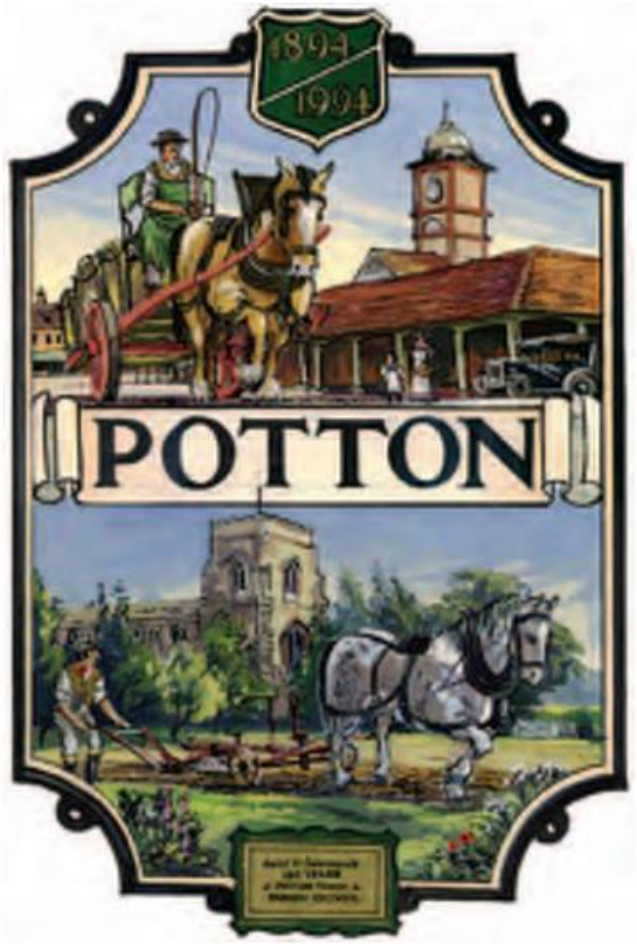

POTTON NEIGHBOURHOOD PLAN

Annex F Green Infrastructure Design Guide

The Potton Design Code for Green Infrastructure, Climate Change Adaptation and Sustainable Drainage

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Table of Contents

1 Introduction

It is imperative green infrastructure and sustainability is considered at the earliest opportunity of the Master Planning process for all types of development proposals in Potton.

Innovative multifunctional design helps meet statutory requirements and provide many socio-economic and environmental objectives required by Potton Town Council and its community. Potton demands a holistic approach to planning that integrates green infrastructure, biodiversity, sustainability and climate resilience which contributes toward a development fit for purpose with multiple benefits.

1.1 Green infrastructure

The term has many definitions in literature. However, it is generally agreed to be a network of multi-functional environmental assets both new and existing in the rural and urban setting. Green Infrastructure supports natural ecological processes integral to the health and wellbeing of sustainable communities.

It comprises stand-alone elements and strategically planned and delivered networks of high quality green space and other environmental features. Seldom referenced by definitions, it also includes the opportunities presented by hard surfaces such as pavements, roads, driveways, carparks and buildings that can incorporate biodiversity and ecosystem services into their design.

Green infrastructure intrinsically links several complimentary functions which should be treated as a whole and not in isolation of each other. It provides habitats and access to nature, space for access, recreation, movement and leisure, attractive landscape, water resource management and climate adaptation, socio-economic and health benefit and resource efficiency.

1.2 Introduction to the landscape of Potton

The Parish of Potton has an area of approximately 1,085ha and sits between the north-west scarp and the edge of the south-east facing dip slope of the Greensand Ridge with its free draining sandy soils and generally flat topography. To the south and east of Potton an undulating topography, over heavy Boulder clays becomes more prominent.

Against the largely wooded backdrops, land use is primarily a mosaic of arable with a network of hedges, footpaths and bridleways. There are some planted woodlands and a number of paddocks dotted around the perimeter of the town.

Green spaces within the town are limited with two principle recreational areas being Henry Smith Playing Field and Mill Lane Recreation Ground. Other green spaces comprise small verges and greens alongside roads, at road junctions and between housing.

2 Master Plan design considerations

2.1 Landscape character

All developments must consider and respond sensitively to the landscape character of Potton. The Parish of Potton has three CBC Landscape Character Areas within its bounds - 1C – Cockyane Hatley Clay Farmland & 5G – Dunton Clay Vale and 6C – Everton Heath Greensand Ridge.

2.2 Integration of site design and layout into the landscape

Potton Town Council will expect master plans to demonstrate a holistic approach that integrates development proposal into the existing landscape and settings that maximise aesthetic and biodiversity benefit at the outset. This reduces a need for costly revisions to meet requirements. They must integrate existing topography, hydrology and landscape structure to deliver a high quality development. Historic and ecological features should be treated with sensitivity and as an asset rather than constraint whereby appropriate management can enhance the developments character.

Vistas from Potton are atypical of the greensand in being open and supported by a backdrop of woodland. These characteristic open views are a priority feature to be retained and taken into consideration when planning and designing developments in order to maintain the identity of the town and surrounding landscape. Green infrastructure design can be informed by local landscape characteristics, particularly in choice of structural planting and layout that maintains open views and visual amenity value, encourages and promotes biodiversity.

Layouts should retain existing natural features, buffering and enhancing them with new structural planting, to create aesthetic views and vistas and enable wildlife to move through the landscape. The connectivity of ecological corridors such as hedges, woods, scrub, grassland and water courses, recreational paths and historic features inform layout and character, and help support a network of multifunctional green space of ecological and recreational value within which the development sits.

Further detailed information on the ecological potential for Potton can be found in the accompanying document titled ***The Ecological Potential of Potton.***

2.3 Developing the site

2.3.1 Ground forming

Some adjustments to levels may be required and must take into consideration to be in keeping with both onsite and local landscape in and around Potton. Where a change in levels requires physical retaining, use of crib and gabion walls will provide a greater opportunity for biodiverse enhancements to be incorporated.

2.3.2 Landscape integration and development edge

Designs must provide a spatial buffer using soft landscape that blends seamlessly into the local and surrounding landscape. It must buffer and enhance existing habitats with sympathetic use of species appropriate to the locale and soil conditions. Landscape screening must not compromise the characteristic views of the surrounding countryside and landscape.

2.3.3 Boundaries

Hard boundary features detract from the local character and should be avoided where possible. Native hedges create a soft edge to developments and can help screen harder boundary features where they have had to be used.

2.3.4 Structure and residential landscaping

The design of structural planting needs to be given adequate space. The selection of species must compliment and integrate the development with the surrounding landscape. Advance planting where possible, assists earlier integration and mitigation of the development with the surroundings. Planting of trees, shrubs, and herbaceous plants and sowing of wildflower mixes must comprise native species atypical of the region and locally distinctive to the environs of Potton (see box1).

Residential landscaping of streets, plot frontage and formal amenity areas within the development, may use ornamental trees, shrubs and herbaceous plants to help enhance and create distinctive and aesthetic characteristics but must be of high value to pollinators and not be invasive. Climbers and wall shrubs can also help screen and soften buildings and hard boundary features. (See appendix 1 for a list wildlife beneficial plants for structure and residential planting)

Guide to planting within the Central Bedfordshire landscape character areas of Potton

1C – Cockayne Hatley Clay Farmland & 5G – Dunton Clay Vale

- The surviving network of often gappy field and verge hedgerows, along with associated trees, usually oak, are of local significance to Potton and vulnerable to further loss.
- Seek to retain mature hedgerow trees and trees on verges and encourage regeneration of replacement stock using hawthorn, blackthorn, hazel, dogwood and elm.
- Woodland blocks, including ancient woodland of high biodiversity interest and shelter belts which require sustained management are an important feature of the Parish.
- The rural nature of the landscape is vulnerable to urban influence particularly large scale new development on its margins.
- Consider opportunities to enhance the woodland resource by extending and connecting to the existing areas of woodland.

- Use locally appropriate trees such as oak, field maple wild cherry and crab apple and shrubs such as hawthorn, blackthorn, spindle and dogwood in structure planting.
- Conserve remaining orchard trees and seek to promote the restoration and replanting of orchards.

6C – Everton Heath Greensand Ridge

- The extensive landscape of woodland and heathland is important as a recreational, biodiversity and visual resource.
- Improve the integration of the edge of Potton with its landscape setting, conserving the setting and views to landmark churches and other features which act as distinct focal points in the landscape.
- Conserve the rural character of the secondary roads across the ridge (e.g. Potton Road, Everton Road) and limit urbanising influences
- Utilise local ironstone materials to add detail and reinforce local distinctiveness.
- Structural tree planting should comprise oak, field maple, sweet chestnut, birch and rowan, with some Scot's and Corsican pine. Shrub mixes should comprise gorse, broom and holly.
- Hedges around this part of Potton comprise mostly hawthorn but are locally distinctive in that they contain a considerable amount of elm and additionally in places cherry plum.

2.3.5 Verge and roundabout landscaping

The landscaping of verges and roundabouts must be multifunctional, climate resilient and meet biodiversity requirements. They should incorporate source control SuDS features, e.g.: filter strips and or kerbside bio-retention/rain garden beds in conjunction with, where appropriate, a conveyance feature e.g.: swale or rill.

Where grass is the required finish, use appropriate flower rich mixes to suit soil conditions, even when maintenance will require frequent mowing. Where turfing is necessary, this too should be a flower rich market brand suitable to soil conditions.

Where tree and shrub planting is proposed, this will be informed by native species mixes or where an ornamental approach is required within the development layout; it must be in keeping with the local character and comprise nectar rich varieties of non-invasive species (See appendix 1 for a list wildlife beneficial plants for structure and residential planting)

2.3.6 Lighting

Lighting should be used sparingly to reduce visual impact on night sky and minimise disruption to bats and nocturnal invertebrates by creating 'dark sky' linear and boundary vegetation areas for wildlife. Use of security lighting can also impact and new residents should be advised of the issues and on appropriate systems to install.

2.3.7 Management and maintenance

All developments must have a long-term landscape and ecological management plan. This should aim to ensure the scheme matures to meet the public amenity and ecological aspirations of the design and remains an important feature of the development.

Ownership of the plan needs to be agreed and where that is likely to fall on the community then an endowment agreement needs to be established that provides for management in perpetuity.

2.3.8 Landscape checklist

Refer to the list provided in the Central Bedfordshire Design Code to establish if your design plans meet the requirements.

2.4 On site features

2.4.1 Woodland

Potton is characterised by open vistas with distant wooded backdrops. Tree planting must be located strategically in developments as a component of a scrub-acid grassland mosaic landscape scheme and not compromise valued views and open landscapes. Trees and shrubs typical of the area are identified in 2.3.4 above.

2.4.2 Trees and hedgerows

Trees and hedgerows are important habitats and corridors for wildlife, linking other habitats and features within the landscape. They enable wildlife to move safely between them, allowing populations to expand and colonise new areas.

Potton has approximately 30km of hedgerow throughout the parish, mostly dominated by hawthorn. They are often characterised with large individual trees – mostly oak, many of which are of high wildlife value. Older hedges are likely to include blackthorn, dogwood, hazel and spindle. Of local note to Potton is the considerable amount of Elm and Cherry plum found in the hedges.

Existing veteran trees and hedgerows should be retained within developments. Every opportunity must be used to enhance the resource by bringing it into long term management as a feature of a development. The creation of additional new tree and hedge planting using appropriate species from stock of local provenance will link hedgerows and other habitats within the landscape.

2.4.3 Grassland

Potton has many areas dominated by a grassland-scrub mosaic. This would typically have been lowland acid grassland – a habitat of Principle Importance. Previous land use has degraded these areas into nutrient rich systems with stands of scrub. However, they hold a remarkable wildlife interest of local importance including

species such as Common or Viviparous lizard and invertebrates such as solitary bees and wasps, grasshoppers and crickets.

These areas should be retained and restored wherever possible within a development through appropriate measures as part of any ecological and landscape management plan. Creation of additional new areas of acid grassland must form the thrust of all areas of amenity grassland in a development, even where regular mowing will be required under the conditions of management.

2.4.4 Orchards

These were once common throughout Potton; efforts are now being made to revive orchards in the town through a community led initiative. All developments must include local heritage fruit trees in plot planting at an approximate ratio of 1:5 (***trees : plots***)across the development. Community orchards and in addition small community allotment gardens may also be considered as a component of a developments amenity space.

2.4.5 Retaining trees on development sites

Mature and veteran trees provide amenity, health and biodiversity benefit and are an asset to the community. A thorough trees survey, protection plan and method statement must be in place prior to and throughout the development.

Veteran trees, including old fruit trees should be retained as they are of likely wildlife interest and may have a variety of priority and or protected species associated with them. Old orchard trees can retain a cultural link to a development and could form the basis around which a community orchard might be created.

2.4.6 Street trees

Potton is not particularly noted for street trees and this needs to be taken into consideration. If considered in contribution toward providing 25% tree cover, choice of street trees should be diverse and reflect the range of locally characteristic species. This reduces risk of disease to the stock of a mono-culture and diversifies structure which is of greater wildlife benefit.

2.4.7 New planting

Structure and residential planting should use a mix of species from traceable healthy, disease free stock. Native tree and shrub species should be of provenance from locally collected seed. Where this is not possible they should be of a traceable UK provenance. Where practicably possible avoid, or at best minimise the use of plants grown in peat and treated with neonicotinoids.

Planting for climate adaptation and sustainability should be taken into consideration by providing 25% tree cover. In particular, formal street and plot plantings should use a diverse mix of native and non-native trees, shrubs and herbaceous species of high value for pollinators and tolerant of prevailing drought

conditions synonymous with the free draining soils of Potton (See appendix 1). All planting schedules must avoid the use invasive non-native species (See appendix 2).

Select plants that:

- Represent the character of the landscape and sourced from quality stock of local provenance
- Tolerate local soil conditions, take into consideration climate adaptation and have access to water, oxygen and nutrients
- Will grow to maturity within the confines of buildings and underground services
- Do not compromise electric, gas, water or sewerage utilities
- Will not create excessive nuisance or pose future risks to foundations and walls of property and other structures and buildings
- Require minimal long term post planting management and consider ultimate height and spread at maturity.
- Avoid use of peat or that have been treated with neonicotinoids
- Are of high wildlife value for pollinators, facilitating their movement through developments

2.5 Biodiversity

2.5.1 Introduction to biodiversity and natural heritage of Potton

Despite there being few habitats of Principal Importance as listed under Section 41 of Natural Environment and Rural Communities (NERC) Act 2006, Potton has a mosaic of habitats that are none the less highly valuable for wildlife and the community. They contribute to the character of the town and its environs and quality of life for its residents. They provide links that allow wildlife to permeate through the landscape and encourage recreational access for walkers, equestrians and joggers.

Within its Parish, Potton has four County Wildlife Sites, a Road-verge Nature Reserve, and two Local Geological Sites. Potton also has a number of Tree Preservation Orders, mostly located in the older Conservation Area of the town.

Potton is a notable County 'hot spot' for its Species of Principle Importance, containing 33.5 NERC species per square kilometre. There is a total of 92 Species of Principle Importance within the parish of Potton and an additional 45 species recorded within a 3k radius.

The biodiversity resource of Potton is increasingly threatened by fragmentation and loss of species characteristic of the Parish. It is essential developments do not compromise the resource and further compound the situation. All development must secure biodiversity net gain. Designing biodiversity into the Master Planning, beyond the preliminary ecological surveys, looking for wider opportunities of multi-functional design in soft and hard landscape, and buildings is an essential requirement.

2.5.2 Biodiversity opportunity networks

The Potton Green Infrastructure Plan has identified and mapped opportunities where the greatest areas for biodiversity enhancement exist in and around the town. They indicate areas of potential for the conservation enhancement, restoration and creation of priority habitats and opportunities to reduce fragmentation of habitats by building ecological networks across landscapes.

The context of the development in relation to the biodiversity opportunity network should be identified, to ascertain the priority biodiversity improvements appropriate to the location of the development, and to inform what ecological benefits the development should aim to deliver.

Further information and associated plans can be found in *Potton NDP - Annex B Green Infrastructure.*

2.5.3 Overcoming barriers to movement

Designs must not prohibit movement and ecological connectivity. They must provide sufficient vegetative cover, food resource and habitat that allows wildlife to complete lifecycles or to safely move to other habitats and areas where it can. Where barriers are essential then other techniques must be deployed. In Potton these will include: Discretely located holes (13 x 13cm or 13cm in diameter) at ground level in fences and walls to allow movement of hedgehogs, reptiles and amphibians through the development.
In areas of strategic habitat, minimise the use and height of kerbs to make for easier and safer road crossings. Avoid the use of gulley pots which are fatal to wildlife and provide dark areas around links to linear vegetated corridors.

Discretely located in fences or walls between gardens, hedgehog highways allow hedgehogs, reptiles and amphibians to move through a development. Avoid locating where they lead onto roads.

2.6 Wildlife legislation

The presence of protected habitats and species within a development is a material consideration in planning and licences may be required. Developments for which planning permission is not required still need to take account of protected species, and licensing may still be necessary.

Summary of key legislation

- European Protected Species are covered by the 2010 Habitat Regulations and include all species of bat, otter and Great Crested Newt (GCN).
- The Wildlife and Countryside Act 1981 covers native plants, birds and animals. It includes the protection of the nests and eggs of all birds are protected during the nesting season.
- Section 40 of the Natural Environment and Rural Communities (NERC) Act 2006 known as the 'biodiversity duty', where all public bodies (including Local Authorities and Parish Councils) must protect and enhance all biodiversity.
- Sections 41 of the Natural Environment and Rural Communities (NERC) Act 2006 habitats and species of principal importance for biodiversity (Priority habitats and species). Includes brown hare and hedgehog among other species.
- The National Planning Policy Framework (NPPF) supports a number of Parliamentary Acts, such as the NERC Act 2006. It provides guidance for local planning authorities and decision-makers, both in drawing up plans and making decisions about planning applications.
- Protection of Badgers Act 1992 – protects against killing, injury or interference with setts.

The presence of European Protected Species and or species protected under various sections of the Wildlife and Countryside Act does not mean that building cannot take place. It means ecological advice must be sought in order not to commit an offence. Having to manage for such species should be seen as an advantage rather than an obstacle, with potential as a USP and opportunities to connect people with nature.

2.7 Priority Species of interest to Potton

The following table reviews some Priority Species and other generic species of interest in Potton and identifies delivery mechanisms where developments can help to maintain and enhance their populations in the Parish. Working to deliver net biodiversity gain helps CBC and Potton Town Council deliver their legal obligations under Section 40 of the NERC Act and their duty to maintain and enhance all biodiversity. It also serves to benefit the Corporate Social Responsibility of the developer to proactively design and build a high quality development that satisfies biodiversity requirements and connects people to nature.

Table 2: Check list for Priority Species mitigation

Species	Requirement	Delivery mechanisms
White-spotted Pinion (moth), *Cosmia diffinis*	Elm *Ulmus sp* – larval food plant	Ensure elm is included in hedgerow and woodland structural and boundary planting schedules
White Letter Hairstreak (butterfly), *Satyrium w-album*	Elm *Ulmus sp* – larval food plant	Ensure elm is included in hedgerow and woodland structural and boundary planting schedules
Pollinators eg: bees, hoverflies, butterflies	Network of pollen rich plants	Ensure structural planting includes nectar rich native woody and herbaceous species Ensure residential planting includes a mix of native and non-native nectar rich woody and herbaceous species
Orthoptera eg: Grasshoppers and crickets	Grass-scrub mosiacs	Ensure structural planting includes a mosaic of native woody and herbaceous species and flower rich grassland that include areas of long grass
Common lizard *Zootoca vivipara*	Hibernacula and Grass-scrub mosiacs	Incorporate suitably located hibernacula into the structural landscaping. Ensure structural planting includes a mosaic of native woody and herbaceous species and flower rich grassland that include areas of long grass
House sparrow *Passer domesticus*	Grass-scrub mosaics and integral nests in buildings	Ensure structural planting includes a mosaic of native woody and herbaceous species and flower rich grassland that include areas of long grass. Include integral swift nestbricks in all developments (sparrows can use swiftbricks)
Swift *Apus apus*,	integral nests in buildings	Ensure integral swift bricks are incorporated in all developments
House Martin *Delichon urbicum*	Mosaic of habitats over which they can feed and buildings on which to nest	Ensure structural planting includes a mosaic of native woody and herbaceous species and flower rich grassland. Wetland with shallow margins that expose mud for nest building. Fit nest cups beneath the eaves of houses
Hedgehog *Erinaceus europaeus*	Dense mosaics of trees, shrubs and grassland	Ensure structural planting includes a mosaic of native woody and herbaceous species and flower rich grassland that include areas of long grass. Provide 13 x 13 cm holes in garden boundaries to enable movement around the site

Species	Requirement	Delivery mechanisms
Badger *Meles meles*	Dense mosaics of trees, shrubs and grassland	Ensure structural planting includes a mosaic of native woody and herbaceous species and flower rich grassland that include areas of long grass.
Bat spp	Wood and hedgerow, mature trees and houses	Retain existing linear features and trees. Enhance with structural planting of wooded areas and linking hedgerows. Retain horse paddock areas for foraging. Incorporate bat bricks into houses in close proximity to mature wooded linear features.

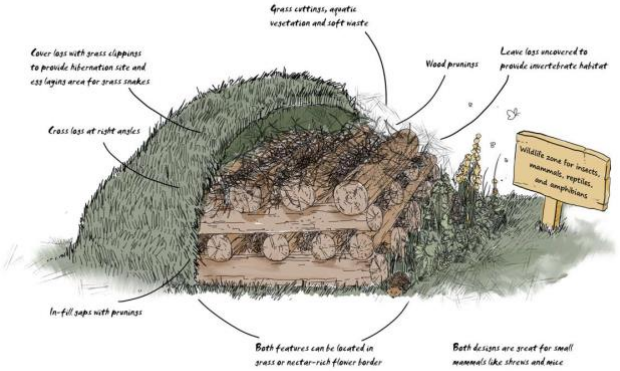
2.8 Design principles

Within a development, there are countless opportunities to design in features that will deliver net positive biodiversity. Sites can include planned areas of habitat retention, buffering and creation. In addition, formal areas of green spaces, engineered structures and buildings can all be enhanced for wildlife and people, even where biodiversity is not the primary objective.

To maximise the potential for net gain, developments should be permeable, use design features that sustain, increase and promote expansion of wildlife populations, and allow for climate change adaptation.

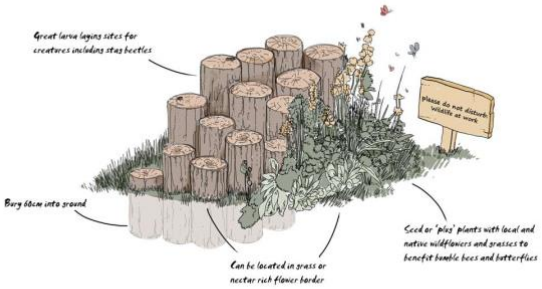
- Avoid further fragmentation of habitats by retaining, enhancing and buffering existing habitats
- Create new habitats to link with existing high value or priority habitat, including acid grasslands, scrub and woodland.
- Ensure new structural planting uses native species of local provenance and locate where on reaching maturity they enhance and not obscure views of the surrounding wider landscape.
- Retain and enhance existing hedges and plant new hedges to link with those in the surrounding landscape. Ensure the species are of local provenance and characteristic of the area, including elm and cherry plum in the mix.
- Ensure street and plot planting is balanced appropriately between native and non-native species and that ornamentals are of the highest wildlife value for pollinators (See appendix 1).
- All developments must include local heritage fruit trees in plot planting at an approximate ratio of 1:5 (trees:plots) across the development.
- ·All areas of new grassland should be sown with an appropriate flower rich mix, even where regular mowing will be required under the conditions of management.
- Avoid the use of invasive non-native species in formal planting schemes (See appendix 2)

- Where restorative work has been undertaken as part of a tree protection plan or as a last resort a tree must be removed, all arising's as far as is practically possible must remain and be utilised on site, where it can have a number of multifunctional uses and benefits.
- Informally, dead or decaying timber can be retained as standing deadwood, for example where safe to do so, the butt of a tree can stand for many years, with any cut limbs being left as intact as possible beneath where practical and safe to do so.
- Branches and brash should be used discretely among structural planting to provide lying deadwood these are of great wildlife value for many species of invertebrate, mammal, bird, amphibian or reptile that may use them for breeding, shelter and basking. Brash, along with rubble is also a primary material in the construction of reptile and amphibian hibernacula.
- There are a number of formal uses as standing or lying deadwood features which have been incorporated in to a nectar rich planting. They may also be a sculptured art feature or used to provide natural play.
- Consider lighting impacts on wildlife corridors and use directional lights with no spillage.



Schematic example of lying deadwood feature. In discrete warm locations, grass clippings can be placed on top to provide grass snake hibernacula and breeding habitat. Alternatively, in formal locations, use as a feature in a nectar rich shrub/flower bed.

Schematic example of a standing deadwood feature can be located in grass or ideally in nectar rich shrub/flower bed.

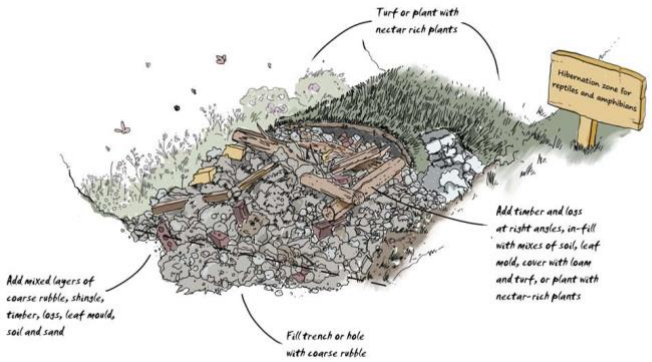


- Where the forming of mounds and bunds are necessary, they should where possible be orientated from a south east through to south to west facing

aspect, be low and sinuous, avoiding linear shape and form, planted with low growing shrubs and herbaceous plants and where appropriate incorporate hibernacula for reptiles.

- If a retaining wall is necessary, crib and gabion walls should be used to increase the surface area for nectar rich planting and provide additional habitat for amphibians and reptiles, solitary bees and wasps.
- Each development must include hibernacula primarily for reptiles. On the free-draining substrates typical of Potton, the bulk of the fill would be sited in an excavated depression. They should always be positioned in suitable terrestrial habitat. Follow guidance set out in the Reptile Management Handbook

Cross section schematic diagram for reptile hibernacula



- Only provide supplementary nests for birds in need of conservation action such as swift, house sparrow, house martin and starling. Other common species can still access these if they so wish.
- Integral swift bricks (also used by house sparrows) must be fitted at a 1:1 ratio in all new developments. This is not in its literal sense, but in clusters of 2-4 bricks on houses (usually gable ends) in selected suitable areas of the site. For example in a development of twenty houses, only eight houses may have 2-4 bricks on each, numbering up to twenty bricks. Avoid locating above doors and windows. Aspect is not as critical for integral nest bricks. Being inside the wall provides a more stable ambient temperature.

Integral swift bricks, used by swifts and house sparrow

- Locate house martin cups beneath suitable eaves and gables, avoiding placing above doors or windows an in direct heat of the sun. In Potton they seem to prefer west and easterly aspects.

House martin nest cups can also be used by house sparrow

- Mature trees adjacent open grassland is most suitable for starling boxes to be sited facing any easterly aspect out of direct heat and prevailing weather conditions. Where there are several trees a number of boxes can be used.
- Integral bat bricks must be located away from doors, windows, street or security lighting. Locate as close as possible to existing mature wooded cover and hedges or to landscape that will be suitable once mature. Bricks must be in groups of three to face south, south west and west. This might be on a single house or spread between two or three adjacent houses.

Integral bat bricks

- Provide 13 x 13 cm holes in garden boundaries to enable hedgehogs, reptiles and amphibians to movement around and through the site.
- Source control Sustainable Drainage (SuDS) features can be enhanced to benefit wildlife. The inclusion of flower rich seed mixes on filter strips and in swales, check dams and varying topography in swales and check dams in rills, planted with native marginal aquatic plants. The creation of kerbside rain gardens or bio-retention beds planted with appropriate nectar rich species.

- Design of detention basins and balancing ponds (the latter unlikely in Potton) should avoid being a featureless crater. With adequate source control there is little need. They should be designed as a multifunctional play area with a gentle slope into the main basin and sown with an appropriate flower rich seed mix. Avoid piping water direct from road run-off to the basin, ideally run-off should be fed via a swale or where necessary a rill.

Figures 1 and 2 on the following pages illustrate examples of plot scale features

Figures 1: Plot and roadside features

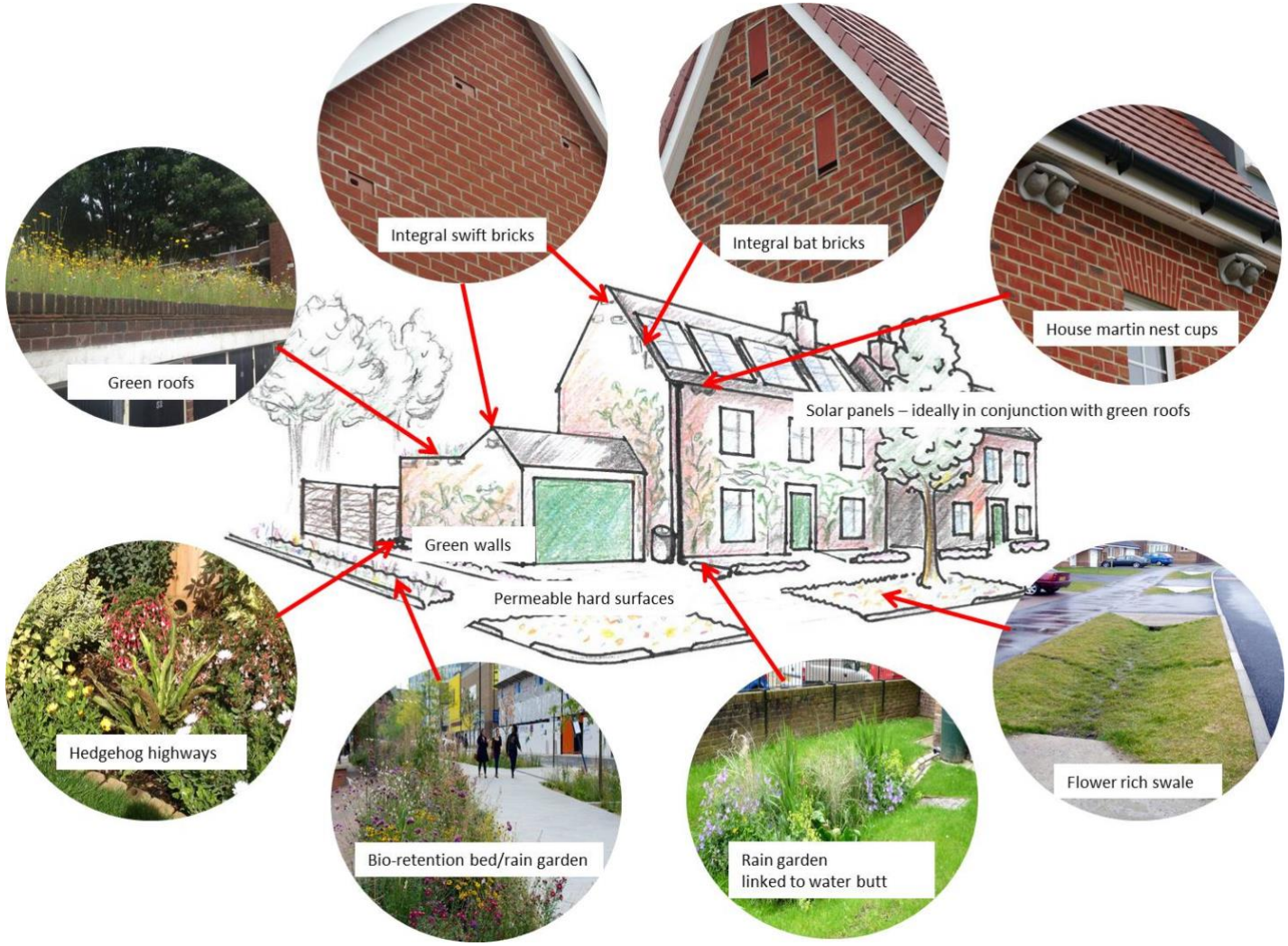
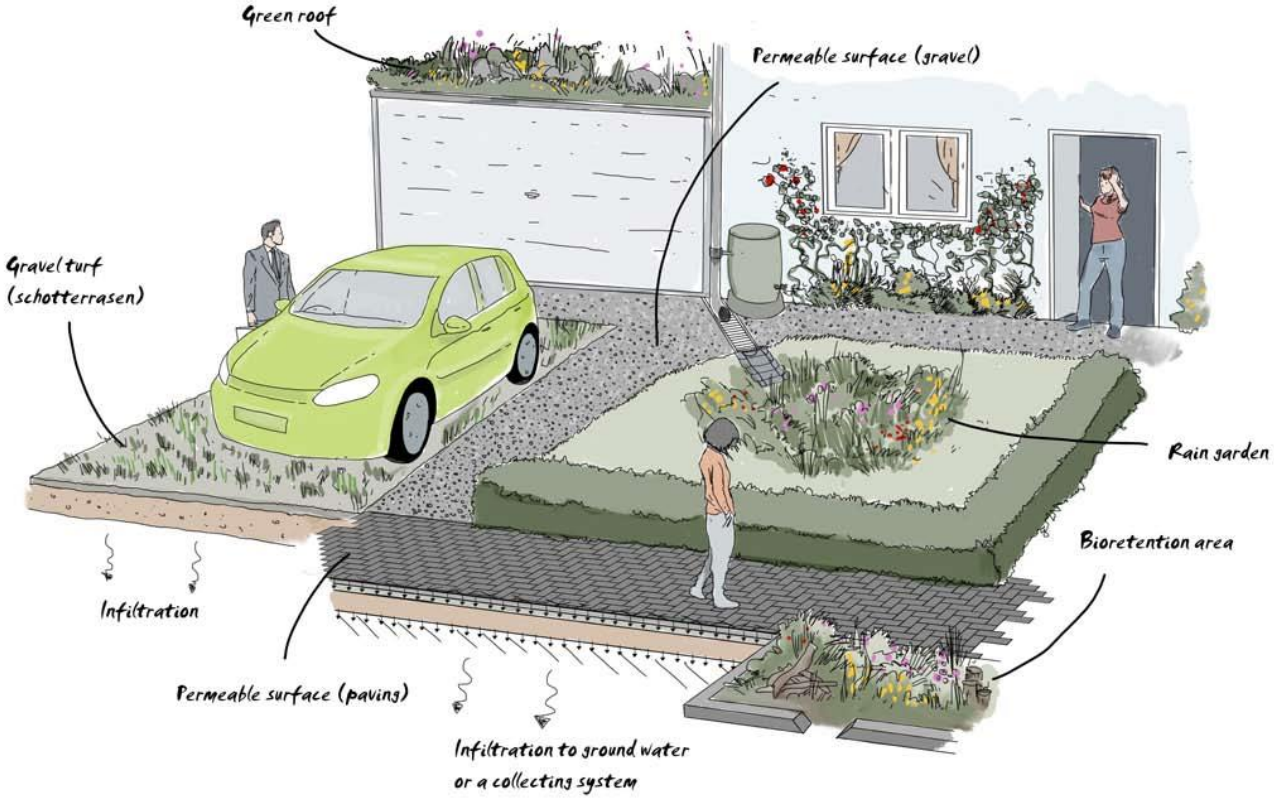


Figure 2 Plot and roadside SuDS features



2.9 Biodiversity checklist

The table published in the Central Bedfordshire Design Code provides a quick ready reference for developers to review if they have met all the criteria in their plans to deliver a multi-functional high quality development for people and wildlife.

2.10 Sustainable water management

2.10.1 Introduction

Water is a finite resource and asset which provides a range of ecosystem services. The implementation of Sustainable Water Management encourages a holistic approach to management and use, while helping recognise and realise the wider benefits it can bring to our wellbeing.

Water Sensitive Design (WSD) is becoming a mainstream approach to how we integrate water management into the built environment. It covers all aspects, from rainfall, water courses, flood management, supply and demand of clean water and how we manage waste water.

Sustainable Drainage Systems (SuDS) are one of the components of WSD. They help manage flood risk, improve water quality, reduce water pollution and provide climate resilience. With appropriate design, they contribute to multifunctional high value aesthetic spaces of amenity, community and wildlife benefit.

2.10.2 Sustainable Drainage Systems (SuDS)

SuDS seek to mimic natural hydrological processes as close to source and surface as possible, in order to replace traditional sub-surface piping systems for the storage, transit and treatment of water and bringing multiple benefits to many stakeholders. SuDS should equally balance quantity and quality controls with amenity and biodiversity.

Reference should be made to the Central Bedfordshire Design Code for design considerations at Master Planning, Site and Building Scale, along with the six step guidance plan.

2.10.3 SuDS requirements in Potton

As with all SuDS they should follow a ‘management train’ with source control the most important component. Each stage of the ‘train’ is designed to incrementally

reduce pollutant level in run-off water. Too many schemes omit this in their design, only implementing site or regional components in the form of a poorly designed detention basins directly receiving contaminated run-off water.

Designing SuDS as they were intended, to attenuate and clean run-off above ground, saves the developer money. They are also easier to maintain as part of a grounds maintenance contract and in the unlikely event of a failure, they are easier to repair as one can see where the issue is and it doesn't need costly excavation to access and repair the problem.

Potton requires all new developments to implement source control as a priority in order to provide a high value aesthetic amenity landscape for the community. Implementation of source control features as referenced by Step 4 in the CBC Design Code must include in combination, any or a number of the following: green roofs and walls, permeable road surfaces, drives and pavements, rain gardens, kerbside bio-retention beds and filter strips.

Source control will trap contaminated sediments from road and pavement run off and promote biological treatment, natural infiltration and evapotranspiration. Use swales and where applicable rills to convey water from source control features to detention basins which in turn should be designed with gentle sloping sides and if necessary terraced.

All SuDS features should be designed as referenced by Step 6 in the CBC Design Code. They must be attractive, provide a sense of place and promote wellbeing. They should also contain features of wildlife value and benefit, such as nectar rich planting and flower rich grass and shallow check dams in swales or rills.

2.10.4 Community engagement

SuDS present an excellent engagement opportunity. Use of appropriately located interpretation boards and other awareness raising media can help engage a community and develop ownership and appreciation of the feature.

2.10.5 Risks

There is a misconception SuDS pose a high risk. All activities have risks and many are unavoidable but deemed acceptable because of the wider benefit gained. Appropriate SuDS design provides multiple societal benefits which far outweigh any minimal perceived risks. The nature of the free draining soil in Potton means all components of a management train are unlikely retain standing water and if so for just a very short period of time.

2.10.6 Resource efficiency and climate change adaptation

Potton requires all new developments to be energy and water efficient and designed to future proof for climate resilience such as flooding, drought and urban heat island effect. In order that this is delivered cost effectively, consideration

should be given at the Master Planning stages to aspects of solar orientation, renewable energy solutions and passive design principles to reduce energy demands. Designing climate resilience through well located green infrastructure and SuDS provides shading and ameliorates for the impacts of heat island effect.

Potton expects all developments be designed to reduce carbon emissions through appropriate location, orientation, use of efficient heating and cooling systems, solar panels and other renewable energy technology.

Much of south east and eastern England are in a water deficit zone which is forecast to worsen. In order to reduce the impacts this will have on the environment, all new housing developments in Potton must aim to reduce their demand on potable water with the use of efficient white goods, smart metering and water butts for each dwelling.

Building extension and retrofitting must apply the same principles of design in order to improve their resource efficiency and demands made on the environment.

Details of available solutions and specifications for developments at a building scale can be found in the Central Bedfordshire Design Code.

3 References

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2. Jessica Goodenough, Phillip Handley, Kenton Rodgers, Philip Simkin. 2018, Canopy Cover Assessment & Recommendations for Wycombe District. Wycombe Council, Treeco$_2$nomics, Forest Research.
3. Central Bedfordshire Council, 2015, A Nature Conservation Strategy for Central Bedfordshire. Central Bedfordshire Council
4. Building with Nature benchmark https://www.buildingwithnature.org.uk/
5. This has been developed by Gloucestershire Wildlife Trust, in partnership with the University of the West of England, Bristol. It has been developed through collaboration with planners and developers from across Gloucestershire and the West of England
6. The Home Quality Mark (HQM) http://www.homequalitymark.com/
7. This has been created to serve the UK's house builders and the householders who buy and rent new homes. Developed by BRE, the UK's leading building science centre, the Home Quality Mark is based on years of building standards experience, and is part of the successful BREEAM family of quality and sustainability standards.
8. Bat boxes and information on their location can be found at: http://www.bats.org.uk/pages/bat_boxes.html
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10. Building with Nature benchmark https://www.buildingwithnature.org.uk/
11. Central Bedfordshire Council, 2015, A Nature Conservation Strategy for Central Bedfordshire. Central Bedfordshire Council
12. 'Facts about swift bricks' at https://www.rspb.org.uk/helpswifts under either 'submit your sightings' or 'new nest sites'.
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14. Home Quality Mark (HQM) http://www.homequalitymark.com/
15. Reptile and amphibian habitat management handbooks – available to download from:
16. https://www.arc-trust.org/habitat-management-handbooks
17. SuDS for people and wildlife: Andy Graham, John Day, Bob Bray, Sally Mackenzie, 2012, Sustainable Drainage Systems – maximising the potential for people and wildlife, a guide for local authorities and developers, RSPB, WWT
18. White spotted pinion moth and white letter hairstreak management fact sheets:
    https://butterfly-conservation.org/1866-1693/white-spotted-pinion.html
    https://butterfly-conservation.org/679-709/white-letter-hairstreak.html

4 Appendix 1

4.1 List 1: Structural planting

The following is list of native trees and shrubs for wider landscaping of mitigation areas, green spaces and corridors around and through a development, including hedges. They can be used to buffer and enhance existing landscape and habitats and link to form corridors in the wider landscape. The suggested proportions for these areas are 100% native species

Botanic name	**Common name**
Acer campestre	Field maple
Betula pendula	Silver birch
Corylus avellana	Hazel
Cornus sanguinea	Dogwood
Crataegus monogyna	Hawthorn
Cytisus scoparius	Broom
Euonymus europaeus	Spindle
Frangula alnus	Alder buckthorn
Hedera helix	Ivy
Ilex aquifolium	Holly
Ligustrum vulgare	Wild privet
Lonicera periclymenum	Honeysuckle
Malus sylvestris	Crab apple
Prunus avium	Wild cherry
Prunus cerasifera	Cherry plum
Prunus spinosa	Blackthorn
Quercus robur	English oak
Rhamnus catharticus	Buckthorn
Rosa canina	Dog rose
Rosa rubiginosa	Sweet briar
Rubus fruiticosus	Bramble
Sambucus niger	Elder
Sorbus aucuparia	Rowan
Ulmus glabra	Wych elm
Ulex europaeus	Gorse

4.2 List 2: Residential planting

The following list of trees (T), shrubs (S), climbers (C) and herbaceous plants (H) have been adapted from the RHS Perfect Pollinators list. They are intended as a guide for planting wildlife beneficial plants in street, plot frontage and formal amenity areas within developments. Selecting plants to provide nectar year round helps pollinators move through a development.

Winter (Nov-Feb)

Clematis cirrhosa	Spanish traveller's joy **C**
Crocus species	crocus (winter flowering) **B**
Eranthis hyemalis	winter aconite **B**
Galanthus nivalis	common snowdrop **B**
***Helleborus species* and hybrids**	hellebore (winter flowering) **H**
Lonicera* × *purpusii Purpus	honeysuckle **S**
***Mahonia* species**	Oregon grape **S**
Sarcococca confusa	sweet box **S**
Sarcococca hookeriana	sweet box **S**
Viburnum tinus	laurus tinus **S**

Spring (Mar-May)

Acer campestre	field maple **S or T**
Ajuga reptans	Native plant. bugle **H**
Arabis alpina* subsp. *caucasica	alpine rock cress **H**
Armeria juniperifolia	juniper-leaved thrift **H**
***Aubrieta* species**	aubretia **H**
Aurinia saxatilis	gold dust **H**
Berberis darwinii	Darwin's barberry **S**
Berberis thunbergii	Japanese barberry **S**
***Bergenia* species**	elephant ear **H**
***Chaenomeles* species**	Japanese quince **S**
Cornus mas	Cornelian cherry **S**
Crataegus monogyna	common hawthorn **S or T**
***Crocus* species** crocus	(spring flowering) **B**
Cytisus scoparius	Broom
Euphorbia characias	Mediterranean spurge **H**
Hebe species	hebe **S**
***Helleborus* species & hybrids**	hellebore (spring flowering) **H**
Iberis sempervirens	perennial candytuft **H**
Ilex aquifolium	common holly **T**
Mahonia species	Oregon grape (spring flowering) **S**
Malus domestica	edible apple **T**
Mespilus germanica	common medlar **T**
Muscari armeniacum	Armenian grape hyacinth **B**
Ornithogalum umbellatum	common star of Bethlehem **B**
Pieris formosa	lily-of-the-valley bush **S**
Prunus avium	wild and edible cherries **T**
Prunus cerasifera	Cherry plum
Prunus domestica	wild and edible plums **T**
Prunus insititia	damson **T**
Prunus spinosa	blackthorn **S**

Pulmonaria species	lungwort **H**
Pyrus communis	pear **T**
Ribes sanguineum	flowering currant **S**
Skimmia japonica	skimmia **S**

Summer (Jun-Aug)

***Achillea* species**	yarrow **H**
***Allium* species**	ornamental and edibles when allowed to flower **B**
Amsonia tabernaemontana	eastern bluestar **H**
Anthemis tinctoria	dyer's chamomile **H**
Astrantia major	greater masterwort **H**
Brachyglottis monroi	Monro's ragwort **S**
Buphthalmum salicifolium	yellow ox eye **H**
Calamintha nepeta	lesser calamint **H**
Callicarpa bodinieri* var. *giraldii	beauty berry **S**
Callistephus chinensis	China aster (open centred forms) **A**
Campanula carpatica	tussock bellflower **H**
Campanula persicifolia	peach-leaved bellflower **H**
Campsis radicans	trumpet honeysuckle **C**
Caryopteris* × *clandonensis	caryopteris **S**
Catananche caerulea	blue cupidone **H**
Centaurea dealbata	mealy centaury **H**
Centaurea montana	perennial cornflower **H**
Centranthus ruber	red valerian **H**
Echinacea purpurea	purple coneflower **H**
***Echinops* species**	globe thistle **H**
Elaeagnus angustifolia	oleaster **S**
Erigeron species	fleabane **H**
Eriophyllum lanatum	golden yarrow **H**
Eryngium* × *tripartitum	tripartite eryngo **H**
Eryngium planum	blue eryngo **H**
***Erysimum* 'Bowles's Mauve'**	wallflower 'Bowles's Mauve' **S**
***Escallonia* species**	escalonia **S**
Eupatorium cannabinum	hemp agrimony **H**
Eupatorium maculatum	Joe Pyeye weed **H**
Euphorbia cornigera	horned spurge **H**
Foeniculum vulgare	common fennel **H**
***Fuchsia* species**	fuchsia – hardy types **S**
Geranium species	perennial geraniums eg: 'Johnson's blue' **H**
***Geum* species**	avens (summer flowering) **H**
***Hebe* species**	hebe **S**
***Helenium* species**	Helen's flower **H**
Heliopsis helianthoides	smooth ox-eye **H**

Hydrangea anomala* subsp. *Petiolaris	climbing hydrangea **C**
Hydrangea paniculata	*paniculate hydrangea* **S**
Hyssopus officinalis	hyssop **S**
Ilex aquifolium	common holly **T**
***Inula* species**	harvest daisy **H**
Jasminum officinale	common jasmine **C**
Knautia macedonica	Macedonian scabious **H**
Lathyrus latifolius	broad-leaved everlasting pea **H**
Lavandula angustifolia	English lavender **S**
Lavandula* × *intermedia	lavandin **S**
Lavandula stoechas	French lavender **S**
Lavatera olbia	tree lavatera **S**
Leucanthemum* × *superbum	Shasta daisy (open-centred flower forms) **H**
Liatris spicata	button snakewort **H**
Ligustrum vulgare	wild privet **S**
Limonium platyphyllum	broad-leaved statice **H**
Linaria purpurea	purple toadflax **H**
Lonicera periclymenum	common honeysuckle **C**
Lythrum virgatum	wand loosestrife **H**
Malva moschata	musk mallow **H**
Monarda didyma	bergamot **H**
***Olearia* species**	daisy bush **S**
***Origanum* 'Rosenkuppel'**	majoram 'Rosenkuppel' **H**
Origanum vulgare	oregano, wild marjoram **H**
Parthenocissus tricuspidata	Boston ivy **C**
***Penstemon* species**	beard-tongue **T**
Perovskia atriplicifolia	Russian sage **S**
Persicaria amplexicaulis	red bistort **H**
***Phlomis* species**	sage **S**
Phlox paniculata	perennial phlox **H**
Photinia davidiana	stranvaesia **S**
Pileostegia viburnoides	climbing hydrangea **C**
***Potentilla* species**	cinquefoil **H or S**
Prostanthera cuneata	alpine mint bush **S**
Ptelea trifoliata	hop tree **S**
Rosa canina	dog rose **S**
Rosa rubiginosa	sweet briar **S**
Rosmarinus officinalis	rosemary **S**
Rubus idaeus	common raspberry **S**
***Rudbeckia* species**	coneflower (open centred flower forms) **H or A**
***Salvia* species**	sage **A or H**
Scabiosa caucasica	garden scabious **H**
***Sedum spectabile* and hybrids**	ice plant **H**
Sidalcea malviflora	checkerbloom **H**
Sorbus aucuparia	mountain ash/rowan **T**

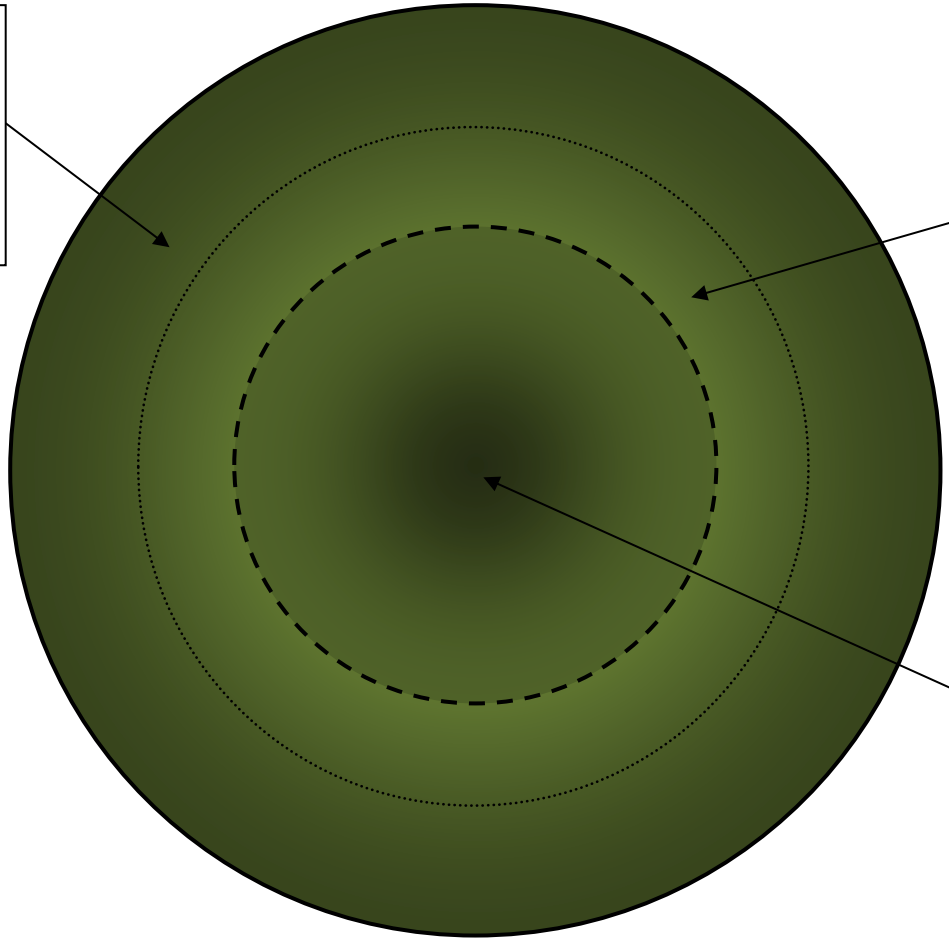
Spiraea japonica	Japanese spiraea **S**
Stachys byzantina	lambs' ear **H**
Stachys macrantha	big-sage **H**
Stokesia laevis	Stokes' aster **H**
Symphytum officinale	Comfrey H
Tanacetum coccineum	pyrethrum **H**
Telekia speciosa	yellow ox eye **H**
Teucrium chamaedrys	wall germander **H**
***Thymus* species**	thyme **S**
Tilia* × *europaea	common lime **T**
Tilia platyphyllos	broad leaved lime **T**
***Verbascum* species**	mullein **Bi**
Verbena bonariensis	purple top **H**
Viburnum opulus	guelder rose **S**
Weigela florida	weigelia **S**
Wisteria varieties	Wisteria S (climber)

Autumn (Sep-Oct)

Anemone hupehensis	Chinese anemone **H**
Anemone* × *hybrida	Japanese anemone **H**
***Aster* species and hybrids**	Michaelmas daisy **H**
Campanula poscharskyana	trailing bellflower **H**
***Chrysanthemum* species & hybrids**	chrysanthemum (open-centred flower forms) **H**
Clematis heracleifolia	tube clematis **C**
***Colchicum* species**	autumn crocus **B**
***Crocus* species**	crocus (autumn-flowering types) **B**
Elaeagnus pungens	silverthorn **S**
Elaeagnus* × *ebbingei	Ebbinge's silverberry **S**
Fatsia japonica	Japanese aralia **S**
Hedera helix	common ivy **C**
Helianthus* × *laetiflorus	perennial sunflower **H**
Leucanthemella serotina	autumn ox-eye **H**
Salvia species	sage (autumn flowering types) **H**
Tilia henryana	Henry's lime (one of the last to flower) **T**

4.3 Schematic illustration of plant type proportions across a development

Structural planting
100% native species - **List 1**
Applicable to: Mitigation areas, green spaces and corridors around and through development



Residential planting
a) Informal areas -
80% native species - **List 1**
20% non-native - **List 2**
Plus herbaceous plants and bulbs - **List 2**
Applicable to: Informal planting around high profile community, amenity and play areas

Residential planting
b) Formal areas -
60% deciduous species - **List 1**
40% evergreen species **– List 1 & 2**
Plus herbaceous plants and bulbs - **List 2**
Applicable to: Street and plot planting.

5 Appendix 2

5.1 Invasive plants

Gardens and urban green-spaces frequently feature a diverse tapestry of non-native plant species, many of which have been present in these landscapes for generations. However, sometimes these species prove to be invasive.

Why does this matter?

- Invasive non-native species (INNS) now pose **one of the greatest threats to biodiversity worldwide**, including our own native flora and fauna.
- It has been estimated that controlling and compensating for damage caused by INNS costs the UK taxpayer around **£1.7 billion a year**.
- Around **60%** of the non-native species causing damage to our natural environment in the UK originate from the horticultural industry.
- Even on nature reserves, a huge amount of time and money are spent tackling INNS such as New Zealand Pygmyweed and Floating Pennywort. These two species were **originally introduced to the UK as garden pond plants**.

5.2 How you can help?

Where possible native-plants should be used, however it is recognised as sometimes unrealistic to expect such a purist approach in the built environment, and some common, non-native garden favourites can benefit some wildlife (e.g. by prolonging the availability of nectar to insects).

While the vast majority of non-native plants used in gardens and urban landscapes pose no current threat to our wider environment, a number of popular garden varieties such as Buddleia and the Cotoneasters are raising concerns and are no longer considered suitable for planting despite their use as sources of nectar and berries.

5.3 Plants to avoid

The following combines the Schedule 9 lists of plants from England and Wales1, Scotland2 and Northern Ireland3 and the Natural England HorizonH Scanning list.

What is Schedule 9?

Schedule 9, Section 14A (2) of the Wildlife and Countryside Act 1981, refers to Plants, specifically those listed on Part 2 of the Schedule, whereby it is an offence to plant or otherwise cause to grow in the wild invasive non-native plants listed on those Schedules and after April 2014 it became illegal to sell five invasive non-native aquatic plants.

5.4 What is the Horizon Scanning list?

Determining which species will become invasive is notoriously difficult, the best predictor being evidence of invasiveness elsewhere. To assist in the prioritisation and targeting of prevention work, Natural England sought a horizon-scanning exercise to identify non-native plants that are most likely to become invasive in Great Britain in the future. The outcome was the publication of a report listing potential new invasive non-native plant species in Great Britain using existing information on INNS. These might be species which are already here but are not established or species which are yet to arrive. A total of 599 non-native plants were assessed.

The Horizon plant species listed here are those only considered as a Critical risk (90 species) of being or becoming invasive and a threat to the environment. It is not the complete list of species assessed.

5.4.1 Invasive plants

Key to superscripts:
Schedule 9: England and Wales1, Scotland2, Northern Ireland3, Horizon scanning list H
Plants most frequently listed in planting schedules and to avoid using

Botanic name	Common name
Acaena inermis	Purple sheep's burr[3]
Acaena microphylla	New Zealand bur[3]
Acaena novae-zelandiae	Pirri-pirri-bur[3, H]
Acaena ovalifolia	Two-spined acaena[3]
Ailanthus altissima	Tree-of-heaven[H]
Allium paradoxum	Few-flowered garlic[1,2,3]
Allium triquetrum	Three-cornered Garlic[1, H]
Arundo donax	Giant Reed[3]
Azolla caroliniana	Carolina Mosquito Fern[H]
Azolla filiculoides	Water Fern[1,2,3, H]
Buddleja davidii & all other varieties	Butterfly-bush[H]
Cabomba caroliniana	Carolina Water-shield[1,2,3, H]
Cardamine raphanifolia	Greater Cuckooflower[H]
Carpobrotus edulis	Hottentot fig[1,2,3]
Chamaecyparis lawsoniana	Lawson's Cypress[H]
Cortaderia richardii	Early Pampas-grass[H]
Cotoneaster bullatus	Hollyberry Cotoneaster[1, H]
Cotoneaster conspicuus x dammeri (C. x suecicus)	Swedish Cotoneaster[H]
Cotoneaster dammeri	Bearberry Cotoneaster[H]
Cotoneaster dielsianus	Diels' Cotoneaster[H]
Cotoneaster frigidus x salicifolius (C. x watereri)	Tree Cotoneaster[H]
Cotoneaster hjelmqvistii	Hjelmqvist's Cotoneaster[H]
Cotoneaster horizontalis	Wall Cotoneaster[1, H]
Cotoneaster integrifolius	Entire-leaved cotoneaster[1]
Cotoneaster lacteus	Late Cotoneaster[H]
Cotoneaster microphyllus agg. Of 12 spp	Small-leaved Cotoneasters[1, H]
Cotoneaster prostratus	Procumbent Cotoneaster[H]
Cotoneaster rehderi	Bullate Cotoneaster[H]

Cotoneaster salicifolius	Willow-leaved Cotoneaster[H]
Cotoneaster simonsii	Himalayan Cotoneaster[1, H]
Cotoneaster sternianus	Stern's Cotoneaster[H]
Crassula helmsii	Australian swamp stonecrop/New Zealand pigmyweed[1,2,3, H]
Crocosmia pottsii	*Crocosmia paniculata* Aunt-Eliza[H]
Crocosmia x crocosmiiflora (C. aurea x C. pottsii)	Pott's Montbretia[1,H]
Cyperus eragrostis	Pale Galingale[H]
Disphyma crassifolium	Purple dewplant[1, H]
Egeria densa	Large-flowered Waterweed[3, H]
Eichhornia crassipes	Water Hyacinth[1,2,]
Elodea callitrichoides	South American Waterweed[1,3, H]
Elodea canadensis	Canadian pondweed[1,3, H]
Elodea nuttalli	Nuttall's Waterweed[1,3, H]
Elodea spp	all species of Elodea[1,3]
Equisetum scirpoides	Dwarf Horsetail[H]
Euphorbia amygdaloides subsp.robbiae	Wood spurge[H]
Fallopia baldschuanica	Russian vine[H]
Fallopia japonica x sachalinensis (F. x bohemica)	Conolly's knotweed[1,3, H]
Fallopia japonica	Japanese knotweed[1,2,3]
Fallopia sachalinensis	Giant knotweed[1,2,3]
Fallopia spp	all species of Fallopia[3]
Gaultheria shallon	Shallon[2]
Glossostigma diandrum	Spoon-leaf mud-mat[H]
Gunnera tinctoria	Giant-rhubarb[1,3]
Hedera colchica	Persian Ivy[H]
Heracleum mantegazzianum	Giant hogweed[1,2,3]
Hippophae rhamnoides	Sea buckthorn[3]
Houttuynia cordata	Lizard Tail[H]
Hyacinthoides hispanica	Spanish Bluebell[3, H]
Hydrocotyle ranunculoides	Floating Pennywort[1,2,3, H]
Hydrocotyle sibthorpioides	Lawn Marshpennywort[H]
Impatiens glandulifera	Himalayan balsam[1,3]
Juncus ensifolius	Swordleaf Rush[H]
Lagarosiphon major	Curly Waterweed[1,2,3, H]
Lagarosiphon muscoides	Oxygen weed[H]
Lamiastrum galeobdolon subsp argentatum (variegated subspecies)	Variegated Yellow Archangel[1, H]
Ligustrum ovalifolium	Garden Privet[H]
Limnobium spongia	American Spongeplant[H]
Lonicera japonica	Japanese Honeysuckle[3, H]
Lonicera nitida	Wilson's Honeysuckle[H]
Ludwigia arcuata	Piedmont primrose willow[3]
Ludwigia brevipes	Long beach primrose[3]
Ludwigia glandulosa	Glandula water primrose[3]
Ludwigia grandiflora	Floating water-primrose[1,3, H]
Ludwigia helminthorrhiza	N/a[3]
Ludwigia inclinata verticilata 'Pantanale'	N/a[3]
Ludwigia inclinata	N/a[3]
Ludwigia latifolia	N/a[3]
Ludwigia ovalis	Oval ludwigia[3]
Ludwigia peploides	floating water-primrose/creeping water-
Ludwigia peploides	Floating water-primrose[1,3, H]
Ludwigia perennis	Perennial luwigia[3]
Ludwigia repens	Creeping Primrose Willow/creeping water Primrose[3, H]
Ludwigia spp	Floating water primrose[3]
Ludwigia uruguayensis	Perennial water primrose[1,3]
Ludwigia x kentiana (L. palustris x L. repens)	Hampshire-purslane[3]

Lysichiton americanus	American Skunk-Cabbage[3]
Micranthemum umbrosum	Shade Mudflower[H]
Myriophyllum aquaticum	Parrot's-feather[1,2,3, H]
Myriophyllum elatinoides	New Zealand Watermilfoil[H]
Nymphoides peltata	Fringed water lily[3]
Oenanthe javanica 'Flamingo' (v)	Japanese parsley, Chinese celery[H]
Orontium aquaticum	Golden Club[H]
Parthenocissus inserta	False Virginia-creeper[1]
Parthenocissus quinquefolia	Virginia-creeper[1]
Peltandra virginica	Green Arrow Arum[H]
Persicaria campanulata	Lesser knotweed[H]
Persicaria wallichii	Himalayan knotweed[3, H]
Petasites japonicus	Giant Butterbur[H]
Picea sitchensis	Sitka Spruce[H]
Pinus nigra	Austrian pine, Corsican pine, Black pine[H]
Pistia stratiotes	Water lettuce[1,2,3]
Polygonum perfoliatum	Mile-a-minute weed[3]
Prunus lusitanica	Portugal Laurel[H]
Pseudosasa japonica	Arrow Bamboo[H]
Pyracantha coccinea	Firethorn[H]
Pyracantha rogersiana	Asian Firethorn[H]
Quercus cerris	Turkey Oak[H]
Quercus ilex	Evergreen Oak[H]
Quercus rubra	Red Oak[H]
Rhododendron luteum	Yellow Azalea[1]
Rhododendron ponticum x R. maximum	Rhododendron hybrid[1, H]
Ribes odoratum	Buffalo Currant[H]
Robinia pseudoacacia	False acacia[2, H]
Rosa multiflora	Many-flowered Rose[H]
Rosa rugosa	Japanese rose[1, H]
Rotala rotundifolia	Roundleaf toothcup[H]
Rubus cockburnianus	White-stemmed Bramble[H]
Rubus spectabilis	Salmonberry[3]
Rubus tricolor	Chinese Bramble[H]
Sagittaria latifolia	Duck-potato[1, H]
Sagittaria sagittifolia ssp. Leucopetala	Chinese arrowhead[H]
Salvinia molesta	Giant Salvinia[1,2,3]
Sasa palmata	Broad-leaved Bamboo[H]
Sasaella ramosa	Hairy bamboo[H]
Saururus cernuus	Lizards Tail[H]
Smyrnium perfoliatum	Perforate alexanders[1,2,]
Sorbaria sorbifolia	Sorbaria, false spiraea[H]
Stratiotes aloides	Water soldier[3]
Trapa natans	Water Chestnut[3]
Typha gracilis	Slender Cattail[H]
Typha laxmannii	Laxman's bulrush[H]
Typha minima	Dwarf bulrush[H]
Yushania anceps	Indian Fountain-bamboo[H]