- DESIGN GUIDANCE: SUSTAINABILITY -

Chapter 9 looks at the many facets of sustainable development, and examines ways in which technology, and the design and layout of new development can contribute sustainably, in a way that reflects and reinforces the distinctiveness and character of the conservation area.

A sustainable approach to development takes many forms. "Sustainability" is an umbrella term, which takes in a wide range of philosophies and technologies – some of which can actually seem to contradict or conflict with each other.

DESIGN GUIDANCE: SUSTAINABILITY

Principles of good practice

1. It is important to view "sustainability" holistically – if one approach proves inappropriate in a particular circumstance, there may be other measures or design devices that can be explored, which might be sustainably fruitful in a different way. Approaches must be tailored to context and the wider environmental benefits will need to be balanced against any likely local effects on the historic and natural environment.

2. Part L of the Building Regulations provides for the protection of the special characteristics of historic buildings. ''...the aim should be to improve energy efficiency where and to the extent that it is practically possible... always provided that the work does not prejudice the character of the historic building, or increase the risk of long-term deterioration to the building fabric or fittings'' (PartL1B Section 9).

3. Energy efficiency and greater use of renewable energy are becoming increasingly important in the design and development of buildings and it is better to consider its incorporation at an early stage of the design rather than retro-fitting.

4. Advice from a renewable energy specialist, who should be able to assist in the examination of options, is strongly recommended. Most professional institutes have a client advisory service. There are also a number of organisations and information sources that can provide advice and help (including public organisations providing grant funding on a case-by-case basis). In assessing applications for new developments the District Council's *Renewable Energy SPA* states that it will use the services of an energy advisory agency that will assist in negotiations and provide more general technical support.

SUSTAINABILITY

9.1 Sustainable development is development that meets the needs of the present, without compromising the ability of future generations to meet their own needs.

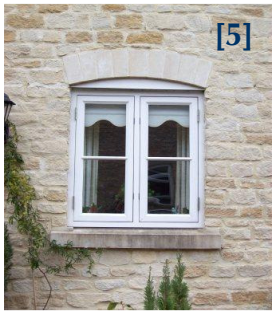
9.2 PPS 1 promotes sustainable development as "high quality inclusive design in the layout of new developments and individual buildings, in terms of function and impact, not just for the short term but over the lifetime of the development. Design which fails to take the opportunities available for improving the character and quality of an area should not be accepted"

9.3 As a general principle, Stroud District Council supports the use of sustainable building and renewable energy technologies in the conservation area. A sustainable approach to development takes many forms. "Sustainability" is an umbrella term, which takes in a wide range of philosophies and technologies – some of which can actually seem to contradict or conflict with each other... just as the term "conservation" can mean different things to different people.

9.4 It is important to view "sustainability" holistically – if one approach proves inappropriate in a particular circumstance (because it would cause harm to the character, appearance or special architectural and historic interest of the conservation area), there may be other measures or design devices that can be explored, which might be sustainably fruitful in a different way.

9.5 Development which, for whatever reason, fails to function well and suit its context, produces a burden for the future – someone, sometime will have to re-think, re-develop and dispose of the physical and social consequences of poor development. At a very basic level, poor development is unsustainable.

9.6 Buildings that are attractive, robust and adaptable will last long, thus avoiding the need for wasteful demolition and new building; while re-using old buildings is a simple way of achieving sustainability: it saves waste and reduces the need for new building materials.



Replacement windows. Various approaches can be taken, depending on circumstances.
[1 and 2] New double-glazed timber sash windows on these unlisted houses have been installed in place of earlier aluminium replacements, to great effect – the remaining aluminium units compare poorly and are much less visually sympathetic; **[3]** This varied collection of double glazed replacement windows successfully reflects the character of the originals – a mish-mash of industrial steel windows and more 'domestic' Victorian timber sashes; **[4]** New bespoke single-glazed timber casement windows on a grade II listed cottage. Double glazing is generally unacceptable in listed buildings, although some can accommodate internal secondary glazing; **[5]** A standard timber window on a new house: the flush casements are more visually traditional than stormproof joinery; **[6]** Bespoke double-glazed casements can be more costly, but visually very similar to traditional single-glazed windows for unlisted buildings.

BUILDING CONSERVATION vs ENERGY CONSERVATION?

9.7 Building conservation is part of a sustainable approach to development – conserving and, where necessary, adapting old buildings for new uses is recycling on a grand scale; a presumption in favour of preservation (as opposed to in favour of demolition or alteration) is also absolutely vital to the conservation area's character and sense of place.

9.8 The introduction of energy conservation measures into an historic building must always be carefully considered and sensitively handled. Common methods of upgrading thermal or energy conservation (double glazing, insulation etc) can have quite profound effects on the character and appearance of an historic building, both inside and out. It can also mean the loss of original or historic features, and can affect the 'microclimate' of the building, causing a destabilisation which may potentially exacerbate or even cause problems - an increase in damp and condensation, due to a reduction in the 'breathe-ability' of the building, for example. Listed Building Consent is likely to be required for some very common upgrade works, and not all such works will be considered permissible.

Replacement windows

9.9 Since 1st April 2002 (and recently updated in 2006), Part L of the Building Regulations has applied to existing buildings, as well as to new build. Consequently, you will now need to apply for Building Regulations approval for the replacement of any existing windows as well as for entirely new windows.

9.10 However, Part L provides for the protection of the special characteristics of historic buildings: ''...the aim should be to improve energy efficiency where and to the extent that it is practically possible... always provided that the work does not prejudice the character of the historic building, or increase the risk of long-term deterioration to the building fabric or fittings'' (PartL1B Section 9).

9.11 When replacing windows, for example, the Building Regulations cannot be used to force an upgrade in the U-value performance. Other measures, such as roof or floor insulation, may be introduced to mitigate energy loss through single glazed windows. Where historic windows survive, every effort should be made to retain them. Windows are often particularly vulnerable to replacement during the conversion of industrial buildings to other uses (residential or commercial/office space, particularly). This can be extremely damaging to the essential character of the building, and can have a surprisingly transformative effect on its architectural appearance.

9.12 Plastic (UPVC) windows are extremely unlikely to be permitted in the conservation area where covered by planning controls – either as replacements for existing windows, or as a choice of window for new development. Most UPVC windows are visually obtrusive in an historic environment, as they fail to replicate the proportions and details of most traditional construction methods (whether a timber sash window or iron-framed casements for example). The stark white colour also deadens the variety and interest of environments where coloured or off-white window frames may historically have been an important contributor to character and appearance. In terms of energy conservation, it is generally acknowledged that the embodied energy (i.e. the amount of energy used in manufacture) of UPVC windows and doors is greater than the amount of household energy it is likely to save over its lifetime. The production and disposal of UPVC windows leads to the release of highly poisonous chemicals. Wood sourced from properly managed forests is a sustainable resource. With the development in design of wooden windows as well as finishing treatments, modern, high performance wooden windows require minimal maintenance and have a significantly longer life than UPVC. Life expectancy of a UPVC window is 20-25 years compared to 60-120 years from a high-quality wooden window. Despite common belief, UPVC windows do degrade, they are not maintenance free and worst of all - they cannot be repaired if needed.

9.13 Of course, the most sustainable thing to do is to repair and conserve an existing window. Draught-proofing, the addition of internal shutters, or potentially secondary glazing, will all help with thermal insulation and soundproofing.

Energy Efficiency Measures

9.14 It should be noted that Stroud District Council expects that new developments will incorporate energy efficiency measures as a means of CO2 reduction. This can be designed-in to new buildings in a variety of ways, including:

- compact plan form to reduce external wall surface;
- careful orientation to harness solar gains;
- passive solar design incorporating features such as larger windows on south and south-west aspects and reduced glazing on other aspects;
- high thermal mass;
- passive ventilation and cooling can also obviate mechanical energy use.

9.15 This is set out in the Council's Supplementary Planning Advice (SPA) document on development and Renewable Energy. It is, therefore, in the interests of a developer to design a more energy efficient development, which in turn reduces the amount of CO2 to be saved through the use of renewable sources.

9.16 The thermal efficiency of construction elements, insulation values and heating installations will also need to comply with Part L of the 2006 Building Regulations.

9.17 Application of the Code for Sustainable Homes, Category 1: Energy/CO2 will bring further efficiencies.

- Building Regulations 2006, Part L http://www.opsi.gov.uk

- Code for Sustainable Homes: Setting the Standard in Sustainability for New Homes, February 2008 http://www.communities.gov.uk
- Code for Sustainable Homes, Technical Guide [October 2008]
- Code for Sustainable Homes, Building a Greener Future: Towards Zero Carbon Development

BUILDING MATERIALS

9.18 When specifying materials for new development in the conservation area, appearance is a very important consideration. However, consideration should also be given to:

9.19 **Local sourcing**
Consideration can be given to the source of the materials since transportation adds considerably to the impacts. Where possible locally sourced natural materials should be used in construction in order to minimise the amount of travel and pollution emitted into the atmosphere.

9.20 **Recycling and re-using materials from the existing site**
The use of a proportion of recycled materials in construction protects natural resources and limits the amount of material going to landfill. Consider:

- Salvaging materials, which could be used to clad or construct new structures. The partial shells of old buildings are often capable of creative adaptation, even if it is not possible to retain or reconstruct a building in its entire state (see Chapter 4, **Policy and Design Priority 2**). This is also valuable to local distinctiveness and character.
- Using low-grade (clean) materials from on-side demolition as hardcore, to avoid transportation and off-site disposal of waste.
- Although a new development should always be designed for longevity and future adaptability, buildings can also be designed with future deconstruction in mind. Avoid over-designed structures, footings, etc that may result in a waste of materials. Consider alternative foundation and structures where appropriate; Minimise the use of chemicals and hazardous materials and take advice concerning less toxic or more specific alternatives.
- Consider long term maintenance and durability. For example, ensuring external cladding on buildings takes account of the economic and environmental cost of power-washing buildings. Cladding that traps dirt should be avoided. However, many materials that are typical of the local building vernacular will actually benefit from the patina of age. When using natural stone or brick, a soft lime mortar is not only locally distinctive, it also protects the building fabric by being 'sacrificial'. Whereas a hard cement mortar will often trap water, forcing it out through the masonry and potentially leading to spalling and flaking, a soft mortar allows water migration and it is much more cost effective to cut out a defective patch of pointing occasionally than to replace sections of walling material.

9.21 **'Eco building' technologies (including green roofs and green walls)**
In addition to the traditional palette of materials that characterises the conservation area (brick, stone, slate, etc), some rather unlikely modern technologies have the potential to sit happily in this historic environment, and to positively enhance its character and appearance.

9.22 In particular, eco building technologies offer the chance to *enhance* the impression of green-ness and add to the 'Green Corridor' of the conservation area, not least by redeveloping 'grey' (brownfield) sites in a way that positively impacts on visual amenity and biodiversity. Design devices such as green roofs and green walls may be useful in helping to 'bolster' the green corridor. This is one possible means of tackling **Policy and Design Priorities 1** and **4** (see Chapter 4), and may be particularly useful in resolving the conundrum of how to sensitively incorporate new housing development within the valley floors of the conservation area. This presents an opportunity to use innovative, high quality design, to make a positively sustainable 21st century contribution to the conservation area.

9.23 Application of the Code for Sustainable Homes, Category 3: Materials, can help with assessing how sustainable the choice of building materials are.

- Code for Sustainable Homes, Building a Greener Future: Towards Zero Carbon Development http://www.communities.gov.uk
- Code for Sustainable Homes: Setting the Standard in Sustainability for New Homes, February 2008
- Code for Sustainable Homes, Technical Guide [October 2008]

RENEWABLE ENERGY

9.24 Green Renewable energy uses natural resources such as sunlight, wind, water and geothermal heat, which are naturally replenished.

9.25 Tackling climate change is one of our greatest global challenges. The District Council is committed to this, through promotion of sustainable development, conserving natural resources and protecting and enhancing of the environment. Stroud District Council has prepared Supplementary Planning Advice (SPA) on development and Renewable Energy. The document is intended principally for applicants and their agents, together with planning officers who will be able to apply it in determining applications.

9.26 To develop sustainably, we must take action on a number of fronts, including reducing dependence on fossil fuels and making greater use of energy from renewable sources.

9.27 Renewable energy can be defined as the energy derived from natural sources that are continuously at work in our environment and are not depleted by being used. Solar radiation is responsible for the majority of renewable energy sources, either in the form of its direct radiation (solar power) or through indirect forms (wind, hydro, heat pumps, tidal and wave energy and bio-fuels).

9.28 Stroud District Council's Renewable Energy SPA deals with small-scale renewable energy technologies that can be integrated into building design. These include:

- Solar thermal (solar water heating)
- Photovoltaics (PV)
- Wind turbines
- Ground source heating/cooling
- Biomass heating

9.29 The use of renewable energy technologies is pertinent to the Industrial Heritage Conservation Area in design terms because of the particular opportunities that the historic industrial environment presents for the incorporation of such technology in a locally distinctive and character-enhancing way. Equally, the conservation area presents many situations where the visual and physical impact on historic buildings and key views will be unacceptable. In promoting renewable energy, the wider environmental benefits will need to be balanced against any likely local effects on the historic and natural environment, particularly in sensitive locations. Guideline **IHCA-G4** of the **Industrial Heritage Conservation area Management Proposals SPD** addresses this point (see following page, and refer to Chapter 4 of the SPD).

9.30 Energy efficiency and greater use of renewable energy are becoming increasingly important in the design and development of buildings and it is better to consider its incorporation at an early stage of the design rather than retro-fitting.

9.31 The greatest benefits from and opportunities for the use of renewable energy technologies are likely to occur through medium- or large-scale development. In particular, the conservation area's industrial environment presents such a lively, diverse palette of materials, shapes, colours and details (as highlighted in Chapter 7), that there is great potential in a new development or refurbishment to incorporate renewable energy devices and techniques as conscious design features.

9.32 This Design Guide provides some advice about the visual integration of renewable energy devices into new developments in the conservation area, or where they would affect historic buildings.

The IHCA Management Proposals SPD says in guideline IHCA-G4 (Renewable energy) that:

In promoting renewable energy, the wider environmental benefits will need to be balanced against any likely local effects on the historic and natural environment, particularly in sensitive locations. This, and any very special circumstances, should be set out in a design and environmental performance statement.

1. **All proposals for development within the conservation area involving the introduction of renewable energy technologies *should:***

   Have regard to Stroud District Council's Renewable Energy SPA

2. **All proposals for development within the conservation area involving the introduction of renewable energy technologies *must:***
   Demonstrate that due consideration has been given to the effect on the character and appearance of the conservation area and, where directly affecting an historic building, the effect on the special interest and character of the building. This should be explained through an accompanying design and access statement or (where required) environmental performance statement.

   Proposals for installation of renewable energy devices must be justified in the same terms as any proposed development that would affect the character or appearance of the conservation area. Such proposals must therefore have full regard to the SPD Guideline **IHCA-G1** [see chapter 1 of this Design Guide document].

9.33 **Photovoltaic (PV) or solar absorbing tiles/slates**
This is an interesting technology, with lots of design potential. This roof covering could be used to quite striking visual effect in the conservation area (see also advice on roof coverings in Chapter 7).

9.34 It is unlikely to be appropriate as a replacement roofing material on a traditional building, particularly where part of a conspicuous street scene or roofscape. For example, a house forming part of a terrace derives much of its character from its visual consistency with its neighbours, and an alteration to something as fundamental as one roof can seriously erode the character and appearance of the whole group. It should generally be presumed that original traditional roof coverings should be preserved, or replaced like-for-like, to maintain local distinctiveness.

9.35 However, there may well be circumstances where an historic building has lost its traditional roof covering, or has been substantially altered, and a new roof in a bold new material may be acceptable. In visual design terms, this may be particularly effective in a context where there is a strong industrial character.

9.36 **Solar thermal panels**
As with PV roof surfaces, the installation of solar panels onto the roofs of historic buildings is often likely to be damaging to the special interest of the building or the character and appearance of the conservation area.

9.37 However, this is another technology which may be suited to new-build, where panels can be designed into the scheme as an integral part of the visual concept. Buildings reflecting an industrial character may be able to accommodate panels, arranged in strong, coherent forms – perhaps picking up the visual influence of industrial 'northlight' factory buildings or the patent glazing and clerestorey type fenestration that often characterises industrial roofscapes. Small panels, scattered irregularly across a roof, are likely to appear distracting and visually obtrusive – this approach should be avoided.

9.38 **Wind turbines**
Both small scale domestic wind turbines and community turbines erected as part of a co-ordinated development may be acceptable within the conservation area. Again, as with Photovoltaic and solar panel devices, there will be instances where wind turbines will be unacceptable due to the harmful and incongruous impact they would have on the character or appearance of an historic roofscape, particularly in areas of the conservation area with a predominantly domestic historic character. Equally, though, industrial character areas may prove visually accommodating to wind turbines, subject to sensitive scale, design and siting, and other planning considerations.

9.39 **Hydropower**
The IHCA may provide opportunities to harness waterpower – in particular, the possibilities of reinstating or introducing waterpower technology as part of the development, redevelopment or refurbishment of historic mill buildings and surrounding sites may be worth investigating. This is part of the Stroud Valleys' heritage: the abundance of fast flowing streams and the construction of water management systems (such as mill ponds, river leets, waterwheels etc) fuelled the industrial development of the locality. However the possible benefits that might be offered by, for example, a water turbine must be balanced against issues such as flooding and potential ecological impact, as well as the visual effect on the conservation area's character and appearance.

9.40 **Passive Solar**
The use of passive solar design is possibly the simplest form of solar energy. Passive solar design tries to optimise the amount of energy that can be derived directly from the sun.

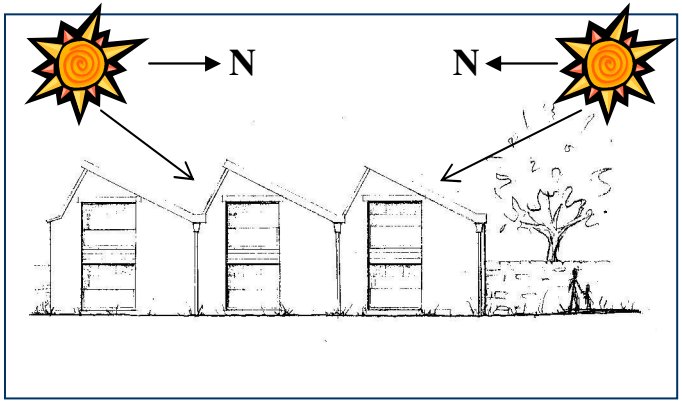
9.41 Passive solar energy is nothing new. According to the National Energy Foundation (http://www.nef.org.uk/), about 14% of space heating in an ordinary British home comes from solar energy through walls and windows.

9.42 By incorporating passive solar design into new buildings, annual fuel bills can be cut, with corresponding carbon dioxide savings. This helps to reduce global warming. In addition, the increased daylight means that the need for electric lighting is lowered.

9.43 Many buildings today are designed to utilise the energy of the sun as efficiently as possible. The location and orientation of the building are all key factors in optimising passive solar design. Passive solar design can be best applied in new buildings, where the orientation of the building, the size and position of the glazed areas, the density of buildings within an area, and materials used for the remainder of the structure are designed to maximise free solar gains.

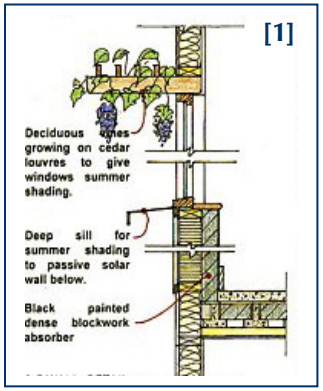
9.44 The Stroud valleys present particular obstacles and positive opportunities for passive solar design. In particular, the valleys' orientation may hinder or help the optimum south-easterly orientation of buildings, which can maximise preheating and reduce summer overheating. The valleys can also heighten issues relating to overshadowing. Using passive solar principles on sloping valleyside sites will, therefore, often demand great design skill and perhaps unconventional thinking. This must always have reference to the character and context of the site within the conservation area: sensitivity to matters such as scale, materials and landscaping (in the context of the local vernacular and surrounding architectural styles) must not be compromised. This should be approached as a positive stimulus to creative contextual design and vernacular interpretation, and should not be used as an excuse for failing to 'build in context'.

9.45 In the industrial valley bottoms, there already exists a strong building tradition that is linked to solar orientation: many late 19th and early 20th century factory buildings had "northlights", which have a very distinctive, robust and recognizable architectural profile. These may provide an architectural prototype for new build that reinforces the distinctive local urban grain, or indeed the buildings may themselves prove receptive to creative adaptation.



The distinctive zig-zag roofline of northlight buildings may prove a useful prototype for new-build which exploits the power of the sun. The northerly orientation, with a larger, shallower pitch facing south, would be ideal for photovoltaic roof coverings, or similar. While flipping the usual orientation around, the traditionally glazed steeper pitch could maximise passive solar gain on a building with a deep plan form, or would be perfect for siting solar panels

[1]



Valley-bottom housing presents an opportunity to use innovative, high quality design, to make a positively sustainable 21st century contribution to the conservation area.

In particular, eco building technologies offer the chance to *enhance* the impression of green-ness and add to the 'Green Corridor' of the conservation area, not least by redeveloping 'grey' (brownfield) sites in a way that positively impacts on visual amenity and biodiversity.

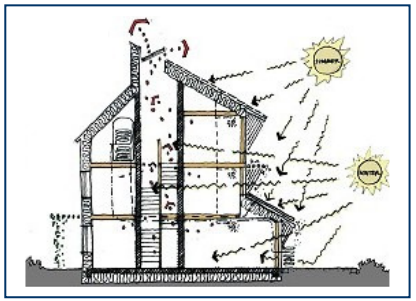


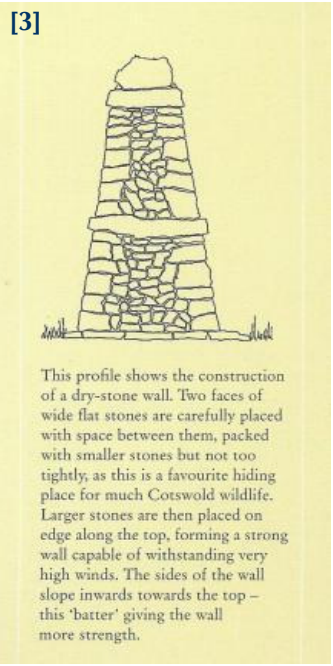
Image credits

[1] Hetreed Ross Architects (www.hetreedross.com)

[2] Cotswold Canals Conservation Manegement Plan (British waterways)

[3] Cotswold Design Code; courtesy of Cotswold District Council

[3]



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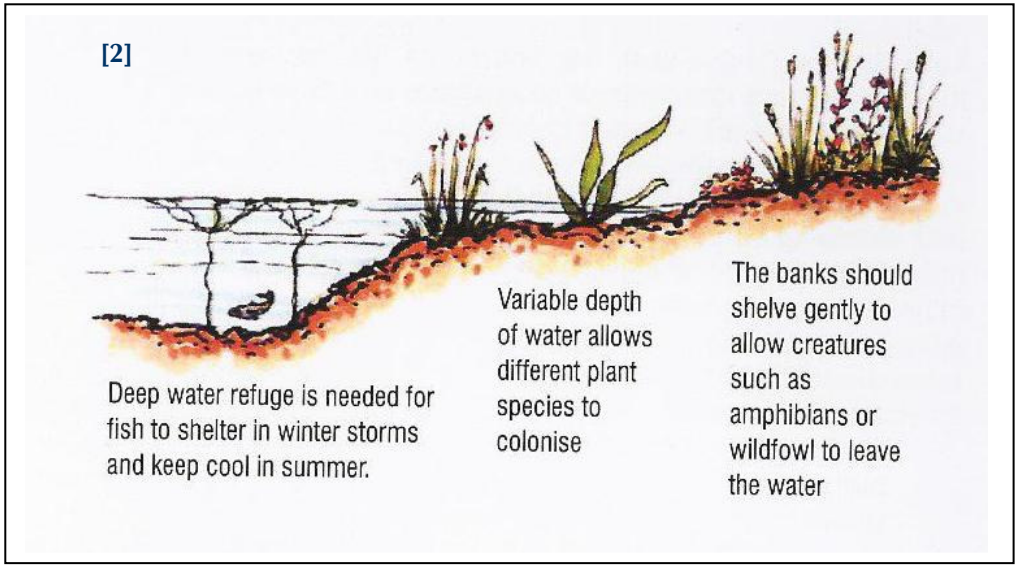

THE NATURAL ENVIRONMENT, BIODIVERSITY AND ECOLOGICAL IMPACTS

9.46 Green space and areas of native vegetation have been identified as important contributors to the overall character of the Industrial Heritage Conservation area. Indeed, the three types of 'Green Corridor' character parts (Character Types 4, 5 and 6) form a spine which glues the conservation area together. It is a key goal of the Design Framework to protect the conservation area's green space, to avoid the visual and physical effects of suburbanisation and homogenisation of the historic built environment and to boost the sense of distinction and separation between different settlement groups and mill complexes (see Design Priority 1).

9.47 The preservation or enhancement of character and appearance in the conservation area is likely to have positive side effects for the natural environment. Some of the following points demonstrate how key components of the conservation area's character and special architectural or historic interest, and aspects of the advice contained in this Design Framework are valuable in this respect:

- Watercourses and millponds are important habitats, and their naturalistic character should be retained and enhanced through appropriate landscaping and management regimes
- Traditional boundary treatments, such as dry stone walls and hedgerows, provide habitats for flora and fauna
- Roadside and canalside grassy verges are important to the rural character of parts of the conservation area. They should be retained where existing, and new development can be landscaped to emulate this distinctive aspect of character. If properly managed (not mowed too frequently etc), these can provide wildflower and insect habitats.
- The construction of valley-bottom housing and the redevelopment of non-historic brownfield sites present an opportunity to use innovative, high quality design, to make a positively sustainable 21st century contribution to the conservation area. In particular, eco building technologies offer the chance to *enhance* the impression of green-ness and add to the 'Green Corridor' of the conservation area, not least by redeveloping 'grey' (brownfield) sites in a way that positively impacts on visual amenity and biodiversity.

The Canals corridor

9.48 As the Conservation Area Character Appraisal has identified (see particularly Volume 1 paragraphs 3.87 – 3.93), the naturalistic, verdant nature of the canal banks and the towpath verges is an important part of the character of the conservation area. The over-all goal of preserving or enhancing this fundamental aspect of the conservation area's character and appearance, if properly executed and properly managed, will have positive impacts on the biodiversity, the natural environment and the amenity value of the canals corridor.

9.49 The canals provide diverse, natural environments, including the canal channel, banks, towpaths, hedgerows, verges and structures such as walls, locks, bridges and canalside buildings. These provide a valuable linear habitat for the many plant and animal species that constitute the biodiversity of the waterway.

9.50 Restoration and maintenance of the Cotswold Canals channel will be expected to be carried out in accordance with the Conservation Management Plan (CMP) produced by British Waterways for the Cotswold canals Partnership (see Guideline 5, Section V, paragraph 16.62). It will also be advisable for adjacent development to be aware of the advice and key principles contained within the CMP in respect of biodiversity of the canal corridor, particularly when drawing up planting and landscaping schemes, and designing layout.

9.51 The planting schedule and landscaping works conducted immediately after construction are intimately linked to the eventual biodiversity value of the affected area.

Design Guide assessment toolkit: appraising sustainable design

9.52 A variety of national standards and initiatives exist, to encourage high quality of design. These are particularly useful in respect of sustainability and environmental impact. Increasingly, developers (particularly housebuilders) are recognising the benefits that good quality design, a distinct sense of place, and buildings and environments that work in an efficient, energy conscious manner can afford them. Some national standards (such as the BREEAM "Eco Homes" rating) have originated in the realm of housebuilding, but core principles and practical design solutions can often translate to other forms of development, including schemes that comprise of mixed or non-domestic uses.

9.53 Stroud District Council wishes to promote high standards of design throughout the conservation area, on all levels – not simply in terms of appearance. As stated at the very beginning of this Design Guide, the Council expects that all development proposals within the Conservation Area shall show that the development will function well, in addition to being attractive and responding to the existing character of the area.

9.54 In order to support this core principle of the Design Guide (see paragraph 1.20), Stroud District Council will encourage development proposals to demonstrate their high standards via the use of a 'toolkit' of criteria, checklists and standards.

9.55 The use of any or all of the following 'tools' is not compulsory, but these can be extremely useful aids, and they represent a recognised and objective universal means of quantifying various aspects of design quality.

- Building for Life
- Lifetime Homes
- BREEAM "Eco Homes" rating
- Code for Sustainable Homes

Building for Life.

9.56 Led by CABE and the Housebuilders Federation, Building for Life is an initiative which promotes design excellence and celebrates best practice in the house building industry. The Building for Life Standard is the national benchmark for well-designed housing and neighbourhoods in England. It is awarded to new housing projects that demonstrate a commitment to high design standards and good place making. A simple and powerful set of 20 questions forms the basis of the standard, allowing developers to address issues as they work through the process, and allowing planners and decision-makers to evaluate the success of a scheme.

9.57 Stroud District Council may use the Building for Life Standard 20 questions as an aid when assessing major residential development proposals in the conservation area or major mixed use development proposals which involve a significant element of housing.

Major development is defined as:

Residential: ten or more dwellings, or if outline 0.5 ha or greater site area
Other development: 1,000 sq m or more, or if site is 1.0 ha or more

9.58 The Building for Life criteria are the measure by which quality in new housing is assessed for the Building for Life Standard.

9.59 But the value of these criteria goes far beyond the Standard awards. The 20 criteria are an invaluable tool for developers, planners, local authorities, architects and the public – anyone committed to improving housing and neighbourhood design.

9.60 The criteria embody Building for Life's vision of what housing should be: functional, attractive, and sustainable. And this sits very comfortably within the ethos of the IHCA Design Guide, which aims to ensure that new development will function well, in addition to being attractive and responding to the existing character of the area.

9.61 Like the 'Building in Context Checklist' (which is included in full in Chapter 9), the Building for Life questions may be useful as a prompt, both for developers and planners, to thinking about issues connected with the design process and urban design objectives, as set out in Chapter 8. The 20 questions present some of the associated issues in a practical way, which makes the sometimes rather abstract concepts easier to grasp and easier to apply to a particular site or proposal. Use of the checklist is not compulsory, but it may be helpful. The criteria cover four main themes:

1 Character

1. Does the scheme feel like a place with a distinctive character?
2. Do buildings exhibit architectural quality?
3. Are streets defined by a coherent and well structured layout?
4. Do buildings and layout make it easy to find your way around?
5. Does the scheme exploit existing buildings, landscape or topography?

2 Roads, parking and pedestrianisation

6. Does the building layout take priority over the roads and car parking, so that highways do not dominate?
7. Are the streets pedestrian, cycle and vehicle friendly?
8. Is car parking well integrated so it supports the street scene?
9. Does the scheme integrate with existing roads, paths and surrounding development?
10. Are public spaces and pedestrian routes overlooked and do they feel safe?

3 Design and construction

11. Is the design specific to the scheme?
12. Is public space well designed and does it have suitable management arrangements in place?
13. Do buildings or spaces outperform statutory minima, such as Building Regulations?
14. Has the scheme made use of advances in construction or technology that enhance its performance, quality and attractiveness?
15. Do internal spaces and site/building layout allow for adaptation, conversion or extension?

4 Environment and community

16. Does the development have easy access to public transport?
17. Does the development have any features that reduce its environmental impact?
18. Is there a tenure mix that reflects the needs of the local community?
19. Is there a mix of accommodation that reflects the needs and aspirations of the local community?
20. Does the development provide (or is it close to) community facilities, such as a school, park, play areas, shops, pubs or cafes?

Questions taken from the Building for Life "20 criteria"
www.buildingforlife.org

Lifetime Homes.

9.62 The Lifetime Homes concept aims to increase choice, independence and longevity of tenure, vital to individual and community well being. The Lifetime Home Standards consists of 16 design features (including, for example, "bathroom layout", "window specification", "wheelchair accessibility"), which apply to both the interior and exterior of the building, with the aim of creating a flexible blueprint for accessible and adaptable housing in any setting.

BREEAM – "Eco Homes" rating.

9.63 The British Research Establishment Environmental Assessment Method provides a tool for analysing and improving the environmental performance of all kinds of buildings (new and refurbished), using ratings of Pass, Good, Very Good, and Excellent. The BRE's "Eco homes" accreditation is sponsored by the National House-Building Council (NHBC). It rewards developers who improve environmental performance through good design, rather than high capital-cost solutions. The assessment can be carried out at the design stage and the rating is awarded to the development as a whole, rather than to individual buildings.

Code for sustainable homes.

9.64 On 13 December 2006, the Government's Department for Communities and Local Government launched the Code for Sustainable Homes - a new national standard for sustainable design and construction of new homes. By integrating elements of this voluntary Code into new homes and obtaining assessments against the Code, developers will be able to obtain a 'star rating' for any new home which will demonstrate its environmental performance. It will provide valuable information to home buyers, and offer builders a tool with which to differentiate themselves in sustainability terms.

Quick check: how does the scheme match up to national policy guidance on design and sustainability?

PPS 1: Delivering sustainable development

Para 13, key principle (iv)
"Planning policies should promote high quality inclusive design in the layout of new developments and individual buildings, in terms of function and impact, not just for the short term but over the lifetime of the development. Design which fails to take the opportunities available for improving the character and quality of an area should not be accepted"

Further Information:

Building Regulations and Historic Buildings: Interim Guidance on Building Regulations Part L
[English Heritage, 2004]
http://www.english-heritage.org.uk/server/show/nav.1046

Stroud District Council Renewable Energy SPA [2007] www.stroudgov.uk

Code for sustainable homes: Setting the standard in sustainability for new homes [February 2008]
http://www.communities.gov.uk/publications/planningandbuilding/codesustainabilitystandards

BRE Environmental Profiles www.bre/co.uk/envprofiles

Cotswolds AONB Landscape Strategy and Guidelines
[Cotswolds AONB Partnership]
http://www.cotswoldsaonb.com/landscape_character_assessment/index.htm

Cotswold Canals Conservation Management Plan
[British Waterways/Cotswold Canals Partnership, March 2008]

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