Building with Nature

User Guide

for policy makers

Building with Nature Version 1.3

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User Guide for Policy Makers

Gemma Jerome Gloucestershire Wildlife Trust, University of the West of England

Danielle Sinnett University of the West of England

Roger Mortlock Gloucestershire Wildlife Trust

Sarah Burgess University of the West of England

Colin Studholme Gloucestershire Wildlife Trust

Thomas Calvert University of the West of England

Nicholas Smith University of the West of England

Steve Bloomfield Worcestershire Wildlife Trust

Conservation Centre • Robinswood Hill Country Park
Reservoir Road • Gloucester • GL4 6SX • United Kingdom
01452 383 333 • info@buildingwithnature.org.uk

www.buildingwithnature.org.uk

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Keywords	Reader interest	User
Green infrastructure, public health infrastructure, health and wellbeing, sustainable water management, sustainable drainage, water quality, biodiversity, ecological connectivity, environmental quality, climate change, placemaking, nature-based solutions, green spaces, blue spaces, parks, gardens.	Building with Nature is designed to support end-users and those involved in the planning, design, construction and long-term management and maintenance of green infrastructure to deliver high quality features that secure benefits for health and wellbeing, sustainable water management, and nature conservation.	Developers, planners, policy makers, landscape architects, built environment consultants, construction professionals, local authorities, local lead flood authorities, citizens and communities, and other organisations and individuals involved in the planning, delivery and management and maintenance of green infrastructure features in new and existing places.

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Additional knowledge and expertise was drawn from a network of national partners including The Royal Society of Wildlife Trusts, Town and Country Planning Association (TCPA), Royal Institute of Chartered Surveyors (RICS), Royal Town Planning Institute (RTPI), Landscape Institute, Forest Research and Public Health England; and local partners including regional Wildlife Trusts, notably Avon Wildlife Trust and Worcestershire Wildlife Trust; local planning authorities from Gloucestershire and the West of England, and members of the Gloucestershire Local Nature Partnership and the West of England Local Nature Partnership.

A wide range of individuals and organisations from across the built environment sector also generously gave their time to inform, advise, review and refine the Building with Nature standards and act as pilot projects for testing the mechanism on live planning applications and policy documents. This included an Advisory Group made up of experts from planning, landscape architecture, ecology, and public health. Special thanks go to Barry Wyatt, Mark Southgate, Ian Lanchbury, Catherine Haigh, Karen Colebourn, Robert Bray, and David McConalogue.

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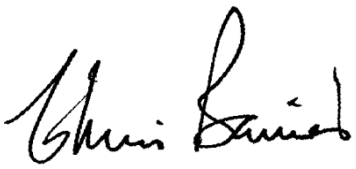
Building a Force of Nature

Of all the people on the Earth today, one in a hundred live in the British Isles and the vast majority of us live in towns and cities. Our crowded and busy lives are being made increasingly stressful by the effects of climate change and we need green breathing spaces more than ever before.

All too often built development seems to be at odds with nature, but that doesn't need to be the case. By taking account of a site's natural assets, forging green links into the wider landscape and making appropriate provision for long-term management it is possible to blend new built development into its surroundings. We can make positive use of the landscapes natural systems and we can create places that grow even better with time.

Success requires imagination and patience. It also demands technical and professional excellence from planners, architects, engineers, developers, manufacturers and the building trades as well as the knowledge of nature conservationists and the local community. Where all these elements come together, then new built development really can become a force of nature.



Chris Baines

Independent environmentalist

National Vice President, RSWT (The Royal Society of Wildlife Trusts)

Hon President, AECB (The Association for Sustainable Building)

Building with Nature

Building with Nature sets a new standard for green infrastructure. It brings together existing guidance and good practice to recognise high quality green infrastructure at all stages of the development process including policy, planning, design, delivery, and long-term management and maintenance. It has been developed by practitioners and policy makers, academic experts and end users, and supports the delivery of multifunctional green infrastructure; in recognition of the wide range of benefits it secures for people and wildlife.

The Building with Nature Benchmark makes it easier for those charged with designing, delivering and maintaining green infrastructure to deliver benefits for people and wildlife, now and in the long term. It does not require additional preparation of supplementary documentation, and rather provides a framework of principles to overcome the challenge of delivering high quality green infrastructure and maximise multifunctional benefits for end users.

Building with Nature offers an assessment and accreditation service to secure the delivery of high-quality green infrastructure in new and existing communities. It can be used to certify a development or a policy document. This version of the User Guide provides technical guidance for those engaged in policy making. If you would like to certify a development, including the retrofitting of green infrastructure into existing places please see 'Building with Nature – User Guide'.

The benchmark has been developed to support built environment professionals to deliver high quality green infrastructure and draws together policy and practice guidance related to health and wellbeing, sustainable water management, ecology and biodiversity. Where existing guidance is not available, or inadequate, guidance is supplemented with robust findings from academic research.

This is not intended to be a tool designed to mitigate the loss of irreplaceable habitats, such as ancient woodland. Instead, Building with Nature offers a tool to demonstrate the value of early and sustained engagement in the design and delivery of high-quality green infrastructure. When we build with Wellbeing, Water and Wildlife in mind, it is possible to deliver the vision of sustainable development and flourishing communities as set out in current UK planning policy guidance.

Building with Nature User Guide

This user guide is for those applying for Building with Nature Accreditation for development. It describes how Building with Nature works, including the different stages of Assessment and different levels of Accreditation; and sets out the Building with Nature Standards in full.

There is another document here for the application process for certifying a development.

Who is this guide for?

This guide has been designed to assist those individuals tasked with assessing policy documentation against the Building with Nature standards. This includes strategic documentation such as green infrastructure plans and strategies; local planning policy which includes an approach to green infrastructure, and neighbourhood development plans which include policies relating to the natural environment.

End users of Building with Nature include developers, local planning authorities, landscape architects, ecologists, engineers, construction site managers, highways contractors, transport planners, horticulturalists, designers, arborists, facilities managers, and other and built environment professionals involved in design, implementation and long-term management and maintenance. It will also be of value to new and existing communities who wish to better understand how high-quality green infrastructure can deliver benefits to the built and natural environment, to people and to wildlife.

How Building with Nature Works

Engagement and training

Training is available on two levels. We provide a short, half-day induction to the scheme explaining in broad terms what it does, how use it and the potential benefits. Participants can attend an open-course, or we do bespoke orientation sessions for individual companies.

We also provide a two-day training for Building with Nature Approved Assessors, on how to use the Standards to design and deliver high-quality green infrastructure. The Assessor training is aimed at those who are already accredited landscape architects (through the Landscape Institute), ecologists (through CIEEM), and planners (through RTPI), and have a role in bringing forward strategic policy. Accreditation is also open to individuals with other relevant qualifications in engineering, water management, or public health.

The Building with Nature training programme can be found at buildingwithnature.org.uk

Your assessment

To apply for Building with Nature Accreditation, you must engage a qualified Building with Nature Assessor to compile your application for accreditation.

It will be the role of the Assessor to draw together all the evidence of compliance for your application for accreditation. More information on this documentation and evidence of compliance can be found later in this section, and within each of the Standard descriptions in this User Guide.

Applying for accreditation

Once the Assessor has completed the application, the next stage is to submit your application for accreditation to Building with Nature for an audit. This is the process by which we can assess your eligibility for a Building with Nature Accreditation, based on the evidence provided by your Building with Nature Assessor.

This enables us to ensure the high-quality standards across all applications for accreditation and provide you with the appropriate guidance for promoting your scheme should you be successful.

National awards

Policy documentation which is adopted will be invited to apply for a Building with Nature National Award. This is an opportunity to showcase policy which supports the delivery of well-designed, expertly implemented and sustainably managed features.

Evidence Preparation

Applicants will work with a Building with Nature Approved Assessor to prepare evidence to demonstrate they have met the Building with Nature standards. This documentation will then be used by Assessor to make a recommendation for accreditation.

The evidence we require to assess policy documentation may be limited to the policy document itself, however additional evidence drawn from supporting documentation which underpins the policy document, may also be submitted as part of the application. For example, if the policy document applying for accreditation is a Local Plan/Local Development Plan, the applicant may also draw evidence from relevant Strategy or Planning documents which constitute supporting evidence.

Applicants will need to gather this information into one place so all aspects relating to green infrastructure can be assessed for compliance. The names of the documents will vary between local planning authorities, geographic regions, and devolved nations; however the content should be matched against the information provided in the 'Evidence of Compliance' sections.

Accreditation and Awards

Accreditation

There are two possible accreditations for strategic policy – Good and Excellent.

Good and Excellent

We have created the Good or Excellent marques to recognise adopted policy documentation which supports the delivery of high-quality green infrastructure. Applications are welcome from local planning authorities, or other policy making bodies, who are responsible for creating strategic policy documentation (e.g. Plan, Strategy) for the national, sub-regional, district, local, or neighbourhood scale.

A successful application will be awarded either Building with Nature Good or Building with Nature Excellent, depending on which standards have been met (see Scoring System).

National Awards

To raise the bar across the industry and show what can be done, we run a programme of National Awards to spotlight best practice. We produce case studies on these National Award Schemes, promote them through our channels, and have a presentation at an annual awards ceremony. Policy makers are encouraged and supported to make use of these awards in their own communications.

Exceptions and disputes

Building with Nature may judge that certain development schemes may have such an overall negative impact on biodiversity or the wider environment that to accredit and award the scheme would be contrary to the overall goals of the scheme and its supporters. These may be schemes which within their boundaries affect special habitats or species or whose overall environmental or climate impact would be significantly damaging. Building with Nature reserve the right not to accredit policy documentation which includes allocation or promotion of such schemes. If your Assessor thinks any scheme may be problematic in this respect, they will seek early advice from Building with Nature.

This accreditation framework is voluntary and acts as an additional layer to the statutory planning system.

The Twenty-Three Standards

There are 23 standards in total. Five core standards together create a solid foundation for the delivery of high-quality green infrastructure through planning and development.

There are three additional thematic groups of standards. Within each of these themes there are three standards attainable at Good level (1-3) and three standards at Excellent level (4-6).

CORE Standards

CORE1: The green infrastructure forms a multifunctional network.
CORE2: The scheme identifies important local character features as a starting point for the green infrastructure proposals and incorporates them into the scheme to reference, reflect and enhance the local environment.
CORE3: The type, quality and function of green infrastructure respond to the local context.
CORE4: The green infrastructure is resilient to climate change; and minimises the scheme's environmental impact with respect to air, soil, light, noise, and water; and enhances the quality of air, soil and water.
CORE5: Provision is made for long-term management and maintenance of all green infrastructure features post-development.

WELLBEING Standards

Good

WELL1: Green infrastructure is accessible for all and is situated close to where people live to promote health, wellbeing, and active living.
WELL2: The scheme encourages all people to use and enjoy green infrastructure and considers the needs and strengths of vulnerable and excluded groups.
WELL3: Green infrastructure is designed to encourage optimal use and employs hard and soft features to be accessible at all times of year.

Excellent

WELL4: The scheme supports local priorities for reducing and/or preventing health inequalities.
WELL5: The scheme demonstrates innovative solutions to overcoming social and cultural barriers to use and enjoyment of green infrastructure and considers how green infrastructure can promote socially sustainable communities and community cohesion.
WELL6: The scheme demonstrates that green infrastructure is integral to the distinctiveness of place.

WATER Standards

Good

WAT1: Green infrastructure is integral to sustainable drainage and features are designed to minimise surface runoff, manage flood risk, and maintain the natural water cycle.

WAT2: Green infrastructure has been used to improve water quality within the boundary of the scheme.

WAT3: The design of SuDS enhances the capacity of green infrastructure features to create and sustain better places for people and nature.

Excellent

WAT4: The scheme responds to the local policy context in terms of water management, demonstrating an innovative approach to move beyond the statutory minimum.

WAT5: A diversity of green infrastructure features are utilised to improve water quality, utilising more and better treatment stages to maximise pollution reduction downstream.

WAT6: Features relating to water management are used to enhance local distinctiveness and add value to the overall design.

WILDLIFE Standards

Good

WILD1: Green infrastructure delivers biodiversity net gain by avoiding, mitigating, and compensating for impacts on existing biodiversity, and where possible restores, creates and enhances biodiversity within the boundary of the scheme. Provision has been made for on-going monitoring and remediation.

WILD2: Green infrastructure features ensure linkages between habitats within the boundary of the scheme.

WILD3: Green infrastructure delivers key measures that contribute to the target conservation status of key species.

Excellent

WILD4: Green infrastructure includes ecological features around and within the built environment.

WILD5: Green infrastructure is effectively connected to ecological features beyond the boundary of the scheme and plays a role in restoring and sustaining wider ecological networks.

WILD6: The scheme secures biodiversity measures in all stages of implementation and in the case of phased development schemes, across multiple phases of development.

Scoring system

There are two levels of achievement that can be attained: **Building with Nature Good** and **Building with Nature Excellent**. To be eligible for either level, an applicant must demonstrate that they have met all five core standards. For Building with Nature Good an applicant must demonstrate they have met all nine 'Good' standards (standards 1-3 in each theme). For Building with Nature Excellent, an applicant must demonstrate they have met all nine 'Good' standards plus six out of nine 'Excellent' standards. This means that applicants to Building with Nature Excellent can chose to specialise in one or two thematic areas by choosing all excellent standards from one theme and only one or two from the others.

		Good		Excellent
Core 1 to 5	+	Wellbeing 1 to 3 Water 1 to 3 Wildlife 1 to 3	+ at least 6 from:	Wellbeing 4 to 6 Water 4 to 6 Wildlife 4 to 6

Figure 1 Standards required for Good or Excellent award

Each standard includes the following details:

- **Aim**: what the standard is seeking to achieve and why
- **Illustrative examples:** further information and/or examples of how the standard can be met.

Each level within each theme also includes:

- **Evidence of Compliance:** An outline of what is expected of applicants in terms of the evidence required to demonstrate that a standard has been satisfactorily met. In most cases the same evidence will be required irrespective of the stage in the development process when the application is being made. However, in some instance this may be additive, for example, when an additional requirement is made to ensure that the standard will still be met post-construction. In this case 'As above' is used to denote that at each subsequent stage of development, the applicant is required to submit evidence from previous stages as well as any additional evidence relating to that stage.

Each theme also includes:

- **Further Information:** Links to useful policy or practice documents related to the standard.

The standards are periodically reviewed by a Building with Nature Standards Board to ensure the standards remain relevant to current policy, practice and research findings.

Using This Guide

This user guide is for those applying for Building with Nature Accreditation for development. It describes how Building with Nature works, including the different stages of Assessment and different levels of Accreditation; and sets out the Building with Nature Standards in full.

There is another document available for the application process for certifying a policy document. Please contact Building with Nature for this

The Standards

The following sections will explain the standards in full. Each section includes a one-page summary of the standards in that theme to help you navigate the user guide. Here we outline the scope of each group of standards and how each standard contributes to the delivery of high-quality green infrastructure.

Each standard is then described in terms of its Aim which highlights why a standard is important and detailed Illustrative Examples which offer examples of how you can demonstrate compliance with each standard.

The standards are grouped according to the two levels of Good and Excellent. For each group of standards, there is a further section titled Evidence of Compliance that shows you what evidence and documentation you should include in your application depending on what stage of planning applies to your development.

There are 23 Building with Nature standards in total. This includes five core standards, six wellbeing standards, six water standards and six wildlife standards:

Core Standards (CORE)

Distinguish a green infrastructure approach to planning and development that delivers on multiple levels, from a more conventional open and green space approach.

Wellbeing Standards (WELL)

Aim to secure the delivery of health and wellbeing outcomes through the delivery of green infrastructure features.

Water Standards (WAT)

Aim to provide green infrastructure to effectively manage water quantity and quality, increase flood resilience, and maximise opportunities for amenity.

Wildlife Standards (WILD)

Aim to ensure that green infrastructure allows nature to flourish, both within the boundary of the development, and at a landscape scale.

Core (CORE) Standards

There are five core standards to define a green infrastructure approach to planning and development. They distinguish green infrastructure from a more conventional approach to the design and delivery of open and green space.

The CORE standards aim to deliver the following principles:

1. Multifunctional network

Ensures that individual features contribute to a multifunctional network of green infrastructure operating at a landscape scale.

2. Environmental Context

Ensures that the green infrastructure reflects the character of the local environment and positively contributes to local identity, landscape character and vernacular, and a sense of place.

3. Policy Context

Ensures green infrastructure effectively meets local priorities and needs as articulated in local policy or through consultation with local stakeholders.

4. Environmental Impact and Climate Change

The green infrastructure minimises the development's environmental impact with respect to carbon emissions, air, soil, light, noise, and water; and enhances the quality of air, soil and water. It contributes to adaptation and is itself resilient to climate change.

5. Management and Maintenance

Ensures that adequate provision is made for how green infrastructure will be managed and maintained including the responsibility for these activities and their funding.

CORE – 1

CORE1: The green infrastructure forms a multifunctional network.

Background

'Green infrastructure is valued for its multifunctionality and the connectedness of the individual features to each other, the surrounding countryside and urban populations'[1]. This standard therefore aims to ensure that green infrastructure features form and contribute to a multifunctional network of green infrastructure within the development and wider area. Green infrastructure features describe a range of features including integral building features, street and neighbourhood scale interventions, and landscape scale features:

- Bird and bat boxes
- Green roofs and living walls
- Water collection systems
- Street trees and hedges
- Private gardens
- Sustainable Drainage System (SuDS) components
- Play areas
- Areas for food cultivation
- Strategic green corridors
- Habitats such as woodland or grassland
- Blue features such as rivers, lakes and canals
- Other large areas of green infrastructure.

Connectivity makes a green infrastructure approach distinct from a green and open spaces approach; as a network of features, green infrastructure is not the same as conventional open space.

The potential functions of green infrastructure are multiple and varied and include: climate change adaptation; water cleansing and control; economic development; improved community cohesion; providing leisure and recreation opportunities; local food production; improved health and wellbeing; and enhancing local identity and sense of place[2].

As a key principle of green infrastructure, multifunctionality recognises that green infrastructure 'can fulfil a wide range of functions and diverse benefits to both human populations and nature' and that 'interactions between functions is emphasised'[3]; "to serve the requirements of local economics, the environment and social objectives"[4].

[1] Sinnett, et al., 2017
[2] Roe and Mell, 2013: 656
[3] Roe and Mell, 2013: 653
[4] Gallent et al., 2004: 100, cited in Roe and Mell, 2013: 655

Illustrative Examples

This standard recognises that approach to the delivery of multifunctional network of green infrastructure will vary across different policies, for example there are distinct approaches between a Green Infrastructure Strategy and Strategic Framework, as compared with Supplementary Planning Documents (SPDs). It is understood that some policy documents are focused on landscape-scale green infrastructure features, or networks of features, which will be owned/delivered/managed by many organisations; as compared to green infrastructure features delivered within one development.

The policy outlines a strategic commitment to delivering green infrastructure through a multifunctional network, where green infrastructure features are connected to avoid fragmentation.

A multifunctional network of a wide range of green infrastructure features has been identified, which clearly demonstrates connectivity between individual features and existing ecological networks. This includes existing green infrastructure features as well as opportunities for creation and enhancement of new green infrastructure features where 'gaps' in the network have been identified.

The policy recognises that the most resilient green infrastructure features combine functions that enhance the sustainability of new development over time. For example:

- Areas suitable for food production are designed so as to be suitable for energy production;
- Accessible natural greenspaces for recreation and learning are also beneficial for wildlife; and
- Hedgerows providing foraging and nesting habitat for wildlife also form a key role within the built environment as permeable boundaries between properties.

Evidence of compliance

Appropriate evidence to show compliance includes:

- Policy documentation and supporting materials, such as maps, plans and diagrams depicting the existing and future network of multifunctional green infrastructure features, with clear linkages between features within the policy document area and beyond.
- Policies demonstrating a clear commitment to all new development considering and contributing to the multifunctional green infrastructure network. For example, the policy requires all new development to protect and enhance exiting green infrastructure features and create new features that contribute positively to this network.

- Policies encouraging green infrastructure features that deliver multiple benefits, for example reducing the heat island effect whilst also reducing flood risk[5]or selection of vegetation to enhance multifunctional benefits[6].
- Policies that require new development to optimise connectivity between green infrastructure features, particularly in the case of phased development. For example, the policy may require that conditions are attached to the policy area to ensure strategic elements of the green infrastructure framework are implemented as early as possible in the construction process. Ideally, strategic elements of the green infrastructure framework are brought forward in the first phase of a development so as to create a landscape structure that other phases can fit into. If phase one does not include any significant contribution to green infrastructure, evidence is shown that substantive green infrastructure is secured as early as possible in subsequent phases.

[5] BRE, 2012
[6] Chris Blandford Associates, 2010:33

CORE – 2

CORE2: The policy identifies important biodiversity and other local character features as a starting point for the green infrastructure proposals and incorporates them into the policy in order to reference, reflect and enhance the local environment.

Background

Green infrastructure features that reflect the character of the local environment can positively contribute to local identity, landscape character and vernacular, and a sense of place[7]. The character of the local environment is defined by both the natural environment, and the built form, including characteristics, such as land use, scale and density.

To ensure that the green infrastructure takes into account from the outset the existing natural habitats and features on site as a basis for identifying opportunities for ecological connectivity and incorporates other green infrastructure features in a way that enhances those features and provides and incorporates multi-functionality without compromising those features.

In order to enhance local distinctiveness, contribute to local priorities and create a sense of place it is important that the policy works with and reflects what is already present both on and off site where ever possible in terms of habitat type, land use, boundary features, scale and location and does not introduce features that have no local relevance.

Illustrative Examples

The policy recognises the role of green infrastructure in creating local character and sense of place, and the need to protect, create or enhance green infrastructure features that contribute to the character of the local environment.

The policy identifies the important green infrastructure characteristics of the local environment.

The policy sets out a strategy to ensure that green infrastructure reflects, enhances and contributes positively to local character.

For example:

- The policy requires that green infrastructure references the character of the local environment, including existing habitat types (e.g. woodland) or existing green infrastructure features (e.g. species of street tree) that are considered valuable based

[7] Natural England, 2009: 19

on the multiple functions they deliver within the area covered by the policy and within the wider context. Characteristic landscape features may also be drawn from the Nature Improvement Area (NIA) within or in close proximity to the policy area (*see* WILD1).

- The policy requires that green infrastructure features optimise linkages to existing features which characterise the local environment. This can be demonstrated by the following: designing features at a particular scale; selecting specific types of vegetation; locating a feature in particular area within a policy area.

Evidence of compliance

Appropriate evidence to show compliance includes:

- Policy documentation and supporting materials, such as maps, plans and diagrams depicting:
  - Green infrastructure features that contribute to the character of the local environment. For example, this may include existing habitat types (e.g. woodland), existing green infrastructure features (e.g. species of street trees), and landscape features (e.g. Nature Improvement Areas).
  - Local, national or international natural designations.

- Policies that support the:
  - Protection, creation or enhancement of green infrastructure features that are sensitive to the character of the local environment; and
  - Optimisation of linkages between existing green infrastructure features that characterise the local environment.

CORE – 3

CORE3: The type, quality and function of green infrastructure respond to the local policy context.

Background

By designing green infrastructure policy in light of the local policy context, green infrastructure features will more effectively meet local priorities and needs[8]. In this way, the policy area's green infrastructure can contribute to strategic objectives relating to ecological constraints and opportunities, priorities relating to natural water management, and the social and cultural benefits of green infrastructure, as well as opportunities to enhance quality of life.

Illustrative Examples

The policy identifies local green infrastructure needs and priorities relating to

- Climate change adaptation and mitigation;
- Nature conservation and biodiversity;
- Environmental quality;
- Health and wellbeing;
- Sustainable transport/active travel;
- Heritage;
- Design of the built and natural environment.

The policy aligns with the local policy context. This could include (but is not restricted to):

- Local, sub-regional, city regional plans and policies;
- Green infrastructure strategies or policies;
- National planning policy, technical advice notes, planning advice notes, planning practice guidance, and other variations of national policy mechanisms (*see* Appendix 1).

Green infrastructure is highlighted as a key focus in consultation, and local stakeholders and communities have been engaged in the identification of local green infrastructure needs and priorities.

Evidence of compliance

Appropriate evidence to show compliance includes:

- Policies that require new development to address local need;

[8] CIWEM, 2010

- Cross-referencing policies to demonstrate alignment with the wider policy context;
- Policy documentation and supporting materials, such as maps, plans and diagrams depicting existing as well as future green infrastructure features that respond to local need. Details should include the type, quality and function of these features;
- Documentation evidencing local stakeholder and community engagement.

CORE – 4

CORE4: The green infrastructure is resilient to climate change; and minimises the policy area's environmental impact with respect to air, soil, light, noise, and water; and enhances the quality of air, soil and water.

Background

This standard ensures that the green infrastructure is resilient to the changing climate[9] so that the benefits are secured for the long term, and that the design of green infrastructure takes into account the opportunities for multiple benefits including shade provision[10], carbon storage and removal[11], improvement of soil and air quality[12], reduction in noise and light pollution[13] that may arise from poor quality or inappropriate green infrastructure design.

NB. The impact of green infrastructure on water quality, and the opportunities for green infrastructure to contribute to climate change adaptation, is covered in more detail in standards relating to water management (WAT1-6).

Illustrative Examples

The policy uses evidence from local authority and statutory bodies to identify the opportunities for green infrastructure in relation to:

- Climate change resilience;
- Resource efficiency;
- Noise pollution;
- Light pollution;
- Air quality;
- Water quality;
- Soil quality;
- Waste management;
- Biodiversity.

The policy requires new development to incorporate green infrastructure features that minimise environmental impacts and contribute to environmental quality.

[9] Ranjha, 2016
[10] Chris Blandford Associates, 2010
[11] Nowak et al., 2013
[12] cf. Pugh et al., 2012; Brantley et al., 2013; Setala et al., 2013
[13] cf. Davis et al., 2011; Defra, 2016

Evidence of compliance

Appropriate evidence to show compliance includes:

- Policy documentation and supporting materials, such as maps, plans and diagrams identifying spatial opportunities and constraints for green infrastructure to contribute to the above categories.
- Policies that require development to demonstrate how green infrastructure features are designed to be resilient to climate change; and how the design, implementation, and establishment of green infrastructure features will minimise environmental impact. Details of requirements that may be expected from new development can be found in CORE4 in the User Guide for Practitioners.
- Policies that require development to demonstrate how green infrastructure features have been designed to enhance the layout and built form, to contribute to environmental quality. Details of requirements that may be expected from new development can be found in CORE4 in the User Guide for Practitioners.

CORE – 5

CORE5: Provision is made for long-term management and maintenance of all green infrastructure features.

Background

The long-term management and maintenance of green infrastructure is critical to ensure the functions and benefits of individual features are deliverable and sustainable over time. This standard ensures that adequate provision is made for how green infrastructure will be managed and maintained, including the responsibility for these activities and their funding.

In addition, this standard considers how local people have been engaged in the on-going management and maintenance of green infrastructure features. By involving people at an early stage, the green infrastructure features in new development are more likely to be used, enjoyed and local people are more likely to play an active role in their management and maintenance[14].

Illustrative Examples

The policy includes provision for long term management and maintenance of green infrastructure features in local authority ownership or management.

They policy sets the expectation for long term management and maintenance of green infrastructure features owned and/or managed by other organisations.

The policy recognises that the long-term management and maintenance of green infrastructure is critical to the success of green infrastructure features, and maintenance contracts are not calculated on costs alone[15].

The policy requires long term management and maintenance plans for all new, and where relevant, existing green infrastructure features, including a suite of preferred models and mechanisms that distribute responsibility across a wide range of stakeholders to ensure that the most sustainable solution is found.

The policy identifies the importance of voluntary environmental stewardship to enhance a sense of belonging through communities taking an active role in the management and maintenance of green infrastructure features. In existing communities, this may be facilitated through a range of governance structures and mechanisms (e.g. public-voluntary sector

[14] cf. RICS, 2011; Barnwood Trust et al, 2016
[15] Greenflag, 2009

partnerships). In new developments, the policy requires the development to explore the potential for community-led management of green infrastructure features by incorporating:

- Approaches to design and implementation that enhance the opportunities for community input;
- Opportunities for voluntary stewardship (e.g. Friends groups);
- Governance models to enhance opportunities for engagement (e.g. Community Development Trust).

Evidence of compliance

Appropriate evidence to show compliance includes:

- Policies that require details of the maintenance and management of green infrastructure features to ensure functions and benefits are sustainable over time:

- For new development, policies will require that the policy area:
  - Demonstrates how green infrastructure features will be managed and maintained sustainably, for example through a Green Infrastructure and Biodiversity Management Plan;
  - Identifies what resources are required, including financial resources, as well as skills and knowledge relating to more specialist green infrastructure features;
  - Demonstrates that individual green infrastructure features are a manageable size and can be accessed and managed appropriately (e.g. details relating to the maintenance of specialised features such as SuDS or wildlife habitat) by people who are given appropriate training[16]; and
  - Demonstrates that the management and maintenance of features forms part of stakeholder engagement as early in the development process as possible, to increase the likelihood of sustainable approaches (e.g. public-community partnerships or public-private partnerships) (Dempsey et al., 2016).

- For existing green infrastructure features, policies will require:
  - Evidence that arrangements for ongoing management and maintenance protect the deliverability of multi-functional benefits over time; and
  - Where necessary, ambitions to introduce or enhance multi-functionality through adjustment in maintenance schedules or innovation in maintenance practices.

[16] Greenflag, 2009

- Policies that require engagement with local communities to encourage local people to take an active role in the management and maintenance of green infrastructure features:
  - For policy documents that focus on the sustainable delivery of new development (e.g. Supplementary Planning Documents), policies require that policy area's identify models and mechanisms appropriate to the scale and type of development, including those that allow community engagement in management and maintenance (e.g. Community Development Trusts, Friends groups). In particular, early engagement with community stakeholders, including community and voluntary organisations, to identify possible management and maintenance options for the policy area is encouraged to increase the likelihood of community participation and stewardship of green infrastructure features.

- For policy documents that focus on more strategic delivery of green infrastructure (e.g. Green Infrastructure Strategy, Strategic Green Infrastructure Framework), policies consider strategies to build community capacity to actively engage in the management and maintenance of green infrastructure, adding social value to the roles played by suitably qualified professionals[17].

- Policies that encourage the use of locally appropriate green infrastructure features that reflect the local character, landscape and climate to reduce maintenance requirements and resources.

[17] Barnwood Trust et al., 2016

CORE – Further Information

Green infrastructure Partnership (www.green infrastructurep-uk.org)

Green Infrastructure Guidance (Natural England, 2009) [PDF] Available at: publications.naturalengland.org.uk/file/94026

Planning for a healthy environment – Good practice for green infrastructure and biodiversity (TCPA & The Wildlife Trusts, 2012) [PDF] Available at: https://www.wildlifetrusts.org/sites/default/files/Green-Infrastructure-Guide-TCPA-TheWildlifeTrusts.pdf

Green Infrastructure in Urban Areas (RICS, 2011) [PDF]. Available at https://communities.rics.org/gf2.ti/f/200194/18045157.1/PDF/-/RICS_Green_infrastructure_in_urban_areas_1_.pdf

Multi-functional Urban Green Infrastructure: A CIWEM Briefing Report (CIWEM, 2010) Available at: http://www.ciwem.org/wp-content/uploads/2016/02/Multifunctional-Green-Infrastructure.pdf

The Multifunctionality of Green infrastructure (Science for Environmental Policy, 2012) [PDF] http://ec.europa.eu/environment/nature/ecosystems/docs/Green_Infrastructure.pdf

UK-GBC Task Group Report: Demystifying Green Infrastructure (UK-GBC, 2015) Available at: http://www.ukgbc.org/resources/publication/uk-gbc-task-group-report-demystifying-green-infrastructure

Biodiversity Benchmark for a Living Landscape (The Wildlife Trusts) Available at: http://www.wildlifetrusts.org/biodiversitybenchmark

- Currently, the only accreditation to recognise and reward outstanding land management for biodiversity[18].

Green Infrastructure Audit Best Practice Guide (2013) Victoria Business Improvement District https://www.london.gov.uk/sites/default/files/bestpracticeguide_a4-10.pdf

[18] UK-GBC, 2009

Wellbeing (WELL) Standards

There are six wellbeing standards to secure the delivery of health and wellbeing outcomes through the delivery of green infrastructure features through planning and development.

The wellbeing standards encompass the following principles:

1. Accessible

Ensure that all people can use, enjoy and positively contribute to green infrastructure.

2. Inclusive

Ensure that green infrastructure is designed to recognise the needs and strengths of local people, and how these may change over time.

3. Seasonal enjoyment

Ensure that green infrastructure features can be used and enjoyed at all times of year.

Going further

4. Reducing health inequalities

Ensure that green infrastructure features are designed and located to reduce and/or prevent health inequalities in existing and new communities.

5. Socially sustainable

Ensure that green infrastructure creates a sense of social cohesion and inclusion, thereby improving community wellbeing and increasing the likelihood of social sustainability.

6. Distinctive

Ensure that green infrastructure contributes to place distinctiveness, with the aim of creating a place where people feel a sense of belonging and pride in their neighbourhood.

Please note: These **principles** are intended to guide your thinking around each of the Standards, whilst you gather evidence to demonstrate compliance with the Standards, which are defined in the full over the following pages.

WELLBEING – 1

WELL1: Green infrastructure is accessible for all and is situated close to where people live to promote health, wellbeing, and active living.

Background

Green infrastructure supports a wide range of healthy activities. Access to good quality green infrastructure can encourage more active lifestyles, and there is a clear association between psychological health, mental wellbeing, and physical activity[19]. For example, parks and woodlands can be enjoyed for recreational activities as well as education and learning; orchards and urban farms can be utilised for food production and therapeutic benefits; and linear assets such as canals provide active travel routes and opportunities to get close to nature.

This standard ensures that green infrastructure features are 'accessible for all' and builds on evidence that the quality of green infrastructure can impact on its usability and attractiveness to individuals and communities [20]and there are key indicators that impact on the quality of green infrastructure, including proximity[21]. This association is particularly evident in more urban and deprived areas[22]. In the context of Building with Nature, 'accessible for all' defines features that people can use, enjoy and positively contribute to. The intention is to ensure that no individuals or groups of users are excluded because of their age, physical needs, learning needs, or social and cultural needs, or any characteristic protected under the Equality Act (2008) (e.g. gender, sexual orientation).

Health benefits[23] derived from access to green infrastructure include: benefits associated with physical activity, for example improved fitness, reduced obesity, and reduced exposure to air pollution; benefits associated with restorative psychological effects, for example improved relaxation and restoration; and the social benefits associated with the opportunities for informal and formal social interaction, for example improved social capital[24]. These benefits are particularly well evidenced when green infrastructure is situated close to where people live and work[25], optimising opportunities for regular use and enjoyment, for example through the provision of active travel routes at the neighbourhood level.

[19] Bragg and Atkins, 2016; Forest Research, 2012: 13; O'Brien et al., 2010
[20] Gidlow, Ellis and Bostock, 2012
[21] O'Neil and Gallagher, 2014
[22] Maas, et al., 2006; Mitchell and Popham, 2007
[23] Gidlow, Ellis and Bostock, 2012: 347
[24] Egorov et al., 2016
[25] Ward-Thompson et al., 2012

Illustrative Examples

The policy requires that new development incorporate green infrastructure features that are accessible to all. In the context of Building with Nature, access to green infrastructure includes visual and auditory access, as well as physical access[26]. This can be of particular benefit for vulnerable and excluded groups, for example people living with dementia or other conditions that reduce their mobility. This standard therefore contributes to socially inclusive and sustainable communities[27].

The policy recognises the importance of connectivity between green infrastructure features, and between green infrastructure features and where people live and work, to optimise use and enjoyment. Key considerations include:

- Proximity between individual features and between features and the built environment. The policy applies existing standards outlined in good practice guidelines for distances between accessible green infrastructure features by means of active travel (cycling and walking)[28].
- Connectivity or 'linkage'[29], between features, to enhance ease of access via active travel modes (cycling and walking) and consideration of how green infrastructure can make active travel routes more attractive for people to use.

The policy sets out a strategy to enhance the capacity of existing and future green infrastructure features to contribute positively to health and wellbeing through a range of mechanisms, including the delivery of new development, area wide improvements to the public realm, and improved management and maintenance of existing green infrastructure. For example, the policy requires that:

- Existing networks of safe and attractive green routes between green infrastructure features and homes and community facilities (e.g. schools, health and community centres) are retained and enhanced. For example, through the use of landscaping and regular, cyclical and remedial maintenance (particularly where proximity of vegetation may reduce the usability of paths) (*link to* CORE5); and
- Green routes from new development to existing settlements, urban centres, transport interchanges and established active travel networks such as the National Cycle Network, are integral to the provision for green infrastructure within new development, to encourage active lifestyles.

[26] TCPA, 2012
[27] Barnwood Trust et al., 2016
[28] Natural England (2010); BRE (2012)
[29] O'Neil and Gallagher, 2014

Evidence of compliance

Appropriate evidence to show compliance includes:

- Policy documentation and supporting materials, such as maps, plans and diagrams that identify opportunities to protect and enhance existing, and create new green infrastructure features, to improve health and wellbeing.
- Policies that require all development to demonstrate how access and enjoyment of all users is integral to green infrastructure at each stage of delivery (design, implementation, management and maintenance).
- Policies that require all development to demonstrate how a wide range of user needs will be addressed through the protection and enhancement of existing green infrastructure features, and creation of new features, within and in close proximity to the built environment.

WELLBEING – 2

WELL2 - The policy encourages all people to use and enjoy green infrastructure, and considers the needs and strengths of vulnerable and excluded groups.

Background

As well as the proximity to the built environment, the usability and attractiveness of green infrastructure features is critical to optimise accessibility and enjoyment by different user groups[30]. This standard builds on WELL1 by expanding accessibility to include viewing nature (e.g. visual access) and being in the presence of nature (e.g. auditory access, socialising in a park), rather than just actively participating in activities in nature[31] (e.g. walking, gardening), the aim of this standard is to encourage the design of green infrastructure to include the needs and strengths of groups who may ordinarily be excluded from the use and enjoyment of green infrastructure. This can be of particular benefit for vulnerable and excluded groups, for example people living with dementia, depression and other conditions that affect mental health, reduce mobility and increase social isolation[32]; as well as people living in areas that are multiply deprived[33].

Research suggests that higher quality green infrastructure is linked to increased health benefits[34], and that this link is even stronger in areas of deprivation[35]. This standard therefore ensures that existing and new green infrastructure features are designed to reflect the needs and strengths of local people, to consider how these needs and strengths may change over time, and to secure health benefits through appropriate mechanisms for the on-going management and maintenance of features. For example, a feature may require re-designing when places are in use to match the needs and strengths of local people in the future (*link to* CORE5).

Illustrative Examples

The policy document recognises that a range of green infrastructure features is required to provide for pluralistic strengths and needs of a diversity of existing or potential users:

- Provision is made for a wide range of activities, including but not limited to, outdoor sports and natural play, spaces for community and cultural events, areas for food production, and areas for tranquillity and quiet contemplation.

[30] CABE, 2010; Schipperijn et al., 2010
[31] Pretty et al., 2005; Gladwell et al., 2012; TCPA, 2012
[32] Bragg and Atkins, 2016
[33] Mitchell and Popham, 2008
[34] Gidlow, Ellis and Bostock, 2012: 347
[35] Mitchell and Popham, 2008

To ensure that all people can use and enjoy the benefits provided by green infrastructure features, a range of features facilitates the same or similar functions. For example:

- Opportunities for food production are provided through a range of green infrastructure features including allotments, community orchards, community gardens, city/school farms, and other edible landscapes not excluding private gardens that may prove to be most accessible for some people; and
- Features that provide play and sports opportunities, and associated benefits to health and wellbeing, also contribute benefits to wildlife and benefits associated with access to nature, by designing the spaces in such a way as to be to optimise ecological enhancements and environmental education opportunities.

Evidence of compliance

Appropriate evidence to show compliance includes:

- Policies that encourage a range green infrastructure features to meet different user needs and strengths;
- Policies that require development to demonstrate a commitment to provide green infrastructure features that are designed to meet the needs of existing and future communities; specifically addressing the needs and strengths of vulnerable and excluded groups.

WELLBEING – 3

WELL3: Green infrastructure is designed to encourage optimal use and employs hard and soft features to be accessible at all times of year.

Background

By designing green infrastructure features that may be used and enjoyed at all times of year, the benefits of green infrastructure for individuals and communities are optimised. For example, providing additional facilities, seating and other furniture, and considering lighting provision, may all result in people feeling more able, welcome and safe when accessing green infrastructure features within the policy area.

This standard builds on the focus on quality of green infrastructure features in WELL2 by emphasising the importance of carefully designed and well-maintained features; and extends consideration to the impact of aesthetics, amenities and landscape character to optimise use of green infrastructure features. Evidence shows that the design of hard features (e.g. seating, shelter, cycle parking, litter/dog bins, signage) and soft features (e.g. wildlife areas, trees/plants/flowers) can influence usability and quality of green infrastructure features[36].

Detailed criteria

The policy recognises that different green infrastructure features will have changing functions and benefits over the year.

- The policy recognises that to maximise the benefits delivered through green infrastructure, features need to be designed to optimise use and enjoyment at all times of year; and as such should be adaptable to changing weather conditions, and seasonal and climatic change, recognising that different types of vegetation may be more or less suitable to meet the demands of climate change adaptation and mitigation, or other environmental constraints (*link to* CORE5).

The policy identifies that green infrastructure can be enhanced through the integration of both natural and artificial features, including:

- The addition of supportive features, such as street furniture or other features;
- Consideration of the design and positioning of buildings alongside and integral to landscaping to enhance the functions and benefits of green infrastructure.

[36] Gidlow, Ellis and Bostock, 2012: 350-353

The policy requires development to show how the green infrastructure features within a development are designed to be sensitive to topography and provide a range of green infrastructure features and microclimates that facilitate year round use.

Evidence of compliance

Appropriate evidence to show compliance includes:

- Policies that recognise the changing functions and benefits of different green infrastructure features over the year;
- Policies that require development to design green infrastructure to accommodate changes in weather and climatic conditions;
- Policies that require development to create management plans to address changes within the policy area at all times of year, and over time, incorporating regular, cyclical and remedial management and maintenance to ensure green infrastructure features are safe to use for optimal use and enjoyment by all users.

WELLBEING – 4

WELL4: Green infrastructure supports local priorities for reducing and/or preventing health inequalities.

Background

Health inequalities are the 'unfair and avoidable differences in people's health across social groups and between different population groups' and are 'most commonly associated with socio-economic inequalities but can also results from discrimination' (NHS Scotland). The social determinants of health[37] impact on individuals and communities and include: age, gender, lifestyle, activities, built environment, and natural environment. 'Local authorities are uniquely placed to tackle health inequalities, as many of the social and economic determinants of health, and the service and activities that can make a difference, fall within their remit'[38]. The role of local government in green infrastructure planning, including in the production of policy documents, and through the development and plan-making process, is therefore key to ensuring green infrastructure can contribute to reducing health inequalities by optimising the therapeutic role of green infrastructure in supporting and optimising the health and wellbeing of individuals and communities.

Social interaction and access to outdoor, natural environments is important to increase the quality of life for people living with dementia; and nature-based interventions, and activities in natural settings, such as Social and Therapeutic Horticulture, Care Farming, and Animal Assisted Therapy, can have therapeutic benefits on less healthy and vulnerable groups in society[39]. In the case of people living with dementia[40], health benefits associated with access to nature include: improved emotional state; reduced stress, agitation, anger, apathy and depression; improved sleeping and eating patterns; improved verbal expression, memory and attention; improved awareness, sense of wellbeing, independence, self-esteem and control; as well as improved social interaction and sense of belonging. In the case of children suffering from attention deficit hyperactivity disorder (ADHD), access to green infrastructure has a restorative effect on mental health and is associated with less severe symptoms[41].

Illustrative Examples

The policy uses evidence from local authority and statutory bodies to identify the opportunities for green infrastructure to support healthy inequality priorities and considers

[37] NICE, 2012; Marmot, 2010
[38] NICE, 2012
[39] Bragg and Atkins, 2016: 12
[40] Clark, et al., 2013, cited in Bragg and Atkins, 2016: 12
[41] Coutts, 2016; Forest Research, 2010: 16

how to maximise the opportunities for all people to feel safe, secure and comfortable whilst using them.

The policy requires targeted approaches in new development, or changes to existing settlements, to enhance areas that are green infrastructure deficient that also have health inequalities and a high level of deprivation (measured using the Index of Multiple Deprivation) through the creation of new or enhancement of existing green infrastructure features; recognising the positive impact access to green infrastructure can have on levels of health and wellbeing within deprived communities[42].

Evidence of compliance

Appropriate evidence to show compliance includes:

- Policy documentation and supporting materials, such as maps, plans and diagrams identifying health inequality priorities and requiring all new development to design, implement, manage and maintain green infrastructure features that promote strategic targets for healthy living by underpinned by local evidence and policy relating to health inequalities.
- Policies that require all new development to maximise opportunities for vulnerable and excluded groups to use and enjoy green infrastructure features, and feel, safe, secure and comfortable whilst using them.

[42] cf. Ward and Thompson, 2012

WELLBEING – 5

WELL5: The policy demonstrates innovative solutions to overcoming social and cultural barriers to use and enjoyment of green infrastructure, and considers how green infrastructure can promote socially sustainable communities and community cohesion.

Background

The more connected individuals and groups within a community are, the greater the potential to create a sense of cohesion and inclusion, improve community wellbeing, and promote a sense of social inclusion. Places with these characteristics are more likely to be socially sustainable.

Access to green infrastructure can impact positively on key social indicators[43], and high quality green infrastructure help make neighbourhoods 'more attractive, relaxing, comfortable and welcoming' by 'increasing levels of social contact and social integration; creating community cohesion and enhancing social ties, especially within disadvantaged communities; providing a sense of community; engaging individuals from different social groupings that may not normally interact, particularly in underprivileged neighbourhoods; and creating opportunities for community participation in volunteering'[44].

A lack of community cohesion, particularly in new developments, can have a negative impact on levels of health and wellbeing. The provision of green infrastructure at the earliest opportunity can mitigate a sense of separation and isolation in new communities and facilitate a sense of belonging[45]; which in turn can improve social sustainability.

By identifying ways for all groups to feel able to contribute positively to the design and long term management and maintenance of green infrastructure features, for example through the adoption of green infrastructure features by local individuals and groups, the policy can support a wider commitment to delivering socially inclusive and sustainable communities.

Illustrative Examples

Green infrastructure meets the actual and potential needs of different user groups, including needs relating to social and cultural preferences. The policy uses evidence from local authority and statutory bodies to identify the socio-demographic composition of new and/or existing communities so the provision for green infrastructure features meets the needs of existing and future users. For example:

[43] Wildlife Trust Wales, 2016
[44] Wildlife Trust Wales, 2016: 19
[45] Barnwood Trust et al., 2016

- Green infrastructure features meet the diversity of user groups, whose needs may vary according to age, interest, or cultural beliefs;
- Green infrastructure features meet the needs for play areas for younger and older children;
- There is sufficient quantum of green infrastructure for some areas to be restricted to dog walkers if it is known that the local population will include user groups whose cultural practices prohibit their enjoyment of green infrastructure that is used regularly by large numbers of dog walkers;
- Other potential physical barriers to user enjoyment are also addressed, including but not limited to, vandalism, dog fouling, fly tipping and graffiti.

The policy requires new development to incorporate safe spaces within and routes between green infrastructure features. For example:

- The layout and connectivity of green infrastructure features is designed to maximise opportunities for all individuals and groups to enjoy social interaction, formal and informal social and cultural events, and healthy activity at all times of year;
- The important role played by designated spaces for community events, providing publicly accessible green infrastructure features, is clearly defined within the policy document; identifying the benefits to community cohesion and wellbeing.

The policy requires that new development provide facilities that enhance the ease of use, comfort and enjoyment of all user groups, including families, and vulnerable and excluded groups (links to WELL3). This may include the provision of specialist facilities, for example sufficient coverage of adapted toilet and changing rooms; but also includes consideration of other social and cultural barriers, for example provision of signage in multiple languages.

Evidence of compliance

Appropriate evidence to show compliance includes:

- Policies that provide a strategy for the:
  - Protection, creation or enhancement of green infrastructure features that support community cohesion and wellbeing by providing places for people to gather, formally and informally;
  - Optimisation of linkages between existing and new green infrastructure features that support community cohesion and wellbeing.
- Policies demonstrating a clear commitment to all new development considering and contributing to community cohesion and wellbeing by providing a wide range of green infrastructure features to encourage informal and formal social gathering and

social and cultural events. In the case of phased development, the policy required that a quantum of green infrastructure that supports community cohesion and wellbeing is delivered in the first phase of implementation.

WELLBEING – 6

WELL6: The policy demonstrates that green infrastructure is integral to the distinctiveness of place.

Background

The natural environment can contribute to a sense of place, and support feelings of pride and identity in communities[46]. People's perception of place is intrinsically linked to how people experience the qualities of a place; this is often defined in terms of place distinctiveness[47]. Place distinctiveness can add to the vitality of a place, which in turn impacts positively on people feeling a sense of belonging and pride in where they live; attributes that can contribute directly to health and wellbeing[48]. This standard ensures that green infrastructure contributes to place distinctiveness, with the aim of creating a place where people can live well and flourish.

Illustrative Examples

The policy outlines the importance of green infrastructure to place distinctiveness.

The policy outlines a strategic commitment to the protection, restoration, enhancement and expansion of these green infrastructure assets to positively contribute to place distinctiveness.

The policy recognises the role of new development in creating place distinctiveness and the need for development to design green infrastructure features that reflect and enhance existing characteristics in the wider built and natural environment. As such, the policy requires new development to deliver:

- Features that respond positively to the landscape character of green infrastructure beyond the policy area's boundary
- Green infrastructure features that incorporate existing landscape and historic features situated within the boundary of the policy area.
- Green infrastructure features that protect or enhance valuable views into and out of the site, for example those highlighted by a Landscape and Visual Impact Assessment (LVIA); and protect or create features that enhance the setting of the development, within and beyond the site boundary.
- Green infrastructure features to be utilised as a priority edge treatment to enhance integration with the surrounding area.

[46] The Natural Environment White Paper, 2010
[47] Scottish Natural Heritage, 2011: 45
[48] Eyles and Williams, 2008

- Developments that clearly integrate findings from landscape assessments, including local landscape character assessment, to design green infrastructure features which enhance place distinctiveness.

Evidence of compliance

Appropriate evidence to show compliance includes:

- Policy documentation and supporting materials, such as maps, plans and diagrams, depicting the existing green infrastructure features that contribute local landscape character.

For example:

- Green infrastructure features that reflect and enhance landscape character if this character has been identified as being locally distinctive or 'special;
- Green infrastructure features that add value to existing heritage and historic features, where these features are considered to be important to place distinctiveness;
- Green infrastructure features that protect or enhance valuable views into and out of the site; and features that enhance the setting of development, within and beyond the site boundary;
- Green infrastructure features that enhance integration with the surrounding area e.g. existing hedgerows.

Policies that identify and describe in policy terms areas or features that are locally distinctive or 'special'; and the mechanisms that are in place for measuring and describing this at different levels of governance (i.e. neighbourhood, district, county level).

Policies demonstrating a clear commitment for all new development to consider and contribute to protecting and enhancing existing local landscape character that positively adds to place distinctiveness; and designing green infrastructure features that create place distinctiveness in the absence of existing landscape character assets.

WELLBEING – Further Information

Sporting Future: A New Strategy for an Active Nation (HM Government, 2015) Available at: https://www.gov.uk/government/publications/sporting-future-a-new-strategy-for-an-active-nation. In particular, Para. 10; Para. 13; Para. 23; Para. 61; and Para. 78.

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Describing and Promoting the Landscapes of Central Scotland, CSGN landscape audit. (Scottish Natural Heritage, 2011a) [PDF] Available at: http://www.snh.gov.uk/docs/B1005345.pdf

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Water (WAT) Standards

There are six water standards to effectively manage water quantity and quality, increase flood resilience, and maximise opportunities for biodiversity and amenity.

The water standards encompass the following principles:

1. Quantity

Ensure that green infrastructure supports the management of flood risk and maintains and protects the natural water cycle by managing and using rainwater close to where it falls.

2. Quality

Ensure that green infrastructure positively contributes to surface water management and associated components to deliver a controlled flow of clean water.

3. Amenity and biodiversity

Ensure that green infrastructure is integrated with SuDS to enhance benefits for people and nature.

4. Innovative

Ensure that green infrastructure within the boundary of the development is used to enhance the water storage capacity of land adjacent to, or downstream from, the development.

5. Resilient

Use a diversity of green infrastructure features to enhance water quality through more and better treatment stages, thereby maximising resilience and efficiency of pollution reduction.

6. Locally distinctive

Use water management features to create a distinct sense of place.

Please note: These **principles** are intended to guide your thinking around each of the Standards, whilst you gather evidence to demonstrate compliance with the Standards, which are defined in the full over the following pages.

WATER – 1

WAT1: Green infrastructure is integral to sustainable drainage and features are designed to minimise surface runoff and manage flood risk.

Background

This standard is about controlling water quantity through surface water management. This standard aims to support the utilisation of green infrastructure to control the quantity of surface runoff, which in turn supports the management of flood risk[49]. By integrating surface water management into the design of green infrastructure in the built environment, surface water can be managed for maximum benefit, now and in the future[50].

The principal method of managing surface water is through the delivery of sustainable drainage systems (SuDS) that are defined as 'an interconnected system of individual components (such as filter strips, swales, and detention ponds) designed to manage, treat and make the best use of surface water, from where it falls as rain to the point at which it is discharged into the receiving environment beyond the boundaries of the site'[51].

The greater the number of SuDS components utilised within a water management system, the more resilient the system. By splitting the volumes up as much as possible, storing water within a sub-catchment in more than one place, and varying the type of green infrastructure feature utilised for water management, it is possible to maximise natural losses to groundwater, which in turn enhances flood resilience. Where possible, these features should be connected and continuous to maximise their capacity to attenuate natural losses.

In turn, by introducing and enhancing a policy area's water storage capacity in the built environment, sustainable drainage can contribute to a more hydrated landscape that can maximise resilience to flooding, and reduce the demand for additional water to maintain green infrastructure features.

Illustrative Examples

The policy requires all new development and retrofitting of existing development to adopt a sustainable drainage (SuDS) approach to water management, where water management is designed to be on or at the surface, and SuDS components are integral to green infrastructure. The types of SuDS components integral to green infrastructure include:

- Rainwater harvesting systems;

[49] CIRIA C753, 2015: 6
[50] CIRIA C753, 2015
[51] CIRIA C753, 2015: 27

- Green roofs;
- Infiltration systems;
- Proprietary treatment systems;
- Filter strips;
- Swales;
- Bioretention systems;
- Trees;
- Pervious pavements;
- Detention basins;
- Ponds, reed beds and wetlands[52].

The policy recognises that the preferred approach to surface water management is through a range of green infrastructure features, of different types and sizes, which are integral to the design of SuDS components to maximise the multiple-benefits of slowing the flow of water through the built environment, and maintaining a hydrated landscape.

The policy requires optimisation of water storage through inclusion of green infrastructure features in as many locations across the built environment as possible, improving connectivity between features to enhance their capacity to attenuate natural losses.

The policy requires any design or implementation of water management to be carried out by appropriately qualified professionals in line with current good practice.[53]

The policy requires that green infrastructure features contributing to surface water management are designed in such a way that adoption is made simpler. For example, permeable paving as part of a new development is designed as part of the highway network for the policy area.

[52] CIRIA C753, 2015: 29; BRE, 2012
[53] BRE, 2012

WATER – 2

WAT2: Green infrastructure has been used to improve water quality and maintain the natural water cycle within the boundary of the policy area.

Background

Background

This standard is about managing surface water run-off to prevent pollution. This standard builds on WAT1 by supporting the use of green infrastructure as part of a sustainable drainage approach to surface water management to not only manage water quantity, but to help maintain and protect the natural water cycle by managing and using rainwater close to where it falls. The aspiration of surface water management is to create a controlled flow of clean water as soon as possible at source, and by utilising SuDS components it is possible to mimic the role of natural hydrology and manage potential water pollution at source.

Green infrastructure features can be utilised to discharge a controlled flow of clean water, shifting resources away from a solely civil engineering approach to surface water management through source control and a legible water management train. This standard therefore ensures that interventions are designed to minimise the risk of pollution from surface water run-off by managing the flow and quality of water within the boundary of the policy area.

Illustrative Examples

The policy sets out a strategy to manage water quality recognising the potential of green infrastructure features designed as integral SuDS components to capture surface water at source and create a clean flow of water (*link to* WAT1).

The policy requires that enhancements to existing green infrastructure features, and creation of new green infrastructure features as part of new development, are designed and managed to contribute to water quality, and meet the CIRIA's Design Criteria[54] for water quality and consider the following in their design:

- Support the management of water quality in the receiving surface water and groundwater;
- Design systems resilience to cope with future change.

[54] CIRIA C753, 2015: 34

Evidence of compliance

Policy documentation and supporting materials, such as maps, plans and diagrams that identify needs and opportunities to improve water quality; for example, through protection or enhancement of existing green infrastructure features that contribute to the management of water quality, at a site level and catchment scale.

Policies that include a clear commitment to raising the standard of water quality through enhancement of existing green infrastructure features, and creation of green infrastructure features through new development.

WATER – 3

WAT3: The design of SuDS enhances the capacity of green infrastructure features to create and sustain better places for people and nature.

Background

This standard recognises that whilst SuDS can be utilised to manage water quantity and quality, there is a further opportunity to create multiple benefits for people and nature by integrating SuDS components within green infrastructure features. The CIRIA SuDS Guide[55] includes guidance on how to design SuDS components to enhance opportunities for amenity and biodiversity. This standard builds on this foundation of good practice by ensuring that green infrastructure features that contribute to surface water management are designed to be multifunctional and beneficial for both people and wildlife.

By enhancing existing water features to more effectively capture and hold water and discharge a clean flow of water to the surrounding area, this standard builds on WAT1 and WAT2 by supporting interventions which provide additional habitat for a range of species (*link to* WILD2) and a natural environment resource that benefits communities by optimising amenity and educational opportunities (*link to* WELL1).

Compared with water management approaches that adopt solely engineered solutions, surface water management that prioritises the utilisation of existing and new green infrastructure features offer more and better opportunities for people and nature. This is especially true where such features include a consideration of topography and landscape character and capture the design philosophy of a SuDS approach.

Illustrative Examples

The policy sets out a strategy for creating additional benefits to people and wildlife through surface water management, both at a landscape (catchment) scale, and through the delivery of green infrastructure features that contribute to water management through new development. To support this, the policy may require the following design criteria from any proposals to enhance or create new green infrastructure features that include integral SuDS components, as set out in the CIRIA's Design Criteria[56] or equivalent good practice guidance for amenity and biodiversity.

The policy recognises the importance of existing green infrastructure features in contributing to surface water management, particularly highlighting the role of riparian (wooded) buffer zones at rivers, streams and lakes. As such, these features are protected and enhanced, to

[55] CIRIA C753, 2015
[56] CIRIA C753, 2015: 34

improve water quality (*link to* WAT2) and therefore contribute to biodiversity improvements, and add value in terms of open space for recreational use. These features may also be highlighted as priority habitat types to include in new development to enhance opportunities within new development for additional benefits for amenity and biodiversity through water management. In terms of integral SuDS components, the policy recognises the importance of a range of features which can provide additional benefit for people and wildlife, including:

- Vegetated swales;
- Wetlands;
- Reed beds;
- Flood meadows;
- Lakes;
- Ponds;
- Green roofs;
- Green walls.

The policy recognises that a sub-catchment approach to water management, rather than designing one single component to manage water volumes, is preferable. By designing green infrastructure features to split volumes of water up as much as possible, it is possible to optimise the biological benefits of sustainable drainage. Introducing different types of habitat can also build in flood resilience by managing water quantity more effectively (*link to* WAT1).

Evidence of compliance

Policy documentation and supporting materials, such as maps, plans and diagrams that identify opportunities to protect, enhance or create new green infrastructure features to optimise opportunities for people and wildlife in the creation of SuDS policy areas, as a preferred approach to surface water management; at a landscape scale, and at a site level, in both existing settlements, and through new development.

Policy requires all development to demonstrate how a range of SuDS components have been designed to contribute positively to additional functions and benefits relating to amenity and biodiversity, through the creation and enhancement of multifunctional green infrastructure features.

WATER – 4

WAT4: The policy document responds to the local policy context in terms of water management, demonstrating an innovative approach to move beyond the statutory minimum.

Background

The aim of this standard is to recognise innovation in utilising green infrastructure to respond to local policy priorities for water management. This standard builds on WAT1 by ensuring the strategy for water management makes explicit reference to local policy as it relates to water quality and water quantity within the geographic context of the development.

By supporting innovative approaches to water management, this standard encourages the design and implementation of green infrastructure that not only contributes to surface water management (*link to* WAT1) but creates additional value by responding to local policy priorities. This may apply to site-scale interventions brought forward through development, or landscape-scale interventions such as natural flood management.

Illustrative Examples

The policy makes clear reference to relevant legislation, policies and strategies to assess the impact of new and existing development on water management and identify and inform the design and approach to water management[57]. This includes but is not limited to national planning policy; strategic flood risk assessments or equivalent; Water Framework Directive; and River Basin Management Plan(s).

The policy requires the creation of a Water Strategy, or equivalent documentation, to guide the design of green infrastructure features, including specifications of landscaping, vegetation and hard surfaces, and to manage water demand to meet specified consumption targets.

The process of preparing a Water Strategy includes engagement with water suppliers, local authority partners, and the appropriate regulatory body (i.e. the Environment Agency, Internal Drainage Boards, etc.) to develop overall water consumption targets for new development and the retrofitting of existing development. This should take into account the current availability of water and demands in the area; the future predicted availability taking climate change into account; the predicted water demand for the area resulting from growth and climate change. The strategy includes:

- Actions to minimise the predicted use in new development; and maintain this in future ownership and maintenance of any shared facilities;

[57] Chris Blandford Associates, 2010: 33

- Design options to reduce the water demand in landscaping, any other predicted water use and on-site collection/storage opportunities;
- Targets for water use in residential and non-domestic buildings in the development site.

Evidence of compliance

Policy documentation and supporting materials, such as maps, plans and diagrams that illustrate how a sub-catchment approach is adopted to optimise the water storage capacity of the policy area, utilising a range of connected green infrastructure features.

Policies that require all development to demonstrate how a range of green infrastructure features and SuDS components have been designed to maximise the resilience and efficiency of the water management system.

WATER – 5

WAT5: A diversity of green infrastructure features are utilised to improve water quality, with more and better treatment stages, to maximise pollution reduction both within the boundary of the policy area and downstream.

Background

This standard brings focus to the range of green infrastructure features which can be utilised to improve water quality, both within the built environment and in water courses and water bodies downstream. Whereas WAT2 requires conveyance at or near the surface through one or more type of feature, this standard requires a range of different green infrastructure features for water management to optimise opportunities for pollution reduction, and to create additional habitat and habitat richness in the water management train (*links to* WAT3).

Through the creation of a range of green infrastructure features, with more and better treatment stages, improving the quality of water within the built environment may create opportunities to improve water quality at a landscape scale by maximising pollution reduction in water courses and water bodies both within the built environment and downstream.

Illustrative Examples

The policy requires utilisation of a diversity of green infrastructure features throughout the built environment, located strategically to maximise reduction of water pollution.

The policy requires all development proposals to identify how green infrastructure features contribute to strategic objectives relating to water quality beyond the policy area boundary, for example natural flood management approaches may contribute to improved water quality at a catchment scale.

Evidence of compliance

Policy documentation and supporting materials, such as maps, plans and diagrams that illustrate where existing green infrastructure features can be retained, supported and enhanced, and new green infrastructure features can be designed, to contribute to water quality within the policy area and downstream.

Policies that require all development to demonstrate how a range of green infrastructure features with more and better treatment stages have been designed to maximise pollution reduction, and provide maximum biological benefit for water courses and water bodies affected by any new development.

WATER – 6

WAT6: Features relating to water management are used to enhance local distinctiveness and add value to the overall design.

Background

Green infrastructure features that are designed to be integral to a water management system can be designed to contribute positively to local distinctiveness by creating an attractive place to live and/or work and enhancing the aesthetic and functional quality of the design of the built environment.

This standard recognises that by utilising a range of features (e.g. rain gardens, green roofs, green walls), and enhancing the physical connectivity between them, the capacity of each individual feature to contribute to water management is increased. Moreover, when green infrastructure features are designed within a multi-functional network, including integral features within the built environment, features relating to water management become a distinctive characteristic of the overall design of green infrastructure.

Illustrative Examples

The policy requires all development to utilise green infrastructure features to enhance connectivity between individual SuDS components, with the result of enhancing their functions and benefits, and positively contributing to the overall design and sense of place.

For example:

- By treating the whole landscape as a 'SuDS Landscape', the flow of water is utilised to create dynamic and interesting landscapes that offer an unusual level of beauty, biodiversity, usability and local distinctiveness.
- The topography and geology of the policy area have been utilised to characterise the water management system[58].
- In the context of retrofit development, the policy area considers how to integrate SuDS components into an existing landscape and the policy area demonstrates innovation in working within the additional constraints of an existing community, landscape and infrastructure[59].

[58] Building for Life, 2015
[59] Robert Bray Associates

Evidence of compliance

Policies that require all development to utilise green infrastructure features within the approach to surface water management to positively contribute to the distinctive characteristic of the development proposal and its overall design.

WATER – Further Information

Susdrain [online] SuDS and Planning guidance, including advice on design; construction; and management of SuDS. Available at: http://www.susdrain.org/delivering-suds/using-suds/delivery/planning.html

CIRIA (www.ciria.org)

The SuDS Manual (C753) (CIRIA, 2015)

- 'CIRIA SuDS Manual C753 (2015) is a practical guide on how to design, implement, manage and maintain SuDS systems and features in the built environment to transfer multi-functional benefits for amenity (people) and biodiversity (wildlife), and high quality places (managing water quality and water quantity)' (CIRIA, 2015). Available at: http://www.ciria.org/Resources/Free_publications/SuDS_guide_C753.aspx

Particularly useful for planning practitioners is:

- Part A (Introduction to the SuDS Guide)
- Part B (Philosophy and approach, including: Chapter 3 'Designing for water quantity'; Chapter 4 'Designing for water quality'; Chapter 5 'Designing for Amenity'; and Chapter 6 'Designing for biodiversity'
- Part C (Applying the approach, including: Chapter 8 'Designing for specific site conditions'; Chapter 9 'Designing for roads and highways'; and, Chapter 10 'Designing for urban areas'.
- And for those involved in the design of SuDS for a policy area:
  - designing SuDS components (chapters 1-6)
  - applications of good practice approaches (chapters 7-10)
  - technical detail (chapters 11-23)
  - supporting guidance (chapters 24-36).

Defra (2015) National standards for sustainable drainage

- English non-statutory SuDS technical standards. Available at: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/415773/sustainable-drainage-technical-standards.pdf
- Recommended non-statutory standards for sustainable drainage in Wales (Welsh Government, 2016). Available at: http://gov.wales/topics/environmentcountryside/epq/flooding/drainage/?lang=en
- Non-statutory technical standards for sustainable drainage: practice guidance (LASOO, 2016). Available at: http://www.susdrain.org/files/resources/other-guidance/lasoo_non_statutory_suds_technical_standards_guidance_2016_.pdf

BREEAM Communities Guide (2012) Available at: http://www.breeam.com/communitiesguide/#_frontmatter/breeam_communities.htm%3FTocPath%3D_____1

In particular sections

- SE 03 - Flood risk assessment Available at: http://www.breeam.com/communitiesguide/#01_step01/06_se_03_flood_risk_assessment.htm%3FTocPath%3DStep%25201%2520Establishing%2520the%2520principle%2520of%2520development|_____4;
- SE 13 – Flood risk management Available at: http://www.breeam.com/communitiesguide/#02_step02/09_se_13_flood_risk_management.htm%3FTocPath%3DStep%25202%2520Determining%2520the%2520layout%2520of%2520the%2520development%7C_____11;
- LE 03 - Water pollution Available at: http://www.breeam.com/communitiesguide/#02_step02/08_le_03_water_pollution.htm%3FTocPath%3DStep%25202%2520Determining%2520the%2520layout%2520of%2520the%2520development%7C_____12

BREEAM UK New Construction Technical Guide (2014: 339) [PDF] Available at: http://www.breeam.com/filelibrary/BREEAM%20UK%20NC%202014%20Resources/SD5076_DRAFT_BREEAM_UK_New_Construction_2014_Technical_Guide_ISSUE_0.1.pdf

- This guide produced by BRE outlines key publications that should be referred to for calculating the peak rate of run-off of a development.

The EU Water Framework Directive – integrated river basin management for Europe. Available at: http://ec.europa.eu/environment/water/water-framework/index_en.html

- This EU Directive should be consulted if appropriate for development.

Sustainable Drainage Systems: Maximising the potential for people and wildlife. A Guide for Local Authorities and Developers (RSPB and WWT, 2012) [PDF] Available at: https://www.rspb.org.uk/Images/SuDS_report_final_tcm9-338064.pdf

Sustainable drainage – Cambridge design and adoption guide (Cambridge City Council, 2009) Available at: https://www.cambridge.gov.uk/sites/default/files/docs/SUDS-Design-and-Adoption-Guide.pdf

Flood and Water Management Act (2010) http://www.legislation.gov.uk/ukpga/2010/29/contents

National Planning Policy Framework (2012) https://www.gov.uk/guidance/national-planning-policy-framework

Wildlife (WILD) Standards

There are six wildlife standards to ensure that green infrastructure delivered as part of the development allows nature to flourish, both within the boundary of the development, and at a landscape scale.

The wildlife standards encompass the following principles:

1. Bigger and better

Ensure that over time green infrastructure contributes positively to reversing the long-term decline in biodiversity.

2. More joined up

Ensure connectivity between habitats within the boundary of the scheme.

3. Locally-relevant

Ensure that habitat creation provides optimal conditions to reverse the long-term decline in biodiversity.

4. Nature-rich development

Ensure that space is provided for wildlife to flourish throughout the built environment.

5. Ecological networks

Ensure that green infrastructure creates and restores linkages from the development to the wider landscape.

6. Sensitive construction

Ensure that opportunities to protect and enhance biodiversity are taken during planning and construction of new development.

Please note: These **principles** are intended to guide your thinking around each of the Standards, whilst you gather evidence to demonstrate compliance with the Standards, which are defined in the full over the following pages.

WILDLIFE – 1

WILD1: Green infrastructure delivers biodiversity net gain by avoiding, mitigating, and compensating for impacts on existing biodiversity, and where possible restores, creates and enhances biodiversity within the boundary of the policy area. Provision has been made for on-going monitoring and remediation.

Background

Expanding and linking habitats to restore ecosystem function can contribute positively to reversing the long-term decline in biodiversity[60]. The aim of this standard is to ensure that the policy requires new development to take advantage of opportunities to move beyond compliance as defined by the mitigation hierarchy which has been designed to achieve net positive gains for biodiversity.

In part this standard aims to support the collation of consistent data and ecological information to contribute to a greater understanding of change to habitats and species as a result of development activity[61].

Where sites are protected for their 'special' attributes relating to their plants, animals, habitats, their rocks or landforms, for example Sites of Special Scientific Interest (SSSI) the policy should ensure that new developments consider the characteristics of these sites when designing the development. This is to ensure that these sites are protected, and where possible enhanced through development, as they represent the best natural features locally and support a wider network across the UK.

Illustrative Examples

The policy requires the protection of existing key habitat areas, and where this is not possible, requires restoration, creation, connectivity to or enhancement of more integrated, large scale areas for wildlife[62].

The policy includes reference to local biodiversity targets. Where these do not exist, reference is made to national targets and the local authority ecologist in preparation of the policy document to ensure biodiversity measures introduced as part of the policy area will deliver against identified biodiversity targets.

The policy supports local landscape-scale conservation priorities.

[60] cf. Hayhow *et al.*, 2016; Lawton, 2010.
[61] UK-GBC, 2009:8
[62] TCPA, 2012: 22

The policy requires that the implementation of individual green infrastructure features designed to support particular ecological functions, such as habitat provision, includes provision for on-going monitoring of biodiversity measures. As part of the commitment to on-going monitoring, the policy requires new development to make provision for remediation where monitoring shows that biodiversity measures have been unsuccessful in achieving defined biodiversity targets and landscape-scale conservation priorities.

Evidence of compliance

Policy documentation and supporting materials, such as maps, plans and diagrams that illustrate the local biodiversity targets and landscape-scale conservation priorities within the boundary of the policy area.

Policies that require all development to show how the design of green infrastructure includes features which contribute to local biodiversity targets and landscape-scale conservation priorities.

Policies that require all development to make provision for on-going monitoring of biodiversity measures, and where necessary, remediation where monitoring shows that biodiversity measures have been unsuccessful.

WILDLIFE – 2

WILD2: Green infrastructure features ensure linkages between habitats within the boundary of the policy area.

Background

The intention of this standard is to seek the restoration, creation, expansion and linkage of features to restore ecosystem function of habitat areas, both within the boundary of the policy area, and beyond the boundary where habitat areas are affected by new development. In turn, by supporting the connectivity and linkages between habitat areas, opportunities are created for the built environment to contribute positively to reversing the long-term decline in biodiversity[63].

Illustrative Examples

The policy requires green infrastructure features within the boundary of any new development to be connected and linked with each other, and to show improved linkages to habitats beyond the boundary of the policy area with the aim of supporting the ecosystem functions of habitats and landscape features by improving the capacity of species to move between habitats over a wider area.

The policy requires evidence to show how green infrastructure contributes positively to connectivity within the boundary of new development, and between individual features within the policy area and existing features beyond the boundary, for example through the provision of wildlife corridors.

Evidence of compliance

Policy documentation and supporting materials, such as maps, plans and diagrams that illustrate how green infrastructure features optimise connectivity between habitats within the policy area and improve linkages to habitats beyond the boundary of the policy area.

Policies that require all development to improve connectivity, and linkages between habitats, to positively contribute to reversing the long-term decline in biodiversity.

[63] cf. Hayhow *et al.*, 2016; Lawton, 2010.

WILDLIFE – 3

WILD3: Green infrastructure delivers key measures that contribute to the target conservation status of priority species.

Background

This standard aims to ensure that green infrastructure features, including provision for habitat protection, creation, and enhancement, can have a positive impact on populations of key species, within and beyond the boundary of the area covered.

The design of features can therefore make provision for biodiversity measures which optimise conditions required for the improvement of conservation status of target species.

This is important as a number of factors associated with poor quality green infrastructure (i.e. fewer and smaller features, poor connectivity between features, or a fragmented network of features) can result in an overall negative impact on populations of key species[64].

Illustrative Examples

The policy requires that green infrastructure is used to compensate for fragmentation and create more suitable habitat allowing movement of key species. Where possible, and appropriate, transitional and supplementary habitats are created to sustain more widespread habitats and species[65].

The policy requires that green infrastructure features have been designed with reference to the requirements of local nature conservation groups where these are known.

Evidence of compliance

Policy documentation and supporting materials, such as maps, plans and diagrams that illustrate how green infrastructure delivers key biodiversity measures that contribute to the target conservation status of key species.

Policies that require all development to reflect the objectives of protected species mitigation in the design, implementation and management plans for green infrastructure features.

[64] cf. Lawton, 2010; Tillman, 2005; Battisti, 2003.
[65] TCPA, 2012: 22

WILDLIFE – 4

WILD4: Green infrastructure includes ecological features around and within the built environment.

Background

This standard aims to ensure that the relationship between green infrastructure and the built environment within the policy area can maximise opportunities to sustain and increase target species[66]. This is important as the pressures on land use, for example the provision of land for agriculture and housing, means that the quality of green infrastructure and features within the built environment is critical in delivering space for wildlife to flourish.

When green infrastructure features are designed and implemented to be integral to the built environment, the role of built features can positively contribute to the ecological value of a site.

Illustrative Examples

The policy requires the integration of green infrastructure around and within the built environment to improve the quality of built features (e.g. roofs, terraces, facades) to optimise the provision for additional wildlife habitat.

Evidence of compliance

Policies that require development to make provision for ecological features around and within the built environment maximise opportunities to sustain and increase target species within the boundary of the policy area.

[66] TCPA, 2012: 20

WILDLIFE – 5

WILD5: Green infrastructure is effectively connected to ecological features beyond the boundary of new development, and plays a role in restoring and sustaining wider ecological networks.

Background

This standard builds on WILD02 by requiring policies to ensure that any new development makes provision for connectivity to ecological features beyond the site boundary. The aim is that the design of green infrastructure features within the boundary of the policy area restores and sustains the functions of ecological networks beyond the boundary of the policy area.

There is an expectation that local planning authorities[67] will 'plan for biodiversity at a landscape-scale across local authority boundaries' and 'identify and map components of local ecological networks including the hierarchy of international, national and locally designated sites of importance for biodiversity, wildlife corridors and stepping stones that connect them and areas identified by local partnerships for habitat restoration or creation'[68]. This represents a summary of what planning and development should aim for in terms of restoring and sustaining ecological networks.

Illustrative Examples

The policy requires that new development acknowledges its place within existing ecological networks and clearly identifies where ecological features are retained, and are created, to restore and sustain the functions of these networks.

Evidence of compliance

Policy documentation and supporting materials, such as maps, plans and diagrams that illustrate how green infrastructure features play a role in restoring and sustaining ecological networks.

[67] Specific expectations for England, Scotland, Wales, Northern Ireland and Ireland are detailed in national planning policy and the relevant Biodiversity Strategy for each country.
[68] DCLG, 2012: para 117

WILDLIFE – 6

WILD6: The policy secures biodiversity measures in all stages of implementation (planning construction, in use), and in the case of development policy areas, across multiple phases of development.

Background

This standard aims to ensure that opportunities to protect and enhance biodiversity are considered at each stage of the development process, and across multiple phases in larger policy areas, with a particular focus on improving practices during implementation and construction.

Too often biodiversity protection and enhancement can be overlooked at different stages of development and securing green infrastructure connectivity and linkages across different phases of development, can also prove difficult in the context of the larger policy areas. This can have a negative impact on the potential for the policy area to meet biodiversity targets and landscape-scale conservation priorities.

Illustrative Examples

The policy requires development to protect and enhance biodiversity at each stage of the development process, and across each phase in multiple phase policy areas.

The policy requires development to evidence what mechanisms are in place to ensure the successful implementation of biodiversity measures through construction by making provision for the protection and monitoring of particular habitats and species at each stage of the construction process.

The policy requires development to evidence what mechanisms are in place to ensure the successful implementation of biodiversity measures when the policy area is in use by making provision for the on-going monitoring of biodiversity measures (*link to* WILD1), remediation of features where necessary, and provision is made for long-term management and maintenance (CORE5).

The policy requires development to evidence what mechanisms are in place to ensure approaches to phasing of development maximise opportunities to create, protect and enhance biodiversity within the boundary of the policy area.

Evidence of compliance

Policies that require development to secure biodiversity measures in all stages of implementation, and across multiple phases of development.

WILDLIFE – Further Information

The UK Post-2010 Biodiversity Framework (JNCC and Defra, 2012) Available at: http://jncc.defra.gov.uk/page-6189

The UK Post-2010 Biodiversity Framework Implementation Plan (JNCC and Defra, 2013) Available at: http://jncc.defra.gov.uk/page-6583

Biodiversity Strategy 2010: A strategy for England's wildlife and ecosystem services (Defra, 2011) Available at: https://www.gov.uk/government/publications/biodiversity-2020-a-strategy-for-england-s-wildlife-and-ecosystem-services

2020 Challenge for Scotland's Biodiversity (Scottish Government, 2013) Available at: http://www.gov.scot/Publications/2013/06/5538

Or via PDF: http://www.gov.scot/Resource/0042/00425276.pdf

Wales Biodiversity Partnership [online] Available at: https://www.biodiversitywales.org.uk/

The Nature Recovery Plan for Wales – Setting the Course for 2020 and beyond (Welsh Government, 2015) Available at: http://gov.wales/topics/environmentcountryside/consmanagement/conservationbiodiversity/?lang=en

Valuing Nature – A Biodiversity Strategy for Northern Ireland to 2010 (Department of Agriculture, Environment and Rural Affairs, 2015) Available at https://www.daera-ni.gov.uk/publications/biodiversity-strategy-northern-ireland-2020-0

National Biodiversity Plan - 'Actions for Biodiversity 2011-2016, Ireland's National Biodiversity Plan' (Department of Arts, Heritage and the Gaeltacht, 2011) [PDF] Available at: https://www.npws.ie/sites/default/files/general/national-biodiversity-plan-english.pdf

Biodiversity by Design – A Guide for Sustainable Communities (Urbed and TCPA, 2005) Available at: http://urbed.coop/projects/biodiversity-design

UK-GBC Impact Report (UK-GBC, 2009) Available at: http://www.ukgbc.org/resources/publication/uk-gbc-impact-report-2009

BS 42020 – Biodiversity Code of Practice for planning and development (2013) [Purchase required] Available at: http://shop.bsigroup.com/ProductDetail/?pid=000000000030258704

BREEAM Strategic Ecology Framework (2016) Available at: http://www.breeam.com/strategic-ecology-framework

'Making Space for Nature' - The Lawton Report (Professor Sir John Lawton, 2010,) Available at: https://www.kew.org/files/making-space-nature-lawton-reportpdf

CIEEM Technical Guidance Series (TGS) Available: https://www.cieem.net/technical-guidance-series-tgs-

What are Living Landscapes? (The Wildlife Trusts, 2006) Available at: http://www.wildlifetrusts.org/living-landscape/our-vision (accessed 09/09/15).

State of Nature Report (Hayhow et al., 2016) Available at: https://ww2.rspb.org.uk/our-work/conservation/projects/state-of-nature-reporting

Contact Details

For more information on Building with Nature Assessment and Accreditation:

Website www.buildingwithnature.org.uk

Email info@buildingwithnature.org.uk