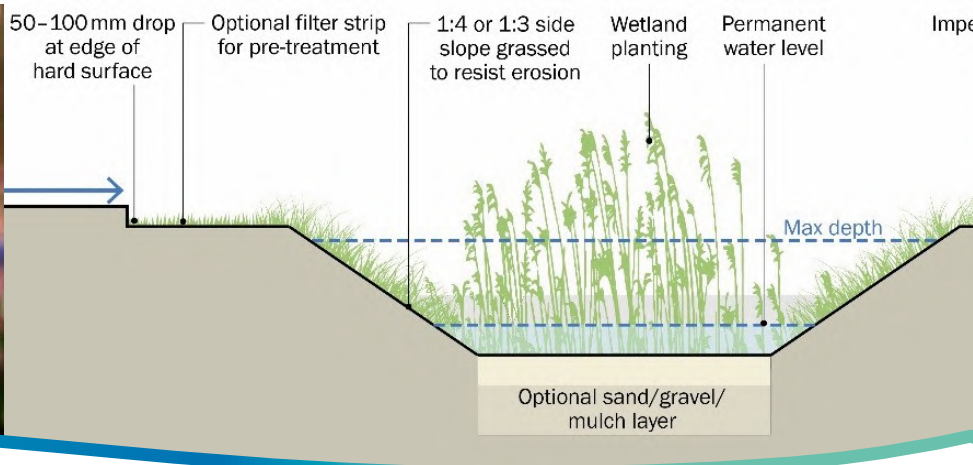
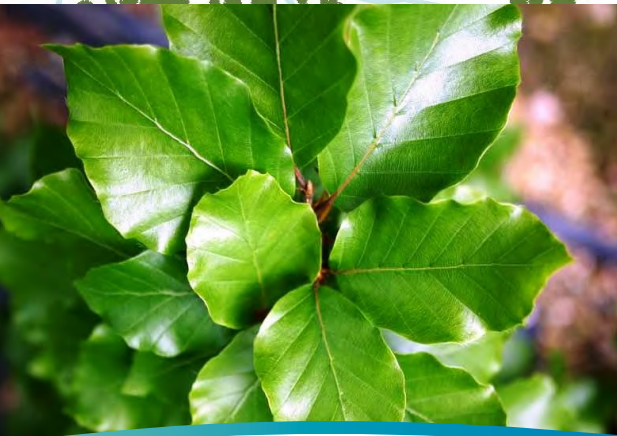


# Swanage Green Infrastructure Strategy

## APPENDIX 2 - GI design guidance for developers



**NOTE:**

This guidance has been produced in response to the recommendations in the Swanage Green Infrastructure Strategy. It is not a Supplementary Planning Document, but is intended to assist developers comply with Policy SGI of the Swanage Local Plan, and the Draft Swanage Town Centre Redevelopment Site Development Brief (September 2015).

## Introduction

The green infrastructure policy (SGI) in the Swanage Local Plan requires development proposals to take account of the Swanage Green Infrastructure Strategy. Planning applications for major development should also be accompanied by a statement setting out how the development will contribute to enhancing/improving the existing GI network. The National Planning Policy Framework and the Purbeck Local Plan also require GI to be considered. This guidance has been produced to help you to comply with Policy SGI, and to give you an indication of how the Council will assess your GI statement and proposals.

Considering GI from the outset can ensure that new development is more acceptable to existing communities.

Well planned and well designed GI creates spaces that deliver more efficient land use.

Investing in the provision of high standard GI will pay dividends as customers are willing to pay more for it.

(from 'Profitable Places' published by the Landscape Institute).



## What is green infrastructure (GI)?

In simple terms, GI refers to the network of 'natural' features (GI assets) such as green spaces, street trees, 'greenways' and waterways (which are termed blue/green infrastructure) that are found in and around villages, towns and cities. It is a service-providing infrastructure like any other, but unlike traditional grey infrastructure (eg roads, power grids, piped water and sewer systems) can be planned and designed to deliver multiple benefits. Refer to the main Swanage GI Strategy document for further information.



The checklist at the end of this guidance provides examples of GI that can be included in new development.

## Why is it important?

The setting of new development is as important as the development itself. GI is a fundamental aspect of this setting and should form part of the basic infrastructure serving the development. It is important that you plan for it right from the outset - this will ensure that GI will contribute to the creation of the framework around which the remainder of the development is designed. Well designed GI:

- makes development more sustainable;
- helps to integrate development into the townscape/landscape;
- creates a sense of 'place';
- supports easy navigation in, through and around development;
- contributes to community health and wellbeing;
- addresses flooding issues;
- re-uses surface water instead of disposing of it ;
- replenishes drinking water sources;
- replaces lost habitat and supports wildlife;
- enhances resilience to climate change;
- contributes to the reduction of air pollution;
- makes a place more attractive;
- supports food production, and can provide sustainable sources of fuel.

It can deliver multiple benefits at one time, for example a public amenity space is capable of providing natural drainage, cleaner air, and urban cooling. Because of this flexibility GI often represents a more efficient use of land, and delivers better value for money than infrastructure that requires expensive technology and is difficult to maintain.

Because GI provides so many important benefits to us and to the environment, it is vital that new development respects existing GI wherever possible, and provides new multi-functional GI that connects into and reinforces the wider GI network. This requirement is supported by planning policy at a national and local level.

### National Planning Policy Framework

'When new development is brought forward in areas which are vulnerable, care needs to be taken to ensure that risks can be managed through suitable adaptation measures, including through the planning of green infrastructure' (policy 99).

### Purbeck Local Plan Policy GI: Green Infrastructure, Recreation and Sports Facilities

New residential development will be required to make provision for:

- recreation, sport and/or open space facilities; and
- green infrastructure.

Where possible, facilities should be provided on site, as an integral part of the development. However, where on-site provision is not appropriate, off-site provision or a financial contribution will be sought. The level of contributions will be set out in the Community Infrastructure Levy (CIL) Charging Schedule.

Settlement extensions and major employment sites will be expected to contribute towards the delivery of significant areas of new green infrastructure and the management of a connected, coherent and functional network of new and enhanced green spaces corridors and public rights of way in accordance with the Green Infrastructure Strategy standards.

(The Green Infrastructure Standards that are referred to in the above Policy in the draft South East Dorset Green Infrastructure

### Swanage Local Plan Policy SGI: Swanage Green Infrastructure

All development proposals in Swanage should take account of the Swanage Green Infrastructure Strategy. Applications for major development should be accompanied by a statement setting out how the proposals:

- will avoid damage or loss to the existing green infrastructure network (as defined in the Swanage Green Infrastructure Strategy) unless such damage or loss is outweighed by other benefits of the development; and
- will maximise any opportunities to improve and enhance the green infrastructure network, in line with the Swanage Green Infrastructure Strategy.

(The Swanage GI Strategy referred to in this Policy is a Supplementary Planning Document which contains a number of proposals intended to improve the GI network of Swanage. The provision of this GI design guidance was one of the proposals.)

Because Swanage is in the Dorset Area of Outstanding Natural Beauty (AONB) you also need to take account of policies included in the AONB management plan:

### Dorset AONB management plan 2014-19

PH1c: retain, restore, manage and/or create characteristic features:

- promote mitigation and enhancements for landscape character and ecosystem services through development management.

Ecosystem Services are the products of natural systems from which people derive benefits, including goods and services, some of which can be valued economically, and others which have a noneconomic value – see Swanage GI Strategy for further information. The provision of ecosystem services is one of the defining characteristics of GI.

## GI and your development

The planning authority for Swanage is Purbeck District Council. When considering your planning application, where necessary the Council will expect your proposals to:

- use landform, layout, building orientation, massing, and landscaping to ensure a net gain for GI and biodiversity;
- provide public and/or private GI so that an accessible choice of shade and shelter is offered, recognising the opportunities for people, biodiversity, flood storage and carbon management that multi-functional GI can provide; and
- reflect the priorities of the Natural Environment White Paper<sup>1</sup> in relation to the value of GI in supporting ecosystem services;
- connect into, and reinforce the existing GI network;
- complement/and or contribute to the GI projects and initiatives identified in the Swanage GI Strategy.

## Getting started

When preparing your development proposals it is a good idea to consult the planning authority for pre-application advice on planning issues. There is a charge for this service<sup>2</sup>, but there are many benefits to getting pre-application advice, including a possible reduction in professional costs and time for drawing up the final design and layout plus a better chance that your proposals will be supported by officers.

The best way to plan the GI for your development is to use a structured design process. This helps you to think creatively about the issues and produce an appropriate response. The illustration on the next page shows the stages of the design process, and how they follow on from each other.

If you don't have the right skills to design the GI yourself, the best person to design it for you is a Landscape Architect. The Landscape Institute has a list of local registered Landscape Architects <https://members.landscapeinstitute.org/li-registered-practice-directory/> You may also want to consult a water management engineer, ecologist, the local Wildlife Trust and others with relevant technical expertise. The advice provided can then be fed into the design process.

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<sup>1</sup> See 2.35, 2.43, 2.78 – 2.83 of *The Natural Choice: securing the value of nature* published by H M Government June 2011

<sup>2</sup> Details of the fees charged for pre-application advice are provided on the pre-application advice form on the Dorset for You website <https://www.dorsetforyou.gov.uk/preapplicationadvice/purbeck>

# THE DESIGN PROCESS

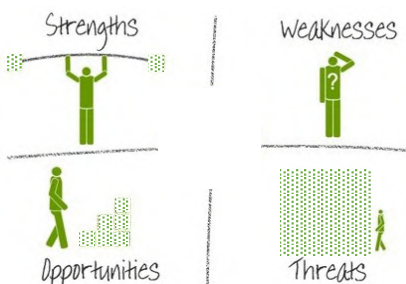


## Survey

- Physical
- Landscape and Townscape character
- Green and blue infrastructure
- Designations
- Historical
- Ecological
- Flooding
- Hydrology
- Geology and soils
- Views
- Climate
- Services etc.



CONTEXT



## Analysis

- Appraisal and analysis of context including function of existing green and blue infrastructure
- Identify contextual and site constraints and opportunities
- Produce and analyse options to address constraints and opportunities
- Identify guiding principles
- Concept and GI strategy development



CONCEPT



## Design

- Masterplan including GI framework
- Detailed proposals including
- Specification
- Maintenance schedule
- Management plan



IMPLEMENTATION



## Why is context important?

Masterplans translate policy into detailed proposals. How you apply this to your proposals is guided by the context of the development and its setting, and by the type of development you want to build.

To gain a thorough understanding of the context of your development it is important that you have the site and its surroundings surveyed. This should include a physical survey of the site conditions and vegetation, and a study of available background information including supplementary guidance. You will find that a lot of this information is available in the Swanage GI Strategy.

Analysis of the context and constraints of the site, and of the design objectives for the GI for your development will inform the design process, and result in GI that:

- responds to need and opportunities;
- provides many benefits;
- connects into the existing network in a positive way;
- functions well as part of the wider GI network;
- provides net gains in biodiversity.

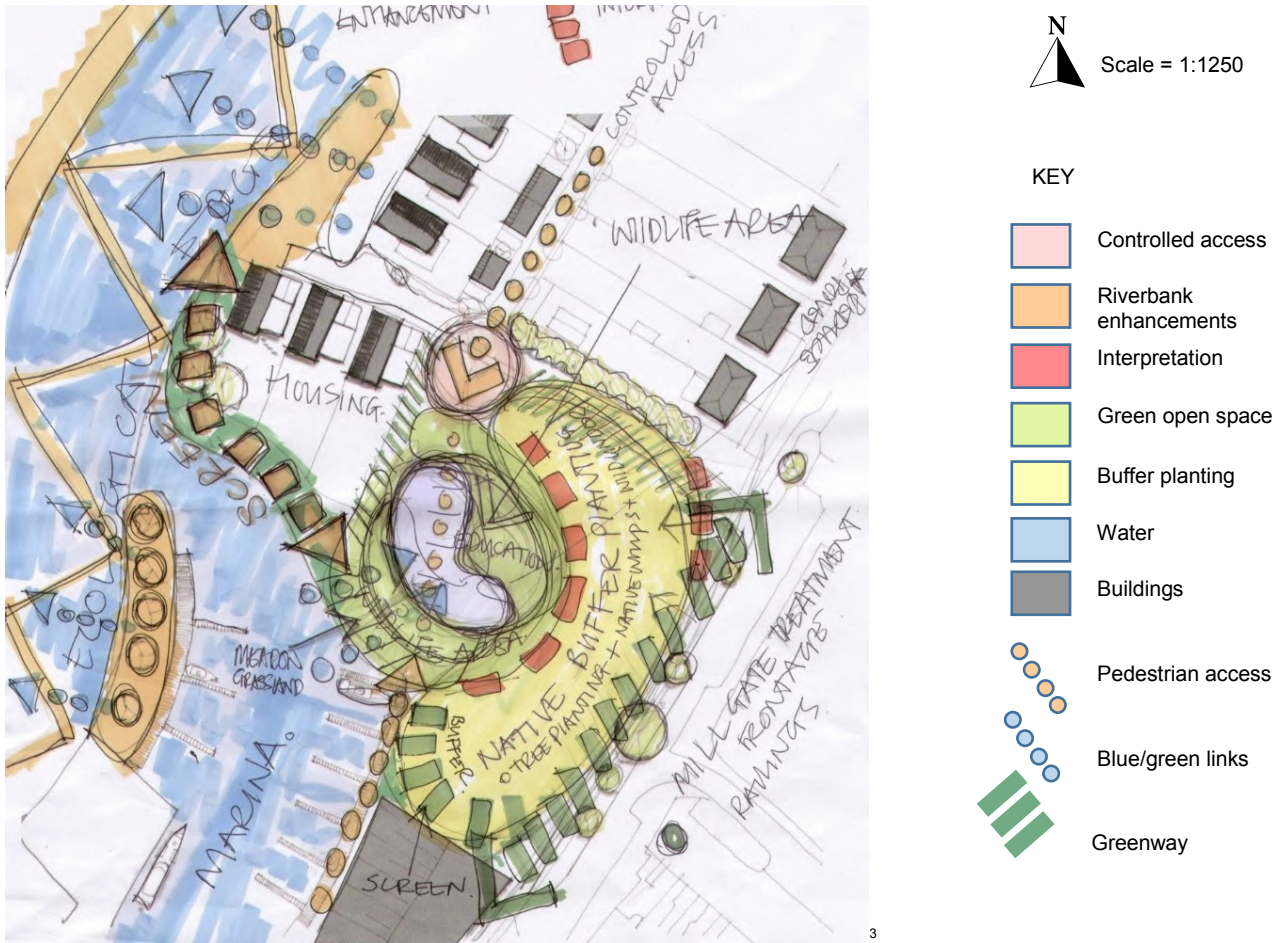
## The concept

By the end of the analysis process, you will have started to form initial design ideas which can then be developed into a concept plan.

Once the initial design ideas and functional relationships have been explored, the concept for your proposals can be generated. The concept defines the principles that will guide the overall design of your development. A concept plan conveys these general principles, and is a useful way of presenting ideas to other designers, to the client for early feedback, and may form the basis of pre-application discussions with the planning authority. It can be a rough freehand drawing or a series of sketches or diagrams that illustrate the decision-making/idea-development/conflict resolution process.

The concept plan will illustrate how the infrastructure serving your development, including the GI, will connect into and provide benefits to the surrounding area. It should show that the principles behind the design of your development have not been generated in isolation, and that they respond to the setting and context of the site and to relevant issues. The concept plan should also illustrate that GI has been considered from the outset and will form an integral part of the final layout. The main function of and connections between GI assets should be shown on the plan, and will form the basis of the GI strategy for the site.

Example of a concept plan:



For more information on the production of a GI strategy, refer to ‘The essential role of green infrastructure: eco-towns green infrastructure worksheet (2008) produced by the Town and Country Planning Association, Communities and Local Government, and Natural England.

At this stage GI is described in generic terms for example:

**Greenway** traffic-free routes which are vegetated, generally well separated from traffic and continuous over obstacles and through road junctions.

**Green corridor** an undeveloped corridor of green or blue/green open space that penetrates and therefore allows the free movement of wildlife into and through urban areas.

**GI node** a green open space where a number of GI functions are concentrated or GI connections converge.

<sup>3</sup> For illustrative purposes only. Based on Ordnance Survey map © Crown copyright and database rights 2018 O.S. LA 100022058

**GI stepping stones** small areas of GI that may not be large enough to support wildlife on their own, but that provide a way to move through the development.

**Blue/green infrastructure** GI that includes water for example streams, ponds.

It can also be useful to add a description of the principal function of each element of the landscape/land use for example:

- buffer
- screen
- wildlife area
- public open space
- parking
- housing

The concept can then be translated into a written strategy (the statement), which should be included in your Design and Access Statement to be submitted with your planning application. This will help to explain the principles which guide the overall GI design for your development.

## The masterplan

The masterplanning process further develops the functional and aesthetic aspects proposed at the concept/strategy stage into the framework that your development will sit in. The layout, siting and orientation of the buildings will respond to this framework, which should be GI led. The masterplan is an illustration of the spatial organisation of the GI, the hierarchy of routes through the development for vehicles, pedestrians and cyclists, and connections to the surrounding area, along with an indication of the location and density of the buildings in block form. The masterplan may also provide information about the type of building materials and surface treatments.

It is a good idea to include the immediate area surrounding the development site on your masterplan, as this will help to show how your development will integrate into the local context. Ensure that a north pointer and the scale of the plan are also included.

A masterplan is a useful way to present your development proposals for public consultation, though it is important to bear in mind that not everyone can relate to plans. For this reason, it is also useful to produce artists impressions of how the development will look when moving around and within it.

Example of a masterplan:



4

The masterplan detailing the GI framework should form part of your planning application. This is so that the planning authority can make an assessment of how the proposed GI will contribute to aesthetics and function as part of the wider GI network. The amount, type, and number of functions of the GI that you provide as part of the development will also be assessed. As a guide, you should look to achieve a ‘very good’ rating using the GI checklist which is included at the end of this guidance.

As you will see from the GI checklist, you will increase the rating of the GI that you provide if you ensure that each asset provides as many functions as possible, and if it connects into, and enhances the existing GI network. Retaining as much of the existing vegetation as is

<sup>4</sup> For illustrative purposes only. Based on Ordnance Survey map © Crown copyright and database rights 2018 O.S. LA 100022058

possible will also raise the GI rating for your development, especially if this vegetation is trees or hedgerows, which provide valuable habitat for a whole range of wildlife and support biodiversity.

### Detailed proposals

The next stage in the design process is to produce the detailed information that is required to build the development. This information, also referred to as production information, includes plans, sections, detail drawings, and the specification.

You may wish to provide the drawings showing the detailed proposals along with the masterplan to support your planning application. If you choose not to do this, the Council may require you to provide this information at a later date, and attach conditions to your planning permission. Each submission of information to satisfy planning conditions will entail additional cost and delay as detailed on the Dorset for You website

<https://www.dorsetforyou.gov.uk/planning/applications/fees>

It is at this stage that the GI framework produced for the masterplan is broken up into its constituent parts, which are then designed up in detail. It is important to ensure that no element is designed in isolation, and that the overall aim remains to provide GI that is multifunctional. The plan below is an example of an integrated approach, where the designs for the sustainable urban drainage scheme (SuDs) and the hard and soft landscaping for a courtyard have informed one another, resulting in a well designed multifunctional GI.

Example of a detailed proposals plan:<sup>5</sup>



<sup>5</sup> For illustrative purposes only. Based on Ordnance Survey map © Crown copyright and database rights 2018 O.S. LA 100022058

With reference to GI (including blue/green infrastructure), the Council needs to see the detailed proposals to ensure that the design of the planting and SuDs of the proposed GI is appropriate for the location, and that the SuDs will function as required. The Council will also be looking to see that the SuDs structures are integrated into the landscape as part its overall design, and not designed as stand-alone drainage features. This is an important aspect of multifunctional GI which should be demonstrated by your proposals.

You will also be required to demonstrate how GI including any existing vegetation will be managed so that it contributes aesthetically and maintains its level of function throughout the lifespan of the development. This will involve the provision of a management plan detailing who will be responsible for managing and maintaining the GI, a management 'prescription' for each element which is designed to achieve/maintain the original design objectives, and detail of individual maintenance operations required. The maintenance of SuDs on private land needs to be included, but the maintenance of private gardens does not.

### Submission to the planning authority

To re-cap, the GI proposals for your development should be planned, designed and managed in a way that is sensitive to, and includes provision for natural systems and ecosystem services. Each GI asset may have an obvious primary function, but should also perform simultaneous additional functions. As part of your planning application you should provide:

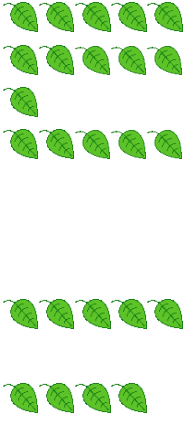
- a GI strategy statement in your Design and Access statement;
- a GI led masterplan, which illustrates the GI framework for your development;
- representative sections through the site as necessary to show how changes in level are responded to;
- detailed plans and sections and a specification for each element of the proposed GI, which may be provided up-front, or in response to planning conditions at a later date;
- where planting is proposed, you should include planting plans with a planting schedule and a specification to explain how the ground is to be prepared and cultivated;
- details of all SuDs must be submitted, along with the results of a percolation test to determine the infiltration rate, and calculations showing the capacity of the system to deal with a 1 in 100 year flooding event, including an appropriate allowance to cater for climate change. This would be 40% for residential development and would be lower for commercial development;
- a maintenance schedule and management plan for all GI including existing and proposed, which should incorporate measures to conserve and enhance biodiversity.

## GI checklist

The following checklist is intended to help in planning for existing and new GI on your development site. It is not an exhaustive list, but includes some of the more common GI elements that you may want to consider including. The GI elements have been rated according to the value that they contribute to the overall GI network. You should aim to include GI from as many sections as you can, and to achieve a ‘very good’ standard for the delivery of GI.




### GI rating for development

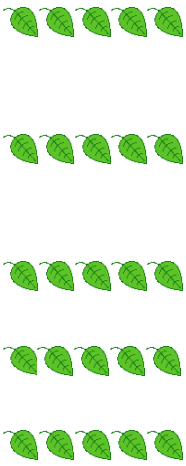
Poor	30 – 39	
Average	40 – 49	
Good	50 – 59	
Very good	60 – 69	
Excellent	70	 and above

Existing GI elements	GI points	Tick if included
<p><b>A</b> Existing GI</p> <p>If there is existing GI on the site, retain it where possible particularly if it contributes to biodiversity:</p> <ul style="list-style-type: none"> <li>▪ stream/pond;</li> <li>▪ trees with stem girth of more than 30cm;</li> <li>▪ single species evergreen hedgerow;</li> <li>▪ mixed species hedgerow.</li> </ul> <p>Additional green points are available if:</p> <ul style="list-style-type: none"> <li>▪ an existing culverted stream is brought back to an open state;</li> <li>▪ an existing stream has ‘hard’ engineered banks replaced with ‘soft’ engineering solutions.</li> </ul>		

New GI	GI points	Tick if included
<p><b>B Sustainable urban drainage systems:</b></p> <ul style="list-style-type: none"> <li>▪ rainwater harvesting;</li> <li>▪ green roofs;</li> <li>▪ bioretention scheme;</li> <li>▪ rain gardens;</li> <li>▪ swales;</li> <li>▪ filter strips;</li> <li>▪ detention basin;</li> <li>▪ infiltration basin;</li> <li>▪ pond;</li> <li>▪ wetland;</li> <li>▪ geocellular system;</li> <li>▪ permeable paving;</li> <li>▪ gravel surfacing.</li> </ul> <p>Additional green points are available if:</p> <ul style="list-style-type: none"> <li>▪ all of the hard surfaces are permeable;</li> <li>▪ all of the roofs are green roofs;</li> </ul>		
<p><b>C Tree planting:</b></p> <ul style="list-style-type: none"> <li>▪ street trees;</li> <li>▪ individual trees in gardens;</li> <li>▪ groups of trees in amenity areas;</li> <li>▪ woodland or copse.</li> </ul> <p>Additional green points are available if the trees are:</p> <ul style="list-style-type: none"> <li>▪ woodland or coppice for biofuel or timber;</li> <li>▪ to drain land;</li> <li>▪ an orchard;</li> <li>▪ all selected to provide food for birds, insects and other wildlife (nectar, berries, fruit, nuts);</li> <li>▪ all native species;</li> </ul>		



<ul style="list-style-type: none"> <li>resilient to climate change.</li> <li>planted in every back garden;</li> <li>planted in every front garden.</li> </ul>		
<p><b>D</b> Climber/shrub/herbaceous planting and grass:</p> <ul style="list-style-type: none"> <li>green wall construction;</li> <li>vegetation on trellis or wall;</li> <li>shrub planting;</li> <li>single species evergreen hedge;</li> <li>mixed species hedge;</li> <li>herbaceous planting;</li> <li>short mown grass;</li> <li>Wildflower meadow.</li> </ul> <p>Additional green points are available if planting is:</p> <ul style="list-style-type: none"> <li>selected to provide food sources for birds, insects and other wildlife (nectar, berries, fruit, nuts);</li> <li>all native species;</li> <li>Walls including building walls are covered with climbing plants;</li> <li>Hedges are planted instead of constructing free-standing walls;</li> <li>Hedges are planted to replace existing close-boarded and other fencing;</li> <li>Hedges are planted instead of erecting close-boarded and other fences.</li> </ul>		
<p>Multifunctional GI</p>	<p>GI points</p>	<p>Tick if included</p>
<p><b>E</b> Cover, connections and services:</p> <ul style="list-style-type: none"> <li>the canopy cover of the existing and proposed trees will total more than 40% of the site area (including buildings) when the trees are mature;</li> </ul>		

<ul style="list-style-type: none"> <li>▪ the total area of the existing and proposed GI on the site is more than 40% of the site area (including buildings);</li> <li>▪ all of the green amenity areas including road verges in the new development have more than one GI function;</li> <li>▪ footpaths across the site connect into the existing rights of way network, and are well signposted;</li> <li>▪ a green corridor or corridors are provided on the site as part of the open space provision;</li> <li>▪ a communal garden, or a community area that is suitable for the cultivation of fruit and vegetables is provided.</li> </ul>		
<p>Total number of GI points</p>		
<p>GI rating of development</p>		

Include the completed GI checklist with your Design and Access Statement when you submit your planning application.