

Camden Planning Guidance

# Sustainability

London Borough of Camden

CPG **3**



September 2013



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# 1 Introduction

## What is Camden Planning Guidance?

- 1.1 We have prepared this Camden Planning Guidance to support the policies in our Local Development Framework (LDF). This guidance is therefore consistent with the Core Strategy and the Development Policies, and forms a Supplementary Planning Document (SPD) which is an additional “material consideration” in planning decisions. This document was updated on 4 September 2013 following statutory consultation to clarify the guidance in Section 9 related to the Code for Sustainable Homes. The Camden Planning Guidance documents (CPG1 to CPG8) replace Camden Planning Guidance 2006.
- 1.2 The Camden Planning Guidance covers a range of topics as well as sustainability (such as design, housing, amenity and planning obligations) and so all of the sections should be read in conjunction, and within the context of Camden’s LDF.

## What is this sustainability guidance for?

- 1.3 The Council is committed to reducing Camden’s carbon emissions. This will be achieved by implementing large scale projects such as installing decentralised energy networks alongside smaller scale measures, such as improving the insulation and energy performance of existing buildings.
- 1.4 This guidance provides information on ways to achieve carbon reductions and more sustainable developments. It also highlights the Council’s requirements and guidelines which support the relevant Local Development Framework (LDF) policies:
  - CS13 - *Tackling climate change through promoting higher environmental standards*
  - DP22 - *Promoting sustainable design and construction*
  - DP23 - *Water*

**What does the guidance cover?**

- Energy statements
- The energy hierarchy
  - Energy efficiency – in new and existing buildings
  - Decentralised energy and combined heat and power (CHP)
  - Renewable energy
- Water efficiency
- Sustainable use of materials
- Sustainability assessment tools - Code for Sustainable Homes, BREEAM and EcoHomes
- Green roofs, brown roofs and green walls
- Flooding
- Climate change adaptation
- Biodiversity
- Urban food growing

## 3 Energy efficiency: new buildings

### KEY MESSAGES

All new developments are to be designed to minimise carbon dioxide emissions

The most cost-effective ways to minimise energy demand are through good design and high levels of insulation and air tightness.

This guidance covers:

- Stage 1 of the energy hierarchy; and
- How to ensure new buildings are as energy efficient as possible.

- 3.1 Stage 1 involves ensuring that the design of a development includes a range of low carbon techniques that will reduce its energy consumption.
- 3.2 Stages 2 and 3 of the energy hierarchy – Decentralised energy networks and combined heat and power and renewable energy are dealt with in sections 4 and 5 of this document.
- 3.3 Core Strategy policy CS13 – *Tackling climate change through promoting higher environmental standards* encourages developments to meet the highest feasible environmental standards that are financially viable during construction and occupation.

### WHAT WILL THE COUNCIL EXPECT?

All new developments are to be designed to minimise carbon dioxide emissions by being as energy efficient as is feasible and viable

### Energy efficient design techniques

- 3.4 Energy efficient design requires an integrated approach to solar gain, access to daylight, insulation, thermal materials, ventilation, heating and control systems. It is important you always consider these aspects in relation to each other when designing a scheme.
- 3.5 This section provides detailed guidance on all the ways you can design your building to be more energy efficient. It is split into four sections:
- Natural systems;
  - Thermal performance;
  - Mechanical systems; and
  - Other energy efficient technology.

### Natural systems

- 3.6 Designing natural systems into new buildings can make the most of naturally occurring energy, such as the heat and light from the sun.

**Making the most of sunlight**

- Consider locating principal rooms that require warmth and daylight on the south side of buildings to benefit from the sun's heat. Within 30 degrees of south is ideal.
- Consider any overshadowing from adjoining or of adjoining buildings and spaces that will reduce the amount of solar gain.
- Consider the possibility of including renewable energy technologies, for example by including a flat or south facing roof for solar panels.

**Making the most of daylight**

- Maximise the amount daylight while minimising the need for artificial lighting.
- Carefully design windows to maximise the amount of sunlight entering rooms to meet the needs of the intended use.
- Daylight is dependent on the amount of open, un-obscured sky available outside a window, the amount of sunshine and the amount of light reflected from surrounding surfaces.
- The size, angle and shape of openings together with room height depth and decoration determine the distribution of daylight.

3.7 More information on daylight and sunlight can be found in CPG6 Amenity.

**Preventing overheating**

- 3.8 Some developments may experience too much sunlight in the summer, therefore you should achieve a balance between benefitting from solar gain and preventing over heating. To prevent over heating:
- Locate any spaces that need to be kept cool or that generate heat on the north side of developments.
  - Use smaller windows on the south elevation and larger windows on the north.
  - Use shading measures, including balconies, louvers, internal or external blinds, shutters, trees and vegetation. Any shading needs to be carefully designed to take into account the angle of the sun and the optimum daylight and solar gain.
  - Include high performance glazing e.g. triple glazed windows, specially treated or tinted glass.
  - Make use of overshadowing from other buildings.
  - Include green and brown roofs and green walls which help to regulate temperature. See section 9 of this guidance on brown roofs, green roofs and green walls for more information.

**Natural ventilation**

- Natural ventilation includes openable windows, the 'stack effect' system where pressure differences are used to draw air through a building (see Figure 1) and, double layers, where one layer has



openable windows where air can flow freely. These systems allow air to be drawn through a building and can operate in tall buildings. Careful design of the space is required as air flows are impeded by walls and partitioning.

- Room layouts, shallow floor plans and high floor to ceiling heights all help the natural ventilation of buildings

### Natural cooling

- Can be created by shading, the evaporation effect from trees and other vegetation including green roofs and walls which naturally cool the environment. See section 9 for more guidance on green roofs.

#### WHAT INFORMATION DOES THE COUNCIL REQUIRE?

- A full model of the building should be carried out to ensure the building design optimises solar gain and daylight without resulting in overheating for developments comprising 5 dwellings or more or 500sq m or more of any floorspace
- Consider maximising the use of natural systems within buildings before any mechanical services are considered

### Thermal performance

- 3.9 The thermal performance of a building relates to the amount of heat that is retained inside and the amount that is lost to the outside air. Ensuring a high thermal performance is one of the most effective ways to ensure your development is energy efficient.

#### Insulation

- 3.10 A high level of insulation is the most effective way to ensure new buildings are energy efficient. Use insulation with low overall heat transfer coefficient (U-value). See the Energy Savings Trust's Insulation materials chart for details on the thermal performance of various materials.

##### U-value

The rate at which heat transfers through a building material. The lower the U-value, the better the insulator.

- 3.11 Consider how the insulation is attached to the building structure or walls. If a joint is badly insulated or if the material is penetrated by materials that conduct heat such as metal nails, it could cause cold patches and reduce the efficiency of the insulation. Ensure special attention is given to these potential heat loss areas to prevent cold bridging and potential points of condensation.

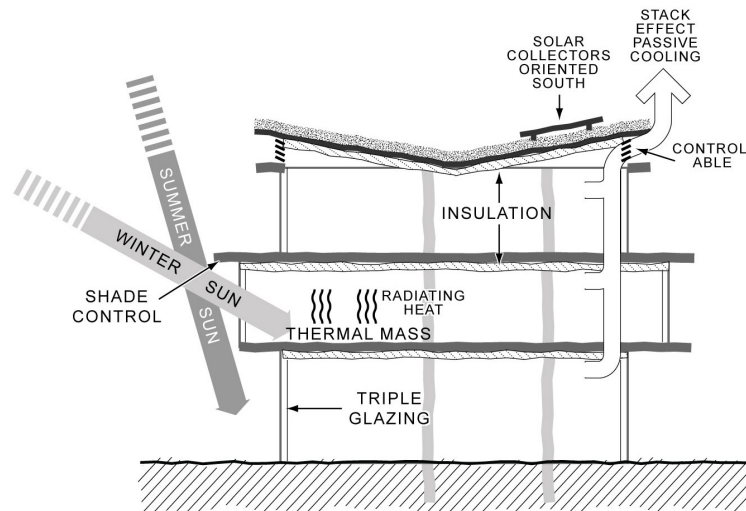
##### Cold bridging

Cold bridging occurs on a surface where one material loses heat faster than other, for example, through a concrete frame or a metal nail.

### Materials with thermal properties

- 3.12 Materials with a high thermal mass e.g. concrete absorb and retain heat produced by the sun. These materials can be used to regulate indoor temperatures, especially to keep inside spaces cool during the day. Where heat is generated from within a building, exposed areas of thermal mass within the building can be used to transmit heat out of a building as the outdoor temperature drops.
- 3.13 Figure 11 below shows how heat from the sun can be absorbed by the thermal mass material and be released over time to help keep the building warm and insulated

Figure 1. Natural system principles



### Thermal buffers

- 3.14 Porches, atriums, conservatories, lobbies and sheltered courtyards are useful 'thermal buffers'. You can design these features to prevent excessive heat loss from doors and windows by providing a transition between the cold outside and the warm inside of a building.
- 3.15 Insulation is central to low energy construction but it must be installed without any gaps to ensure a building is air tight to reduce heat loss. In some buildings around half of all heat losses are due to air leakage throughout the building materials.
- 3.16 To achieve air tightness, buildings must be designed with a continuous seal around the internal materials to eliminate unwanted draughts. Once the seals are in place, they ensure that the insulation can function to its optimum performance, saving energy and drastically reducing carbon emissions for the lifetime of the building.

**Air tightness**

Air tightness is the control of air leakage, i.e. the elimination of unwanted draughts and holes through the external materials of the building. It is measured by the rate at which air passes through a building (m<sup>3</sup>/m<sup>2</sup>/h)

- 3.17 Particularly air tight buildings may need to include a specialised ventilation system to ensure that naturally pre-heated fresh air is circulated through all the rooms without losing heat. See the section on Mechanical systems below for more information on Mechanical Ventilation with Heat Recovery (MVHR).

**Mechanical systems**

- 3.18 Mechanical systems are generally required by the Building Regulations to enable buildings to be occupied. These systems vary from simply extraction fans in kitchens and bathrooms to whole office cooling systems. The Council will expect applicants to consider the following when choosing mechanical systems:

**Efficient heating**

- Use heating systems that run using gas as they are generally more carbon efficient than systems which use electricity. Gas systems can also be designed so that they can be connected to a decentralised heating network.
- Locating plant e.g. pipes, flues, machinery, close to where the heat is required ensures a lower level of energy for pumping.
- A community heating scheme, where appropriate e.g. Combined Heat and Power (see section 4 of this guidance on Decentralised energy and combined heat and power for more information)
- Avoiding electric heating systems unless there is no access to a gas connection, or where heating is required for very short periods in isolated locations

**WHAT INFORMATION DOES THE COUNCIL REQUIRE?**

- Any development proposing electric heating (including heat pumps) will need to demonstrate the carbon efficiency of the proposed heating system. Specifications of the electric heating system and calculations will need to be provided to demonstrate that the proposed electric heating system would result in lower carbon dioxide emissions than an efficiency gas fuelled heating system.

**Efficient ventilation and cooling**

- Mechanical Ventilation with Heat Recovery (MVHR) conserves energy by recovering heat from stale warm air leaving a building and transferring the heat to the cooler incoming air.
- Water based cooling systems reduce the need for air conditioning by running cold water through pipes in the floor and/or ceiling to cool the air.

- Ground source cooling.
- Evaporation cooling which cools air through the simple evaporation of water.
- Exposed concrete slabs.
- The natural 'stack effect' which draws cool air from lower levels whilst hot air is released.

3.19 For some uses such as laboratories, where sterile conditions are essential, natural ventilation will not be required. These rooms should be located to minimise the heating or cooling required and close to the plant to limit the energy required by fans and pumps.

#### WHAT INFORMATION DOES COUNCIL REQUIRE?

- Where traditional mechanical cooling e.g. air conditioning units are proposed applicants must demonstrate that energy efficient ventilation and cooling methods have been considered first, and that they have been assessed for their carbon efficiency.
- NB: Air source heat pumps will be considered to provide air conditioning in the summer unless it can be demonstrated that the model chosen is not capable of providing cooling.

#### Other energy efficient technology

- In the average home, lighting accounts for around 20% of the electricity bill. In some developments it can be one of the highest energy consumers and can generate large amounts of heat that is wasted.
- High efficiency lighting with controlled sensors e.g. timers, movement sensors and photo sensors, which adjust the brightness of the light depending on the natural light level.
- Zoned lighting, heating and cooling with individual control.
- Specifying appliances which are A+ rated.
- Efficient mechanical services system or a building management system – computer systems which control and monitor a building's mechanical and electrical equipment. Their main aim is to control the internal environment, but in doing so can also reduce the energy consumption of a building.
- Using heat recovery systems.
- Energy monitoring, metering and controls should be used to inform and facilitate changes in user behaviour.

#### Heat recovery system

A heat recovery system uses heat leaving a building or generated as waste from mechanical operations to pre-heat fresh air entering a building

### What is considered best practice?

- 3.20 Policy 5.2 *Minimising carbon dioxide emissions* of the Draft Replacement London Plan introduces a carbon dioxide reduction target for new development to make a 25% improvement on the current 2010 Building Regulations:
- 2010 – 2013 25 per cent
  - 2013 – 2016 40 per cent
  - 2016 – 2031 Zero carbon
- 3.21 The following standards focus on improving a building's fabric to achieve best practice U-values over and above current Building Regulations. The Council considers that the standards below are feasible in all but exceptional circumstances to meet the new London Plan targets and the Energy Saving Trust (EST) guidance on energy efficiency to achieve Level 4 of the Code for Sustainable Homes. There are other ways to reduce the energy efficiency of a building as set out in the first part of this section.
- 3.22 The table below generally relates to residential developments, however the building fabric standards are also applicable to commercial developments. For all developments a balance will need to be reached between the need to retain heat, the heat generated within a development and the need to remove excess heat.

#### Standards

External wall	0.20
Roof	0.13
Floor	0.20
Windows	1.50 British Fenestration Rating Council band B or better
Doors	1.00 (solid) 1.50 (glazed)
Air tightness	3.00 (m <sup>3</sup> /h.m <sup>2</sup> at 50 Pa)
Proportion of energy efficient lighting	100%
Code for Sustainable Homes	Developments should achieve 50% of the un-weighted credits in the Energy category (See section 8 on sustainability assessment tools for more details relating to the Code for Sustainable Homes).
BREEAM	Developments will be expected to achieve 60% of the un-weighted credits in the Energy category of their BREEAM assessment. (See section 8 on sustainability assessment tools for more details relating to BREEAM).

Thermal insulation measured in U-Values (W/m<sup>2</sup>.K)

### **What is carbon offsetting?**

- 3.23 Where the new London Plan carbon reduction target in policy 5.2 (set out in paragraph 2.20) cannot be met onsite, we may accept the provision of measures elsewhere in the borough or a financial contribution which will be used to secure delivery of carbon reduction measures elsewhere. This process is known as carbon offsetting.

### **What does zero-carbon mean?**

- 3.24 The government has set out a timetable for residential development to be zero carbon by 2016, public buildings by 2018 and non-residential development to be 'zero carbon' by 2019. The Council has reflected these ambitions in Development Policy DP22 – *Promoting sustainable design and construction* by using a stepped approach to the requirements for achieving higher levels of the Code for Sustainable Homes. Buildings built or refurbished today will be competing with low and 'zero-carbon' buildings in the near future. For commercial buildings this could have a particular impact on their future letability and value as new commercial buildings are anticipated to be zero carbon from 2019.
- 3.25 To determine how developments should meet the 'zero carbon' standard the Zero Carbon Hub has developed an energy efficiency standard for all new homes (currently awaiting government approval). For more information see the Zero Carbon Hub website [www.zerocarbonhub.org](http://www.zerocarbonhub.org)

### **What does PassivHaus mean?**

- 3.26 PassivHaus is a specific design and construction standard from Germany that can result in a 90% reduction in energy demand and usage. It can be applied to both commercial and residential buildings. Core Strategy policy CS13 - *Tackling climate change through promoting higher environmental standards* notes that PassivHaus is an example of energy efficiency principles.
- 3.27 To be PassivHaus buildings must meet the following criteria:
- the total energy demand for space heating and cooling is less than 15 kWh/m<sup>2</sup>/yr of the treated floor area;
  - the total primary energy use for all appliances, domestic and hot water and space heating and cooling is less than 120 kWh/m<sup>2</sup>/yr
- 3.28 PassivHaus' are designed using a special software package called the PassivHaus Planning Package (PHPP) and regional climate data.
- 3.29 The Council will be supportive of schemes that aim to PassivHaus standards, subject to other policy and design considerations. More information can be found on the PassivHaus website - [www.passivhaus.org.uk](http://www.passivhaus.org.uk)

**Further information**

The London Plan	Sustainable Design and Construction: Supplementary Planning Guidance, Mayor of London provides detailed guidance on the energy hierarchy.
The Energy Saving Trust	Provides detailed guidance on the specification of new homes to reduce energy consumption. The Energy Saving Trust has developed a range of guidance and technical documents to help meet the energy performance requirements of the Code for Sustainable Homes and assess a range of materials and technologies for their thermal and carbon dioxide emissions levels. A wide range of best practise documents and guidance can be found at <a href="http://www.energysavingtrust.org.uk">www.energysavingtrust.org.uk</a>
The Town and Country Planning Association (TCPA)	Has produced a guide titled 'sustainable energy by design'. Section 4.1 of that document focuses on the design and development process, and shows how sustainable energy can be incorporated into new development in line with the energy hierarchy. <a href="http://www.tcpa.org.uk">www.tcpa.org.uk</a>
Building Regulations	Approved Documents – Part L - Conservation of Fuel and Power. This section of the Building Regulations deals specifically with the energy efficiency of buildings. The latest version of the Regulations can be found on the Planning Portal website: <a href="http://www.planningportal.gov.uk">www.planningportal.gov.uk</a>
The Zero Carbon Hub	Has a lead responsibility for delivering homes to zero carbon standards by 2016. It has produced guidance on energy efficiency standards for new homes. <a href="http://www.zerocarbonhub.org">www.zerocarbonhub.org</a>





## 10 Brown roofs, green roofs and green walls

### KEY MESSAGES

All developments should incorporate green and brown roofs

The appropriate roof or wall will depend on the development, the location and other specific factors

Specific information needs to be submitted with applications for green/brown roofs and walls

- 10.1 As development densities increase, brown roofs, green roofs and green walls can provide valuable amenity space, create habitats and store or slow down the rate of rain water run-off, helping to reduce the risk of flooding.
- 10.2 Green and brown roofs can help to reduce temperatures in urban environments. This is particularly valuable in Camden where we suffer from increased temperatures in Central London (known as the urban heat island effect).
- 10.3 Development Policy DP22 states that schemes must incorporate green or brown roofs and green walls wherever suitable. Due to the number of environmental benefits provided by green and brown roofs and green walls, where they have not be designed into a development the Council will require developers to justify why the provision of a green or brown roof or green wall is not possible or suitable.

### WHAT WILL THE COUNCIL EXPECT?

The Council will expect all developments to incorporate brown roofs, green roofs and green walls unless it is demonstrated this is not possible or appropriate. This includes new and existing buildings. Special consideration will be given to historic buildings to ensure historic and architectural features are preserved.

### What are green and brown roofs?

- 10.4 Green and brown roofs are roofs that are specially designed and constructed to be waterproof and covered with material to encourage wildlife and to help plants grow. They can be left without planting - 'brown' or planted with a range of vegetation - 'green' depending on the depth or the soil or substrate.

#### Substrate

Substrate is a layer of material which supports the roots and sustains the growth of vegetation.

There are three main types of green and brown roof:

1. Intensive roofs

2. Semi intensive roofs
3. Extensive roofs.

The general features of these roofs are shown below:

	Extensive	Semi Intensive	Intensive
<b>Use</b>	Ecological Landscape	Garden/Ecological Landscape	Garden/Park
<b>Type of vegetation</b>	Mosses, Herbs, Grasses	Grasses-Herbs-Shrubs	Lawn, Perennials, Shrubs & Trees
<b>Depth of Substrate</b>	60-200mm	120-250mm	140-400mm
<b>Weight</b>	60-150 kg/m <sup>2</sup>	120-200 kg/m <sup>2</sup>	180-500 kg/m <sup>2</sup>
<b>Maintenance requirement</b>	Low	Periodic	High

### Intensive roofs

- 10.5 Intensive roofs provide the widest range of uses such as for accessible amenity space or to create ecological habitats. They are known as 'intensive' due to the high level of design, soil or substrate depth and maintenance that they require. They can also be used to manage water by including systems that process wastewater or store surplus rain water. They can also be designed specifically for food production.

### Semi Intensive roofs

- 10.6 Semi Intensive Roofs can provide a degree of access and the potential for the creation of habitat. Similar water management functions can be integrated into their design as outlined above.

### Extensive roofs

- 10.7 Extensive Roofs are generally light weight, with a thin layer of substrate and vegetations. They can be further sub divided into 3 types:

#### 1. Sedum Roofs:

These either take the form of Sedum mats or plug planted Sedum into a porous crushed brick material. Sedum roofs are relatively light weight and demand low levels of maintenance. They can be more readily fitted on to existing roofs.

#### **Sedum**

Sedum is a type of vegetation. They are generally short plants with shallow roots and thick leaves.

## 2. Brown roofs for biodiversity:

Brown roofs should create habitats mimicking local brownfield sites by using materials such as crushed brick or concrete reclaimed from the site. However, these materials are very heavy and cannot hold water for irrigation. Therefore it is preferable to use materials of known quality and water holding capacity. The brown roof is then planted with an appropriate wild flower mix or left to colonise naturally with areas of dead wood or perches for birds.

## 3. Green roofs for biodiversity:

Green roofs are usually formed by planting a wild flower mix on an appropriate layer of material. There are various techniques for the creation of this type of roof.

## What are green walls?

- 10.8 Green Walls are walls or structures attached to walls where plants have been planted. Plants can be planted directly into a material within the wall or can be planted in the ground or a pot and encouraged to climb up a structure so that the wall is covered with vegetation.

Green walls provide a number of benefits:

- They provide useful habitat for invertebrates which in themselves provide a food source for birds and bats. Dense foliage provides nesting sites for a number of birds such as robin, wren and blackbirds
- evergreen, climbing plants provide insulation and can reduce wind chill during winter months
- climbing plants provide shade which can help to cool a building in summer, particularly when grown on south and western facing walls.
- climbing plants can also be effective in trapping airborne pollutants
- provide visual interest adding colour and texture to the wall surface



Green wall can be split into 3 main types:

1. Self clinging climbers such as Ivy, Russian Vine and Virginia Creeper. These plants are able to grow directly onto the wall surface.
2. Climbers which need support e.g. Honeysuckle and Jasmine. Supports are usually provided by trellis structures, wires etc. Well designed trellis or cable structures can become design features in themselves.

3. Vertical Systems (also known as Living Walls, Vertical Gardens). These walls are called 'systems' as they are made up of modular panels designed to support plant growth and require a feeding and watering system. The modules themselves are supported on or within a steel framework. Watering systems and a plant nutrient supply is incorporated into these systems requiring ongoing maintenance. The planted panels can be designed with a variety of plants depending on the aesthetic and habitat requirements of a project.

### **What to consider when choosing green roof or brown roof or green wall**

- 10.9 Selecting the appropriate type of green/brown roof or wall type will depend on a number of factors including:
- the type of building
  - cost
  - maintenance
  - weight of the roof or wall
  - provision of amenity space
  - provide visual interest to surrounding building occupants
  - habitat creation
  - reduction of rain water run off
  - reduction of heating and cooling energy usage of a building
  - water conservation and recycling
  - space for food production (see section 14 of this guidance on urban food production).

### **What will the Council consider when assessing applications?**

- 10.10 All developments should aim to incorporate green or brown roofs and green walls. Careful consideration needs to be given to the design of the roofs and any blank walls to enable the incorporation of these features and the need to access these areas for maintenance.
- 10.11 The Council will expect green or brown roofs and green walls to be provided in areas with low levels of vegetation, such as town centres and Central London, which are both more likely to feel the effects of climate change and developments where occupiers will be susceptible to overheating such as schools and offices. (See Camden Core Strategy policy CS15 - *Protecting and improving our parks and open spaces and encouraging biodiversity*).
- 10.12 The assessment of planning applications incorporating green/brown roofs and green walls will be made based on appropriateness for the site, the degree to which the chosen design objectives are met by the proposal and sustainable maintenance. Where green roofs are to be accessible for amenity purposes potential overlooking and loss of

privacy to adjoining properties will also be assessed (See the Overlooking, privacy and outlook section of the CPG6 Amenity)

10.13 The most appropriate green or brown roof and green wall should be incorporated into a development. We will consider the following factors when determining the most appropriate form of roof and wall:

- the loss of any biodiversity habitat on the site and the surrounding area;
- the existing need for habitat on the site and surrounding area;
- whether the site is overlooked;
- whether the site is an area that has historically suffered from surface water flooding;
- the amount of external heat generated by the development;
- whether the roof is to be accessible;
- the location of mechanical plant;
- the inclusion of areas of blank wall;
- access to walls and roofs;
- where being retro-fitted, the weight of the new roof or wall; and
- the amount of irrigation and maintenance required.

**WHAT INFORMATION WILL THE COUNCIL EXPECT?**

- a statement of the design objectives for the green or brown roof or green wall
- details of its construction and the materials used, including a section at a scale of 1:20
- planting details, including details of the planting technique, plant varieties and planting sizes and densities.
- a management plan detailed how the structure and planting will be maintained

**Further information**

The Environment Agency	The EA has a green roof toolkit that can be used to help you determine what solution is best for your development <a href="http://www.environment-agency.gov.uk/business/sectors/91967.aspx">www.environment-agency.gov.uk/business/sectors/91967.aspx</a>
“Living Roofs: Promoting green roofs, roof terraces and roof gardens across London”	GLA document which highlights the significant role that the roof space on buildings have to play in providing amenity space, increased biodiversity and improved building performance in terms of energy conservation and SUDS.
LivingRoofs.org	Provides detailed information on all the types of green and brown roofs as well as case studies, articles and research. <a href="http://www.LivingRoofs.org">www.LivingRoofs.org</a>
National Centre of Excellence for green roofs	This website has a wide range of information on green roofs, including best practice, guidance, research and case studies. <a href="http://www.greenroofcentre.co.uk">www.greenroofcentre.co.uk</a>

Camden Planning Guidance

# Amenity

London Borough of Camden

CPG 6







## CPG6 Amenity

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# 1 Introduction

## What is Camden Planning Guidance?

- 1.1 We have prepared this guidance to support the policies in our Local Development Framework (LDF). It is therefore consistent with the Camden Core Strategy and Development Policies, and is a formal Supplementary Planning Document (SPD) which is an additional “material consideration” in planning decisions. This guidance will replace Camden Planning Guidance 2006, updating advice where appropriate and providing new guidance on matters introduced or strengthened in the LDF.
- 1.2 Camden Planning Guidance covers a range of topics (such as design, housing, sustainability and planning obligations) and all of sections should be read in conjunction with, and within the context of, Camden’s other LDF documents.

## Amenity in Camden

- 1.3 A key objective of the Camden Core Strategy is to sustainably manage growth so that it avoids harmful effects on the amenity of existing and future occupiers and to nearby properties.

## What does this guidance cover?

- 1.4 This guidance provides information on all types of amenity issues within the borough and includes the following sections:
  1. Air quality
  2. Contaminated land
  3. Noise and vibration
  4. Artificial light
  5. Daylight and sunlight
  6. Overlooking, privacy and outlook
  7. Construction management plans
  8. Access for all
  9. Wind and micro-climate
  10. Open space, outdoor sport and recreation facilities

- 1.5 This guidance supports the following Local Development Framework policies:

## Camden Core Strategy

- CS5 - Managing the impact of growth and development
- CS15 - Protecting and improving our parks and open spaces & encouraging biodiversity
- CS16 - Improving Camden’s health and well-being

### **Camden Development Policies**

- DP26 - Managing the impact of development on occupiers and neighbours
- DP28 - Noise and vibration
- DP31 - Provision of, and improvements to, public open space and outdoor sport and recreation facilities
- DP32 - Air quality and Camden's Clear Zones

## 6 Daylight and sunlight

### KEY MESSAGES:

- We expect all buildings to receive adequate daylight and sunlight.
- Daylight and sunlight reports will be required where there is potential to reduce existing levels of daylight and sunlight.
- We will base our considerations on the Average Daylight Factor and Vertical Sky Component.

6.1 Access to daylight and sunlight is important for general amenity, health and well-being, for bringing warmth into a property and to save energy from reducing the need for artificial lighting and heating. The Council will carefully assess proposals that have the potential to reduce daylight and sunlight levels for existing and future occupiers.

6.2 This guidance relates to:

- Camden Core Strategy policy CS5 - *Managing the Impact of Growth and Development*;
- Core Strategy policy CS14 - *Promoting high quality places and conserving our heritage*; and
- Policy DP26 – *Managing the impact of development on occupiers and neighbours* of the Camden Development Policies.

DP26 sets out how the Council will protect the quality of life of building occupiers and neighbours by only granting permission for development that does not cause harm to amenity.

### **When will a daylight/sunlight report be required?**

6.3 The Council expects that all developments receive adequate daylight and sunlight to support the activities taking place in that building.

6.4 A daylight and sunlight report should assess the impact of the development following the methodology set out in the most recent version of Building Research Establishment's (BRE) "Site layout planning for daylight and sunlight: A guide to good practice". Reports may be required for both minor and major applications depending on whether a proposal has the potential to reduce daylight and sunlight levels. The impact will be affected by the location of the proposed development and its proximity to, and position in relation to, nearby windows.

### WHAT DOES THE COUNCIL REQUIRE?

The Council will require a daylight and sunlight report to accompany planning applications for development that has the potential to reduce levels of daylight and sunlight on existing and future occupiers, near to and within the proposal site.

Daylight and sunlight reports should also demonstrate how you have taken into consideration the guidance contained in the BRE document on passive solar design; and have optimised solar gain. Please refer to the BRE guidance on daylight and sunlight.

- 6.5 While we strongly support the aims of the BRE methodology for assessing sunlight and daylight we will view the results flexibly and where appropriate we may accept alternative targets to address any special circumstances of a site. For example, to enable new development to respect the existing layout and form in some historic areas. This flexible approach is at the Council's discretion and any exception from the targets will be assessed on a case by case basis.

#### Daylight

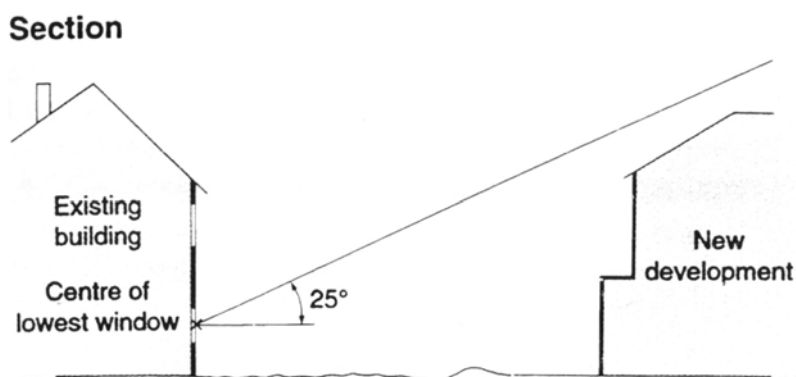
- 6.6 We will aim to minimise the impact of the loss of daylight caused by a development on the amenity of existing occupiers and ensure sufficient daylight to occupiers of new dwellings taking in account overall planning and site considerations. If your proposal will have an unreasonable impact on amenity the planning application will be refused. When assessing daylight issues, we will use the guidelines and methods contained in the BRE's *Site layout planning for daylight and sunlight: A guide to good practice*.
- 6.7 There are two quick methods that can be used to assess access to daylight:

#### Daylight to new development

- project a 25 degree line, starting 2m above ground level from a wall of your proposed development;
- if none of the existing surrounding buildings extend above this line, then there is potential for good daylighting to be achieved in the interior of your new development.

#### Daylight to existing development

- project a 25 degree line from the centre of the lowest window on the existing building;
- if the whole of your new development is lower than this line then it is unlikely to have a substantial effect on the daylight enjoyed by occupants in the existing building.



Source: BRE, Site layout planning for daylight and sunlight: A guide to good practice.

- 6.8 For either test, if buildings extend above the 25 degree line a more detailed test needs to be carried out to fully assess either the loss of daylight in existing buildings or the level of daylight achievable in the new development. The two most common measurements of daylight of the more detailed test are the Vertical Sky Component (VSC) and the Average Daylight Factor (ADF).

**Vertical Sky Component**

The amount of light striking the face of a window

- 6.9 The Vertical Sky Component is expressed as a ratio of the maximum value of daylight achievable for a completely unobstructed vertical wall. The maximum value is almost 40%. This is because daylight hitting a window can only come from one direction immediately halving the available light. The value is limited further by the angle of the sun. This is why if the VSC is greater than 27% enough sunlight should be reaching the existing window. Any reduction below this level should be kept to minimum.
- 6.10 Windows to some existing rooms may already fail to achieve this target under existing conditions. In these circumstances it is possible to accept a reduction to the existing level of daylight to no less than 80% of its former value. Any greater reduction than this is likely to have a noticeable affect on amenity. If this occurs then applications may be refused.

**Average Daylight Factor**

Average Daylight Factor is a measure of the level daylight in a room. It can be used to establish whether a room will have a predominantly daylight appearance. It provides light levels below which a room should not fall even if electric lighting is provided.

- 6.11 The Average Daylight Factor can be used as a measure to determine whether a room will receive adequate daylight (expressed as a percentage). The ADV takes into account the:
- net glazed area of windows;

- the total area of the room surfaces (ceiling, floor, walls, and windows);
  - the average reflectance; and
  - the angle of visible sky.
- 6.12 If a predominately daylit appearance is required, then the daylight factor should be 5% or more if there is no supplementary electric lighting, or 2% or more if supplementary electric lighting is provided. This figure should be as high as possible to enable occupiers to rely on as much natural light and not use artificial lighting, but as a minimum for dwellings the figures should be 2% for kitchens, 1.5% for living rooms and 1% for bedrooms.
- 6.13 These minimum figures may not be applicable when measuring the impact of new buildings on existing dwellings as the simple preservation of minimum ADFs will not necessarily be seen as an indication of acceptability, especially if the VSC demonstrates a significant worsening in daylight levels. For existing dwellings the Council will consider the overall loss of daylight as opposed to the minimum acceptable levels of daylight. As the BRE guidance suggests, the readings will be interpreted flexibly as their aim is to support rather than constrain natural lighting. However, daylight is only one of the many factors in site layout design. Therefore, when applying these standards in Camden, we will take into consideration other site factors and constraints.
- 6.14 The calculation of the VSC and the ADF is complex. For full details on how these calculations are carried out you should refer to the most up to date version the BRE's "Site layout planning for daylight and sunlight: A guide to good practice". For more complex and larger developments we will expect a daylight study to be submitted with the planning application showing the windows that will be affected and provide before development and post development figures for VSC and ADF.
- 6.15 Other methods can be used to measure daylight and these can be incorporated in daylight and sunlight reports, where necessary, as a supplement to VSC and ADF measurements, such as the No Sky Line (NSL) test contained within BRE guidance.

### **Sunlight**

- 6.16 The design of your development should aim to maximise the amount of sunlight into rooms without overheating the space and to minimise overshadowing.



**WHAT DOES THE COUNCIL EXPECT?**

New developments should be designed to provide at least one window to a habitable space facing within 90 degrees of south, where practical. This window should receive at least 25% of Annual Probable Sunlight Hours, including at least 5% of Annual Probable Sunlight Hours between 21 September and 21 March, where possible.

**Annual Probable Sunlight Hours**

The annual amount of sunlight a window receives in an average year.

- 6.17 The BRE's "Site layout planning for daylight and sunlight: A guide to good practice" provides guidance on access to sunlight in relation to:
- site layout, building orientation and overshadowing for new buildings;
  - protecting sunlight to existing buildings, and
  - new and existing gardens and open spaces.
- 6.18 Design for access to sunlight will be specific to the orientation of your site, and the specific design and uses within your proposed development. You should follow the detailed design requirements recommended in the "Sunlighting" section of the BRE document. The Council recognises that not all of the guidance contained within the BRE document, particularly orientation, can be adhered to in all developments due to the dense and constrained urban nature of Camden.

**Other considerations****Right to Light**

- 6.19 The right to light is a legal right which one property may acquire over the land of another. If a structure is erected which reduces the light to an unobstructed property to below sufficient levels this right is infringed. A right to light can come into existence if it has been enjoyed uninterrupted for 20 years or more, granted by deed, or registered under the Rights of Light Act 1959. Planning permission does not override a legal right to light, however where a right to light is claimed, this is a matter of property law, rather than planning law. The Council will have no role or interest in any private dispute arising and it will be for the owner or occupier affected to seek a legal remedy.

**Supporting documents**

- 6.20 For further information on daylight and sunlight please refer to:  
Building Research Establishment (BRE). Site layout planning for daylight and sunlight: A guide to good practice.  
Copies of this are available directly from BRE.

BRE Bookshop, 151 Roseberry Avenue, London, EC1R 4GB  
020 7505 6622  
brebookshop@emap.com  
[www.constructionplus.co.uk](http://www.constructionplus.co.uk)

## 7 Overlooking, privacy and outlook

### KEY MESSAGES:

- Development are to be designed to protect the privacy of existing dwellings;
- Mitigation measures are to be included when overlooking is unavoidable;
- Outlook from new developments should be designed to be pleasant;
- Public spaces benefit from overlooking as natural surveillance.

- 7.1 This section aims to ensure that when designing your development you successfully consider the potential impact on the privacy and outlook of neighbouring properties.
- 7.2 This guidance relates to Core Strategy policy CS5 Managing the Impact of Growth and Development and Core Strategy policy CS14 Promoting high quality places and conserving our heritage.
- 7.3 Policy *DP26 – Managing the impact of development on occupiers and neighbours* of the Camden Development Policies outlines how the Council will protect the quality of life of occupiers and neighbours by only granting permission for development that does not cause harm to amenity.

### Overlooking and privacy

- 7.4 Development should be designed to protect the privacy of both new and existing dwellings to a reasonable degree. Spaces that are overlooked lack privacy. Therefore, new buildings, extensions, roof terraces, balconies and the location of new windows should be carefully designed to avoid overlooking. The degree of overlooking depends on the distance and the horizontal and vertical angles of view. The most sensitive areas to overlooking are:
- Living rooms;
  - Bedrooms;
  - Kitchens; and
  - The part of a garden nearest to the house.

### WHAT IS GOOD PRACTICE?

To ensure privacy, there should normally be a minimum distance of 18m between the windows of habitable rooms of different units that directly face each other. This minimum requirement will be the distance between the two closest points on each building (including balconies).

- 7.5 Where this standard cannot be met we may require you to incorporate some of the following design measures into your scheme to ensure

overlooking is reduced to an acceptable level. Design measures to reduce the potential for overlooking and the loss of privacy include:

- Careful consideration of the location of your development, including the position of rooms;
- Careful consideration of the location, orientation and size of windows depending on the uses of the rooms;
- Use of obscure glazing;
- Screening by walls or fencing; and
- Screening by other structures or landscaping.

7.6 Where landscaping is used as a method of screening, arrangements for ongoing maintenance should be put in place and this may be secured by a planning condition.

7.7 Public spaces and communal areas will benefit from a degree of overlooking due to the increased level of surveillance it can provide.

### **Outlook**

7.8 Outlook is the visual amenity enjoyed by occupants when looking out of their windows or from their garden. How pleasant an outlook is depends on what is being viewed. For example, an outlook onto amenity space is more pleasant than an outlook across a servicing yard. You should design developments so that the occupiers have a pleasant outlook. You should screen any unpleasant features with permanent landscaping.

7.9 When designing your development you should also ensure the proximity, size or cumulative effect of any structures do not have an overbearing and/or dominating effect that is detrimental to the enjoyment of their properties by adjoining residential occupiers. You should carefully consider the location of bin or cycle stores if they are in close proximity to windows or spaces used by occupiers.

7.10 You should take particular care if your development adjoins properties with a single aspect over your development.

7.11 You should note that the specific view from a property is not protected as this is not a material planning consideration.

### **Further information**

*Better Places to Live: By Design - A companion guide to PPG3* (ODPM) makes number of design recommendations which recognise the importance of privacy in the home.

*Perceptions of Privacy and Density in Housing* report available from Design for Homes; 0870 416 3378 or [www.designforhomes.org](http://www.designforhomes.org). This report highlights some of the issues facing households living at higher densities, and the implications for future design of buildings.

## 8 Construction management plans

### KEY MESSAGES:

- Construction management plans are required for developments that are on constrained sites or are near vulnerable buildings or structures;
- They are essential to ensure developments do not damage nearby properties or the amenity of neighbours.

- 8.1 The purpose of this guidance is to give details on how construction management plans can be used to manage and mitigate the potential impacts of the construction phase of a development.
- 8.2 All construction and demolition work will cause at least some noise and disturbance. Where construction impact is particularly significant Camden will ensure it is managed through a legally binding construction management plan.
- 8.3 This guidance relates to Core Strategy Policy CS5 Managing the impact of growth and development and policies DP20 Movement of goods and materials, and DP26 Managing the impact of development on occupiers and neighbours of the Camden Development Policies.

### When does this guidance apply?

- 8.4 This guidance applies to all development proposals which, having regard to the nature of the surrounding area, are likely to give rise to significant noise and other disturbance during construction. Details on the circumstances in which the Council will expect construction management plans are set out within this guidance.

### How should construction management plans be prepared?

- 8.5 Camden's planning policies make it clear that the effect on local amenity and the highway network from construction and demolition is a material planning consideration. Construction management plans are used to set out the measures a developer should take (both on-site and off-site) in order to reasonably minimise and manage the detrimental effects of construction on local amenity and/or highway safety. Usually Camden will secure construction management plans through a Section 106 Agreement, although sometimes for less complicated schemes they may be secured by using a condition attached to planning permission.
- 8.6 Whilst construction management plans are a 'planning led' document they will incorporate mechanisms controlling planning considerations that overlap with other regulatory regimes (particularly highways and environmental protection). Hence, most construction management plans will be an umbrella document managing all impacts of the demolition, excavation and construction process.

- 8.7 Besides ensuring measures under these different regimes are coordinated in one document, construction management plans represent a proactive way of dealing with construction issues. They encourage developers to work with the Council and local people in managing the construction process with a view to ensuring that problems do not arise in the first place.

**Circumstances Camden will expect a construction management plan**

- 8.8 Whether a construction management plan is required for a particular scheme will be assessed on a case by case basis, although the Council will usually require a construction management plan for larger schemes (i.e. over 10 residential units or 1,000sq m of new commercial floorspace). However, occasionally a relatively large development will have comparatively little impact on its neighbourhood.
- 8.9 Conversely, small schemes on confined or inaccessible sites can have very significant impacts, particularly where the construction process will take place over a number of months (or even years) or outside normal working hours. When assessing smaller developments, special regard should be had to on-site factors that would seriously exacerbate the impact of the development works on the surrounding area. These could include development in residential areas, in close proximity to a school or a care home or very narrow or restricted site access (e.g. development in a mews with no footways). Regard will also be had to the nature and layout of a site. It will be much more difficult to fully absorb or contain the effects of demolition and construction in terms of noise, dust vibration etc within the boundaries of a small constrained site. Furthermore, lack of on-site space for plant, storage of materials and loading and unloading of construction may mean that construction effects will inevitably take place close to the boundary and spill out on to the highway network – a particular issue in much of Camden.
- 8.10 The types of schemes where a CMP will usually be appropriate include:
- Major developments (and some larger scale non major developments);
  - Development where the construction process has a significant impact on adjoining properties particularly on sensitive uses;
  - Developments which give rise to particular 'on-site' issues arising from the construction process (e.g. large scale demolition or complicated or intrusive remediation measures);
  - Basement developments;
  - Significant developments involving listed buildings or adjacent to listed buildings;
  - Developments that could seriously affect wildlife;
  - Developments that could cause significant disturbance due to their location or the anticipated length of the demolition, excavation or construction period;

- Development where site specific issues have arisen in the light of external consultation (where these are supported by objective evidence); and
- Development on sites where constraints arising from the layout or size of the site impact on the surrounding road network.

### **Contents of a construction management plan**

- 8.11 Any construction management plan will manage on-site impact arising from demolition and construction. It will also seek to establish control over construction traffic and how this integrates with other construction traffic in the area having regard to the cumulative effect.
- 8.12 A Section 106 or planning permission securing a construction management plan will contain provisions setting out in detail the measures the final version of the construction management plan should contain. Most construction management plans will be umbrella documents managing all impacts of the demolition, excavation and construction processes. This would include (but is not limited to) issues such as:
- Dust, noise and vibration on site and off site;
  - Traffic management highways safety and highways congestion;
  - Protection of listed buildings (if relevant);
  - Stability of adjacent properties;
  - Protection of any off-site features that may be damaged due to works;
  - Protection of biodiversity and trees; and
  - Preserve the amenity of surrounding residential and other sensitive uses.
- 8.13 A construction management plan is often split into two elements. The first element will be focussed on controlling environmental impacts, pollution and other non-highway related impacts arising from the scheme, having regard to the requirements of the Council's Considerate Contractor Manual and best practice guides from the GLA. In particular this will seek to control hours of operation and monitor and manage air quality, noise, dust and other emissions of other pollutants and location of equipment. The second element will be focussed on traffic control with a view to minimising disruption, setting out how construction work will be carried out and how this work will be serviced (e.g. delivery of materials, set down and collection of skips), with the objective of minimising traffic disruption and avoiding dangerous situations for pedestrians and other road users.
- 8.14 Sometimes the Section 106 will link the construction management plan with a requirement to convene a working group to act as a forum for the developer to meet with local residents and businesses to deal with construction issues as they arise.

- 8.15 Construction management plans will also have to be consistent with any other plans required for the development. For example, a Site Waste Management Plan, which is a legal requirement for works over a certain size which may require the re-use or recycling of materials on-site and therefore the construction management plan will have to reflect that space will be required to sort, store and perhaps crush or recycle materials.
- 8.16 The construction management plan should include the following statement:  
“The agreed contents of the construction management plan must be complied with unless otherwise agreed with the Council. The project manager shall work with the Council to review this construction management plan if problems arise in relation to the construction of the development. Any future revised plan must be approved by the Council and complied with thereafter.”

### **Transport considerations**

- 8.17 The details contained within a construction management plan will relate to the nature and scale of the development, however, in terms of assessing the impact on transport the plan should demonstrate that the following has been considered and where necessary the impacts mitigated:
- a) Start and end dates for each phase of construction;
  - b) The proposed working hours;
  - c) The access arrangements for vehicles;
  - d) Proposed routes for vehicles between the site and the Transport for London Road Network (TLRN). Consideration should also be given to weight restrictions, low bridges and cumulative effects of construction on the highway;
  - e) Sizes of all vehicles and the frequency and times of day when they will need access to the site, for each phase of construction;
  - f) Swept path drawings for any tight manoeuvres on vehicle routes to the site;
  - g) Details (including accurate scaled drawings) of any highway works necessary to enable construction to take place;
  - h) Parking and loading arrangements of vehicles and delivery of materials and plant to the site;
  - i) Details of proposed parking bays suspensions and temporary traffic management orders;
  - j) Proposed overhang (if any) of the public highway (scaffolding, cranes etc);
  - k) Details of any temporary buildings outside the site boundary, or overhanging the highway;
  - l) Details of hoardings required or any other occupation of the public highway;



- m) Details of how pedestrian and cyclist safety will be maintained, including any proposed alternative routes (if necessary), and any banksman arrangements;
- n) Details of how traffic associated with the development will be managed in order to reduce congestion;
- o) Arrangements for controlling the movements of large/heavy goods vehicles on and in the immediate vicinity of the site, including arrangements for waiting, turning and reversing and the provision of banksmen, and measures to avoid obstruction of adjoining premises.
- p) Details of any other measures designed to reduce the impact of associated traffic (such as the use of construction material consolidation centres);
- q) Details of how any significant amounts of dirt or dust that may be spread onto the public highway will be cleaned or prevented;
- r) Details of any Construction Working Group that may be required, addressing the concerns of surrounding residents, as well as contact details for the person responsible for community liaison on behalf of the developer, and how these contact details will be advertised to the community;
- s) A statement confirming registration of the site with the Considerate Constructors Scheme;
- t) How the servicing approach takes into consideration the cumulative effects of other local developments with regard to traffic and transport;
- u) Provision for monitoring of the implementation of the CMP and review by the council during the course of construction works;
- v) Any other relevant information with regard to traffic and transport; and

#### **Air quality and climate change considerations**

8.18 A method statement should be prepared and adopted as part of the construction management plan to minimise gaseous and particulate matter emissions generated during the Construction Phase. The following best practice measures shall be included in the method statement:

- Techniques to control PM<sub>10</sub> and NO<sub>x</sub> emissions from vehicles and plant;
- Techniques to control dust emissions from construction and demolition;
- Air quality monitoring; and
- Techniques to reduce CO<sub>2</sub> emissions from construction vehicles.

#### **How will we secure construction management plans?**

8.19 Generally a Section 106 agreement (rather than a condition) is the most appropriate mechanism for securing a construction management plan. For larger schemes or developments on constrained sites within heavily

built-up areas where building activities could materially affect the highway construction management plans will always be secured through Section 106s. While the use of conditions is normally preferred to Section 106 Agreements, conditions can only be used to control matters on land within the developer's control. The range of matters typically covered by a CMP, particularly in relation to highways, mean that a Section 106 Agreement will be necessary in most cases.

- 8.20 The level of detail contained in a typical Section 106 also lends itself to the tailored, site-specific approach Camden uses for construction management plans. However, the use of a condition to secure a construction management plan may be sufficient for sites where the building activities associated with the build out can be totally accommodated within the site itself, particularly where these are smaller schemes.