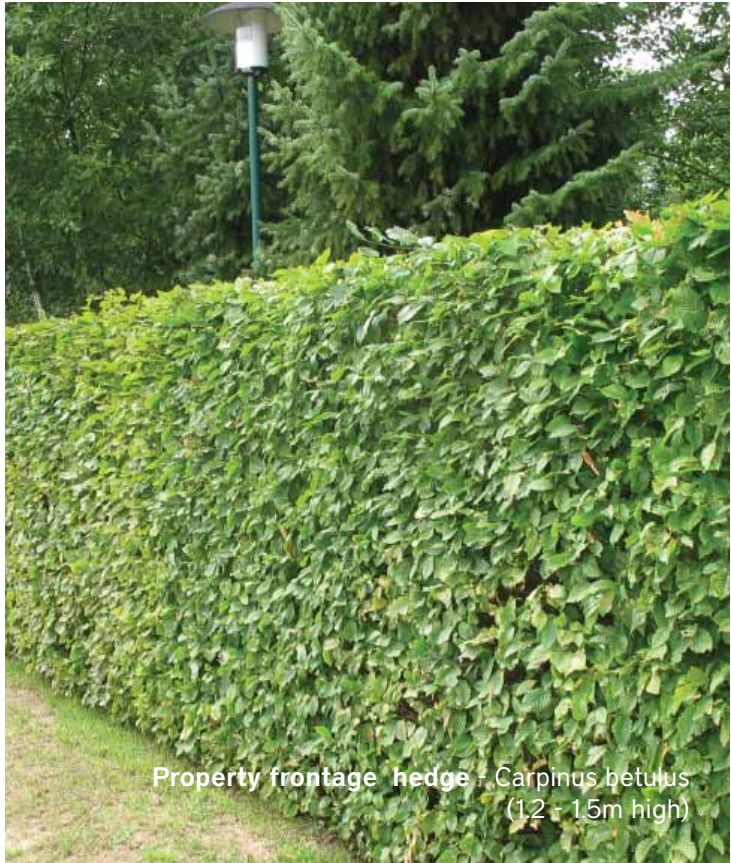
HEDGES



Open space mixed native hedgerow
(1.5m high)



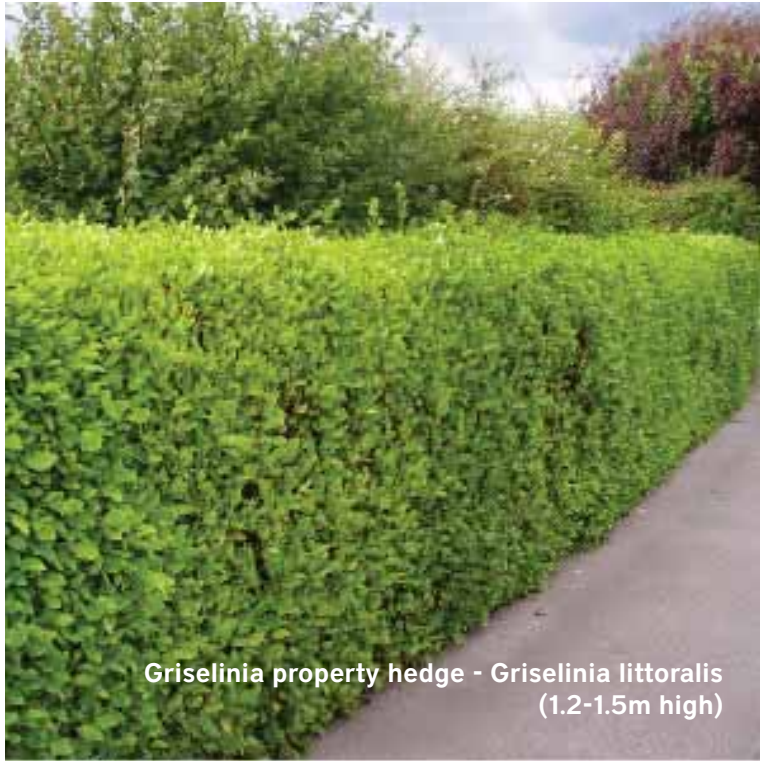
Property frontage hedge - *Prunus lusitanica*
(1.2 - 1.5m high)



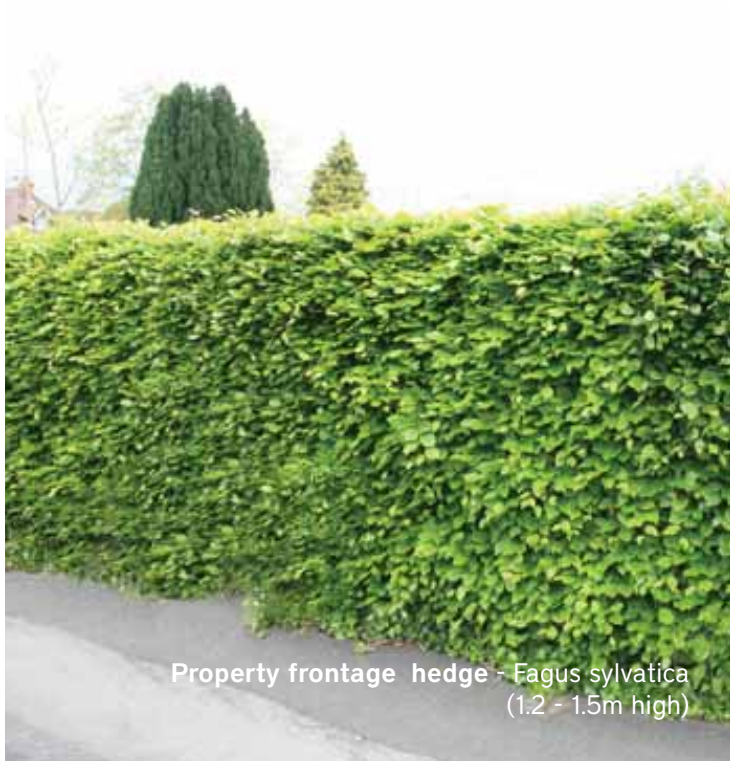
Property frontage hedge - *Carpinus betulus*
(1.2 - 1.5m high)



Boundary mixed Native species hedge
(2/3m high)



Griselinia property hedge - *Griselinia littoralis*
(1.2-1.5m high)



Property frontage hedge - *Fagus sylvatica*
(1.2 - 1.5m high)

Estate Railing**Character and Application**

- Clean and timeless style of railings that will be used as a support for climbing plants to create robust furniture/planted divides between properties.
- The railings will always follow the line of the ground, overcoming the need for unsightly steps between panels.
- An easy to adapt modular system for to assist with on site variety in line and level.

Specification

- 1000mm high
- Painted black or grey

Climbing plants to be planted underneath railings to create a softened treatment that will provide colour and filter views.



4.4 GARDEN FENCES & WALLS

Garden Fences

- Nominally 1800-2000mm high
- to enclose rear gardens

Specification

- Treated closeboard fence with timber posts.
- The vertical alignment of the fences to be co-ordinated with the slopes within gardens in order to create simple and logical transitions between horizontal gardens and deliberate slopes.



photo shows timber closeboard fence

Walls

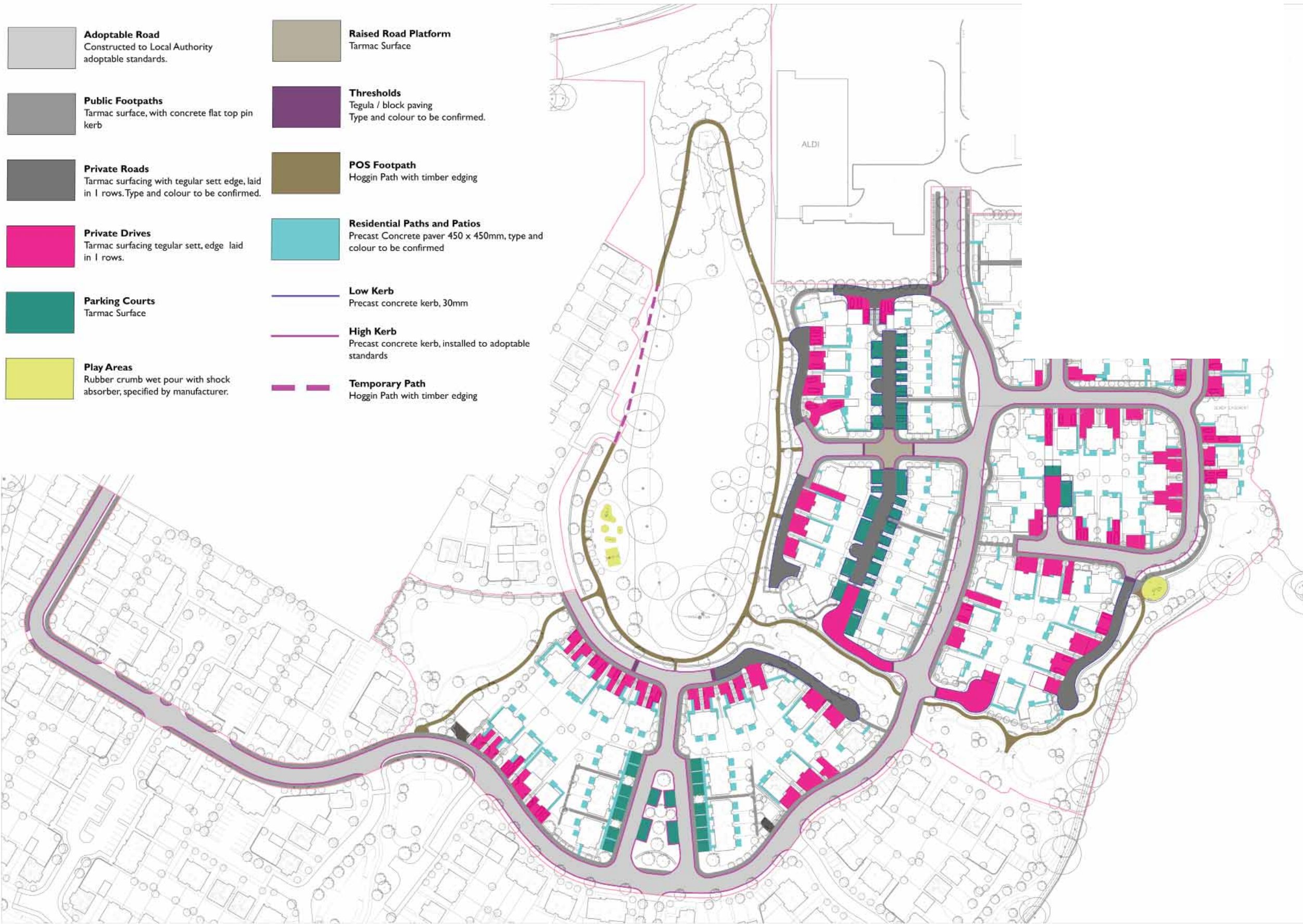
- Nominally 1800-2000mm high
- Traditional garden walls to enclose rear gardens and car parks.

Specification

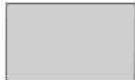
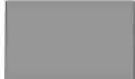
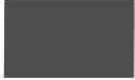
- English garden wall bond with headers every 6th course.
- Bricks to match brick used on site.
- Copings tile crease, with brick on edge.
- Wall to be stepped with finished site levels - 1 vertical step every 3 courses.



photo shows Flemish Bond



ADOPTED ROAD & PUBLIC ACCESSIBLE FOOTPATHS

-  **Adopted Road**
Tarmac surface build to local authority adoptable standards
-  **Public Accessibly Footpaths**
Tarmac surface with concrete flat top pin kerbs
-  **Public Accessibly Private Roads**
Tarmac surface with tegula sett edge
-  **Public Open Space Footpath**
Hoggin Path with timber edging
-  **Adopted Road Kerb**
Standard Concrete bullnose kerb, to adoptable standards



5.3 KERBS & FOOTPATHS

Adopted Roads

- The roads and footpaths will be of traditional construction, laid out to adoptable standards
- Kerbs along adopted roads will be standard concrete chamfered kerbs, at 150mm high.

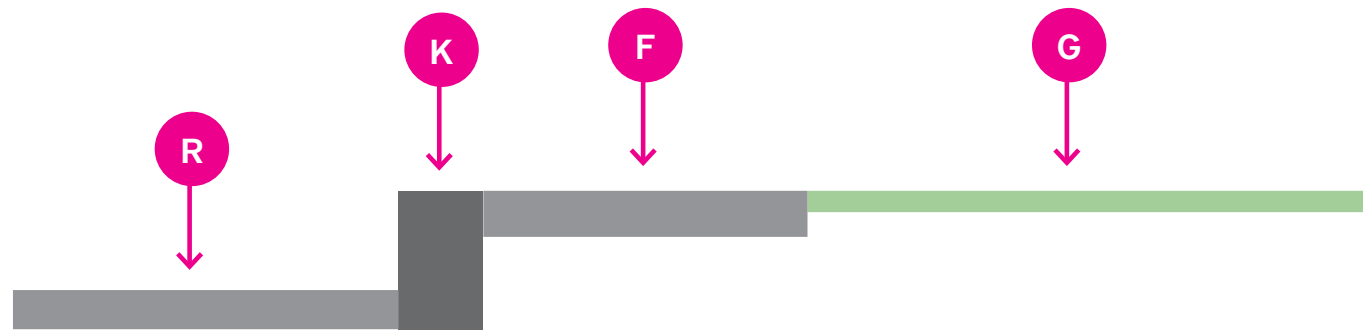


Figure 1: Footpath arrangements along adopted roads, no verge

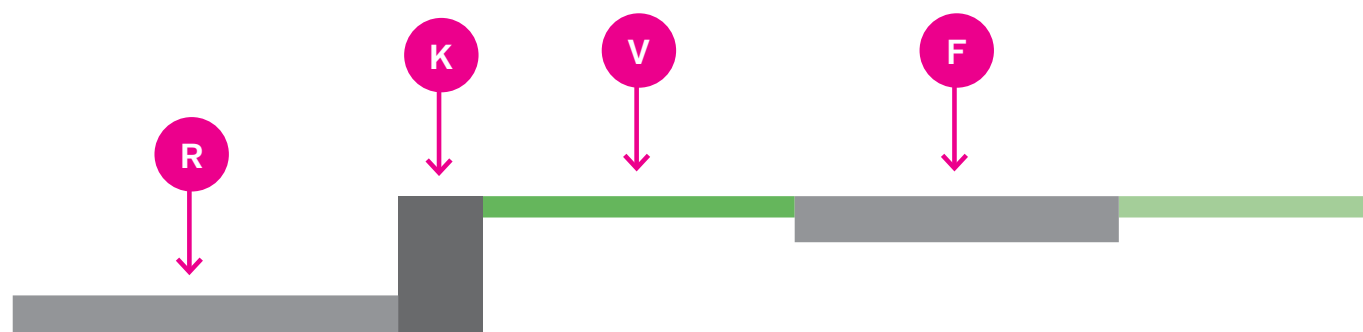
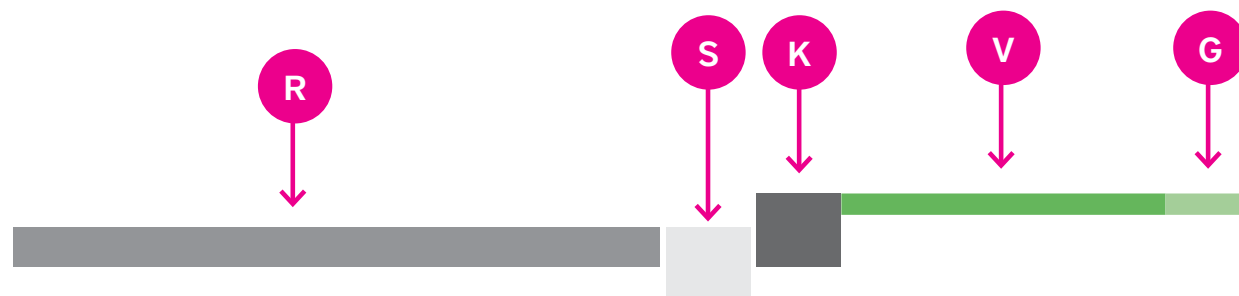


Figure 2: Footpath arrangements along adopted roads, with verge

Private Roads / Drives

- Private roads will be of a traditional construction with the addition of a sett edge laid in rows.
- Private roads will have a low precast concrete kerb (40mm high kerb)



Road Platforms

- Raised road tables intended for traffic control.

- F** Footpath
- K** Kerb
- R** Road
- V** Verge
- G** Grass
- S** Sett Edge

Character and Application

- A selection of trees chosen with a variety of forms, colour & seasonal interest.

Specification

- Trees to be planting in 16-18cm, root ball
- Planted in tree pits with underground guy supports.
- All trees to have appropriate drainage to ensure establishment and longevity.

Species to Include:*Deciduous*

- Acer campestre 'Elegant - Ornamental Field maple
- Betula pendula - Birch
- Crataegus prunifolia - Ornamental hornbeam
- Malus Floribunda - Japanese Crab apple
- Prunus 'Sunset Boulevard - Ornamental cherry
- Sorbus aria - Whitebeam

Small Ornamental Trees

- Amelanchier lamarckii - Snowy mespilus
 - Magnolia Leonard Messel - Magnolia
 - Acer palmatum - Japanese maple
-



Character and Application

- A selection of trees chosen with a variety of forms, colour & seasonal interest.

Specification

- Trees to be planting in a number of sizes, ranging from 16-18cm - 20-25cm girth., root ball
- Planted in tree pits with underground guy supports.
- All trees to have appropriate drainage to ensure establishment and longevity.

Species to Include:*Deciduous*

- Ac - Acer campestre - Field maple
- Ag - Alnus glutinosa - Alder
- Bp - Betula pendula - Birch
- Cb - Carpinus betulus - Hornbeam
- Fs - Fagus sylvatica - Beech
- Ms - Malus sylvestris - Crab apple
- Qp - Quercus petraea - Sessile Oak
- Qr - Quercus robur - English Oak

Main Spine Road Avenue Tree

- To create a avenue of feature trees to set a character and status to the estate

Specification

- Trees to be planting in a number of sizes, ranging from 16-18cm - 20-25cm girth., root ball

Species to Include:

- Ph - Platanus hispanica - London plane
-

6.2 SOFTWORKS - TREES IN PUBLIC AREAS

