

Camden Planning Guidance

Design

London Borough of Camden

CPG **1**



September 2013

CPG1 Design

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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. The Council formally adopted CPG1 – Design on 6 April 2011 following statutory consultation. This document was updated on 4 September 2013 following statutory consultation to include Section 12 on artworks, statues and memorials. The Camden Planning Guidance documents (CPG1 to CPG8) replace Camden Planning Guidance 2006.
- 1.2 The Camden Planning Guidance covers a range of topics (such as housing, sustainability, amenity and planning obligations) and so all of the sections should be read in conjunction, and within the context of Camden’s LDF.

Design in Camden

- 1.3 Camden has many attractive and historic neighbourhoods as well as both traditional and modern buildings of the highest quality. These are a significant reason that the borough is such a popular place to live, work and visit. As well as conserving our rich heritage we should also contribute towards it by ensuring that we create equally high quality buildings and spaces which will be appreciated by future generations.
- 1.4 This objective of achieving high quality design does not just concern new development or large-scale schemes, but also includes the replacement, extension or conversion of existing buildings. The detailed guidance contained within this section therefore considers a range of design-related issues for both residential and commercial property and the spaces around them.



What does this guidance cover?

1.5 This guidance provides information on all types of detailed design issues within the borough and includes the following sections:

1. Introduction
2. Design excellence
3. Heritage
4. Extensions, alterations and conservatories
5. Roofs, terraces and balconies
6. Landscape design and trees
7. Shopfronts
8. Advertisements, signs and hoardings
9. Designing safer environments
10. Waste recyclables storage
11. Building services equipment
12. Artworks, statues and memorials

1.6 This guidance supports the following Local Development Framework policies:

Core Strategy

- CS14 Promoting high quality places and conserving our heritage
- CS15 Protecting and improving our parks and open spaces & encouraging biodiversity
- CS17 Making Camden a safer place
- CS18 Dealing with our waste and encouraging recycling

Development Policies

- DP24 Securing high quality design
- DP25 Conserving Camden's heritage
- DP27 Basements and lightwells
- DP30 Shopfronts

1.7 It should be noted that the guidance covered in this section only forms part of the range of considerations that you should address when proposing new development. In addition to these specific design matters you should also consider wider issues such as cycle storage, residential space standards, wheelchair housing, designing in sustainability measures and impacts on neighbours. Further guidance on these, and other issues, is contained within the Local Development Framework documents and the Camden Planning Guidance.

10 Waste and Recycling Storage

KEY MESSAGES

Planning for waste recycling and storage should ensure that developments accommodate:

- adequate space (designed) for the storage of waste and recyclables;
- safe location - accessible for all users and collectors and minimise nuisance to occupiers and neighbours (and their amenity space) e.g. noise, obstruction, odours, pests, etc;
- refuse collection for any waste contractor (and allow for reasonable changes to collection services in the future);
- containers should have designated storage areas; and
- sensitively designed/located, especially in conservation areas/or listed buildings.

- 10.1 This section seeks to ensure that appropriate storage for waste and recyclables is provided in all developments in Camden. Its key aim is to ensure that assists those involved in the design and management of buildings to best provide for the storage of waste and maximise the amount that can be sent for recycling.
- 10.2 This guidance relates to Core Strategy Policy – CS18 - Dealing with our waste and encouraging recycling and Development Plan Policies - DP26 – Managing the impact of development on occupiers and neighbours and DP22 – promoting sustainable design and construction.
- 10.3 The preceding section provides detailed guidance on the space requirements for both internal and external storage features – these are set out in two parts:

Residential developments – internal/external features

- 6 dwellings or fewer
- 7 dwellings or more

Non-residential and commercial development

- internal/external features



- 10.4 A summary table (Figure 13) for the locational requirements is provided as well details of additional considerations depending on the type of development.
- 10.5 This guidance applies to:
- all new build development;
 - development that significantly increases amount of floor space and on-site waste; and
 - other activities that significantly increases the amount of waste generated on-site.
- 10.6 This guidance does not cover construction and demolition waste, or hazardous waste. For further information on these topics please refer to CPG4 Sustainability, particularly the chapter Sustainable use of Materials and Hazardous substances and Construction Management Plans.

Guidance on standards for waste storage

- 10.7 This section provides detailed guidance on the requirements for both internal and external waste and recycling facilities to ensure designs allow sufficient space for the storage of waste and recyclable material in developments. To encourage occupants to recycle waste, internal storage areas should be designed into each unit of a new development. This will enable occupants to segregate their waste into refuse and recyclables, and store it temporarily, until it can be transferred to external bins.

Residential development of 6 dwellings or fewer

Space requirements

- 10.8 Residential development of 6 dwellings or fewer are usually serviced by a kerbside waste and recyclables collection. The designs for waste and recycling facilities need to ensure that:
- internal and external storage areas are designed into each unit;
 - internal space is provided for recycling storage, i.e. kitchens and utility rooms are generally the most appropriate locations;
 - storage for both mixed recyclables, organic kitchen waste and non-recyclable waste.
 - recycling waste storage comprises either a box or bag which are normally stored inside and taken to the kerbside on collection days;
 - organic waste (food) kitchen caddies are stored inside the property and emptied into larger external, free-standing organic waste receptacles;
 - external space for the storage of garden waste i.e. in large hessian sacks; and
 - external storage for both waste and recyclables outside the buildings within the curtilage (for waste collector).

Dwellings above shops

- 10.9 Dwellings above shops can only be provided with green recycling bags due to restricted access to them. Therefore, there must be sufficient letterbox space to post these bags through the letterbox to avoid recycling/waste bags being left on the pavement after collection. The Designs need to make adequate space for storage, outlined in Figure 13.

Figure 13. Waste Storage Requirements for new developments

Internal storage	External storage
<p>Mixed recyclables are collected in either:</p> <ul style="list-style-type: none"> • green bags/inserts (30 litre bin - W320 x H453 x D265) or from • green boxes (55 litre box - W445 x H375 x D585) <p>These must be provided in the same location as the bin for the non-recyclable waste; and or organic kitchen waste:</p> <ul style="list-style-type: none"> • 7 litre (W252 x H252 x D229) kitchen caddy 	<ul style="list-style-type: none"> • Adequate space for 27 litre external organic kitchen waste receptacle (W320 x D400 x H405)

Residential development of 7 dwellings or more

- 10.10 Collection services for developments with 7 or more residential dwellings vary depending on the individual circumstances of the premises. The design of the building and space requirements will be determined on a case-by-case basis by the Council's Street Environment Service - and need to be consulted prior to lodging an application. For this type of development a kerbside collection is preferred, where possible. For external storage requirements, the guidance for Residential development of 6 or fewer units (see Figure 16) should be used.

Space requirements

- 10.11 Internal storage:

Developments this size needs to ensure that Internal storage, i.e.:

- be located in an accessible and communal area inside each dwelling;
- the location should also be easily accessible from external storage areas, near to areas of high waste production, and hard wearing and washable - kitchens and utility rooms are generally the most appropriate; and
- recyclables must be able to be separated at the source, and dwellings should be provided with capacity for receptacles for each recyclable component (including food waste), according to the separation at the relevant "bring" facility e.g. glass (3 banks as colour separated at

source – clear, green, brown), cans, plastic bottles, paper (single banks for mixed collections), etc, and for non-recyclable waste.

10.12 Space considerations:

- provide for both mixed recyclables, organic kitchen waste and non-recyclable waste; and
- storage for recycling must have at least twice, if not three times, the capacity of storage for non-recyclable waste to account for the separation requirements and the frequency of removal from the dwelling.

10.13 External storage - by rooms per dwelling:

- Must be provided to allow for recyclables and waste that is expected to be produced by the size of development. For external storage requirements, Figure 16 should be used.

Figure 14. Amount of internal storage space required by the number of rooms in dwelling

Number of habitable rooms in dwelling	Capacity of external storage space required for that dwelling (for weekly collection)
1	0.15 m ³
2	0.20 m ³
3	0.25 m ³
4	0.30 m ³
5	0.35 m ³
6	0.40 m ³

NB: The figures include both recyclable and non-recyclable waste

External Bins for waste and recycling storage:

10.14 Bins for waste and recycling storage vary in size and an appropriate combination must be provided to accommodate the needs of the development.

10.15 The following is a summary of the bins currently used in waste and recyclables storage to provide a guide to the space requirements.

10.16 Normally, recycling bins are provided in one of the following combinations:

- 5 x 1280L Eurobin (separated recyclables);
- 5 x 360L Wheelie Bin (separated recyclables);
- 1 or 2 x 1280L Eurobin (mixed recyclables).

10.17 Consultation must be undertaken with Camden Street Environment Services to confirm the bin requirements and standards:

Figure 15. Storage containers and dimensions

Bin Type	Use	External Dimensions mm H x L x D (H + open lid)
360L Wheelie Bin	Recyclables	1100 x 650 x 880
240L Wheelie Bin	Food Waste	1070 x 580 x 740
500L Eurobin	Food Waste	1145 x 1305 x 745
Wheelie bin housing (Broxap)	Food Waste	1290 x 650 x 750
660L Eurobin	Non-recyclable waste	1310 x 1260 x 730 (2040)
1100L Eurobin	Recyclables or non- recyclable waste	1370 x 1260 x 990
1280L Eurobin	Recyclables or non- recyclable waste	(2360)
Paladin	Non-recyclable waste	1610 x 900 diameter
940L Box Paladin	Non-recyclable waste	1500 x 1020 x 975

(NB: This list, including the bin dimensions, is subject to change. It is only to be used for preliminary design purposes)

Non-residential and commercial buildings

- 10.18 The volume of waste generated and thus the number and type of containers that a commercial development requires is ultimately dependent on the use of the building. Where an extension or change of use to an existing property is proposed, this may result in the removal of existing container storage areas, typically, to the rear of a property. This may be acceptable provided that an alternative storage area is designated as part of the proposed development, in line with this guidance. For external storage requirements, Figure 16 should be used.

Space requirements

- Internal collection and storage points should always be considered for all types of waste to maximise the amount of recyclable material.
- External storage must be provided in most cases. As a guide, approximately one cubic metre storage space is required for every 300-500sq m of commercial space (includes both recyclable and non-recyclable waste). Storage space must be designed to accommodate bins to hold this amount of waste, separated, and should be designed in consultation with the waste collection contractor.
- Even if a recyclables collection program is not proposed, space must be allocated to locate bins for storage of likely recyclable waste. For example, in any office development, space should be allocated for storage of recycling bins for waste paper.

- Waste and recyclables from residential and commercial components of a development must be stored separately, but they should be stored using the same container type to facilitate ease of collection.
- For summary of external waste storage requirements (see Figure 16)

RESTAURANTS AND FOOD WASTE

Special consideration must be given to the location and nature of external storage areas. The volume of waste generated is generally high and has a high biodegradable content, therefore can potentially cause nuisance from odour, visual blight, and through attraction of vermin and scavengers. Storage of such waste should be in solid receptacles which ameliorate negative environmental impacts

From the 1st January 2006 developments that generate food waste will have to comply with the requirements of the Animal By-Products Regulations 2005. The Regulations place controls on the collection, handling, transport, storage and disposal of animal by-products, which includes catering waste. This may have implications for the design of the building and the waste containers required. Further information on The Animal By-Products Regulations 2005 should be sought from DEFRA – www.defra.gov.uk/animalh/by-prods/default.htm

Location Requirements

- 10.19 The table below summarises the key external storage requirements. In particular, the first six features apply to all developments regardless of size and type of units.

Figure 16. External storage requirements

	External storage area features:	Less than 6 residential units	7 or more residential units	Non-residential (commercial) Development
1	Should not be located near ground storey windows. They should be located within 10 metres of an external access.	✓	✓	✓
2	External storage areas and collection points must be as close as possible to, and preferably within 10 metres of, a place suitable for a collection vehicle to stop.	✓	✓	✓
3	Storage facilities must be at or near street level, and should be accessible via appropriately sized and graded ramps to allow bins to be wheeled to and from the collection point easily.	✓	✓	✓
4	Must be safe for users by being well lit and visible from public vantage points and nearby dwellings / tenancies.	✓	✓	✓
5	Should be unroofed, unless they are fully enclosed and secured (ideally inaccessible to animals).	✓	✓	✓
6	Should be accessible for collection purposes and not impede pedestrian or vehicular access on public thoroughfares or to and from buildings.	✓	✓	✓
7	Should be located as close to the front property boundary as possible, preferably behind the front boundary wall, without detracting from the street scene.		✓	
8	Consideration should be given to the <ul style="list-style-type: none"> • allocation of additional external storage space in the future, e.g. additional bins, • composting facilities - in residential development with a garden or landscaping, • provision of onsite storage for bulky waste (i.e. furniture) items and potential opportunities for re-use of these items. 		✓	
9	Should be in an enclosed chamber that can be accessed from outside the building.			✓
10	Large developments in areas that are deficient in recycling banks (“bring”) facilities will be expected to incorporate these facilities onsite for use by the general public - must be located in secure and easily accessible communal areas,		✓	✓

Additional Requirements

- 10.20 Applicants must provide details of storage for waste and recyclables in a proposed development as part of their application. These should be shown on the plans or in the application documents, where possible, and will form part of the approval
- 10.21 For schemes that create 7 or more dwellings, or includes a non-residential component, the applicant must consult Camden Street Environment Services prior to making an application to determine the best means of storage and collection for the development. A statement describing the proposed waste storage and collection arrangements, as agreed with Street Environment Services, should be provided with the application.
- 10.22 For large proposals, or for proposals with complex waste separation or collection arrangements, a management plan might be required as a condition of approval.
- 10.23 Consideration should also be given to materials and finishes, and lighting of waste enclosures, to ensure that they are safe and secure, and do not present a fire hazard. These are dealt with in the Building Regulations.
- 10.24 Private contractors often collect commercial and other non-municipal waste. They may have different requirements for collection to those of the Council, and should be consulted prior to making an application, to ensure that their requirements can be accommodated.

Further information

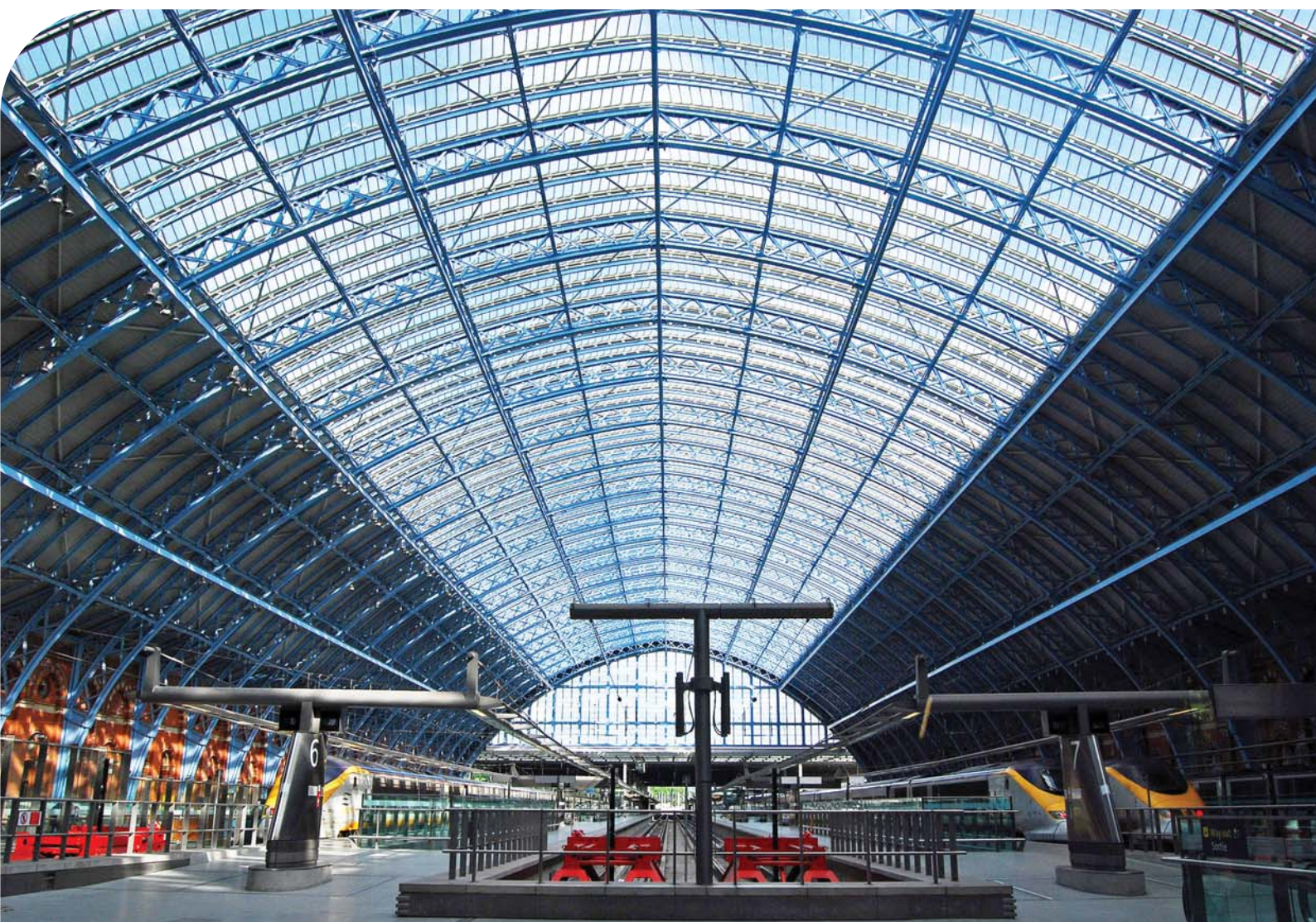
Camden Street Environment Services	<p>Applicants are advised to contact Camden Street Environment Services in the first instant prior to making an application to determine the appropriate means of storage and collection required for a proposal</p> <p>Address: Roy Shaw Centre 3-5 Cressy Road London NW3 2ND 020 7974 6914/5 www.camden.gov.uk/waste</p>
Waste storage requirements	<p>Waste Storage : A Guide for Developers of Commercial and Residential Premises in the London Borough of Camden, Camden Street Environment Services</p> <p>BS 5906 2005 Waste management in buildings – Code of practice, British Standards</p>
Assistance with the identification of an appropriate company to deal with recyclable waste from the proposed development	<p>Waste recycling www.wasterecycling.org.uk</p> <p>For free environmental guidance for small and medium-sized enterprises, see Environment Agency (NetRegs) www.environment-agency.gov.uk/netregs/default.aspx</p>

Camden Planning Guidance

Transport

London Borough of Camden

CPG 7



CPG7 Transport

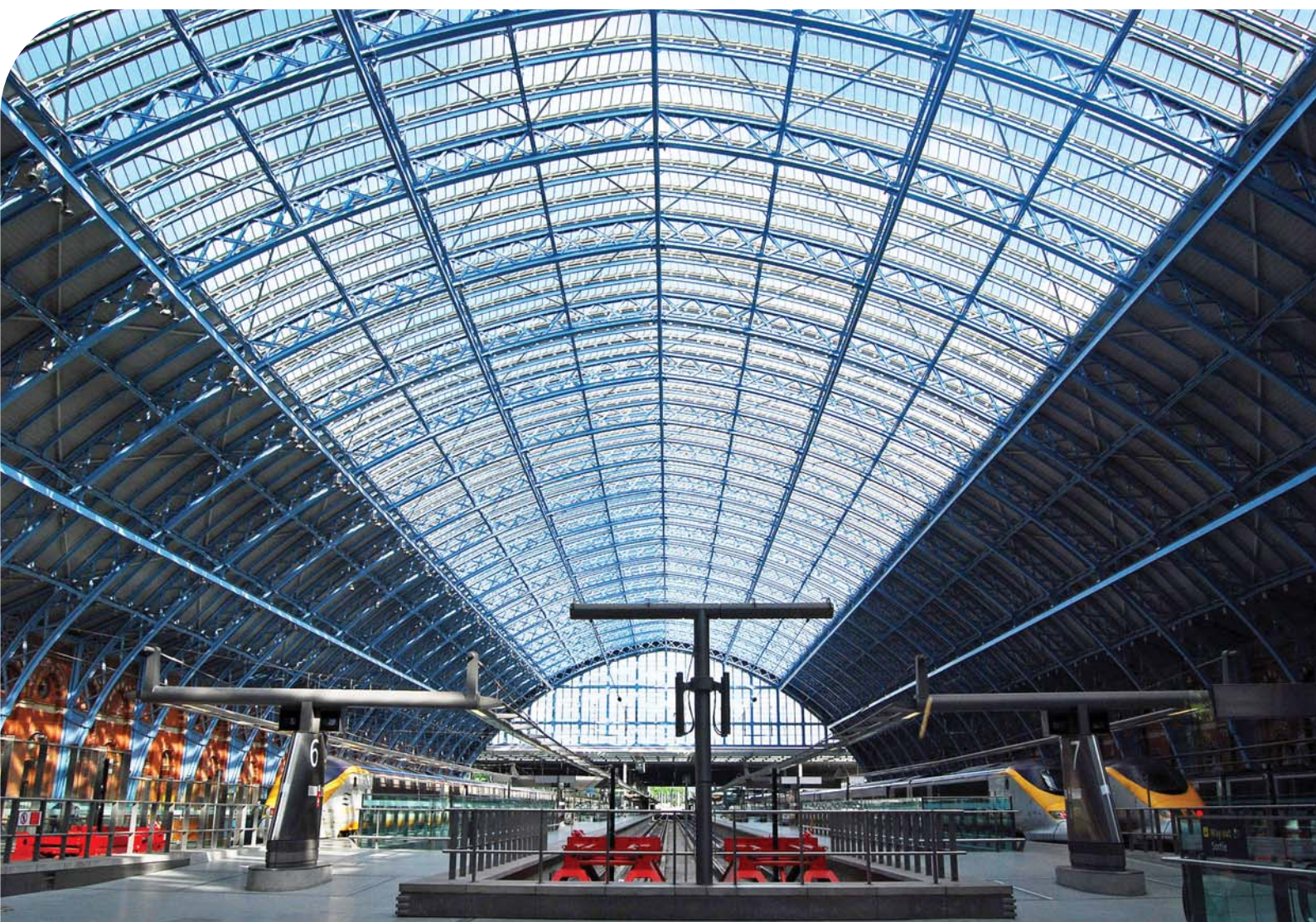
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Transport

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9 Cycling facilities

KEY MESSAGES

This section includes guidance on:

- The implementation of our minimum cycle parking standards for new development;
- The design and layout of cycle parking; and
- Cycle hire and cycle stations.

9.1 This section provides guidance on meeting cycle parking standards in an effective way, so that cycle parking is convenient and secure, and users of a development are more likely to use bicycles to travel to and from the site.

9.2 It relates to Core Strategy Policy CS11 – *Promoting sustainable and efficient travel* and policies DP17 – *Walking, cycling and public transport* and DP19 – *Parking standards and limiting the availability of parking* of the Camden Development Policies. It should be read in conjunction with Development Policies Appendix 2 – Parking standards.

When does this apply?

9.3 This guidance applies to:

- Applications which involved the creation of one or more additional dwellings;
- Applications which proposed additional floorspace of 500 sq m or more; and
- Applications which are likely to significantly increase the demand for people to cycle to the site.

How do we implement our cycle parking standards?

9.4 Numerical standards for cycle parking spaces are introduced by policy DP18 of the Camden Development Policies, and set out in detail in Development Policies Appendix 2. These standards are applied at a threshold of 500 sq m in most cases. Throughout the standards, the stated number of spaces relates to the number of bicycles to be accommodated, not to the number of stands.

9.5 Where a development crosses the threshold, requirements apply to the entire floorspace, not only the floorspace above the threshold. For example, at a new leisure development, 1 visitor cycle parking space per 250 sq m is required from a threshold of 500 sq m. This means that no requirement applies to a facility of 400 sq m, but 4 visitor spaces are required for a facility of 1,000 sq m.

9.6 Thresholds and standards are given as a gross floor area (GFA) relating to the development as a whole, and are not intended to be applied

separately to individual units where a development is subdivided into smaller units. Thus, space for cycles may be required for small premises (under 500 sq m) which form part of a larger development.

- 9.7 Table 6.3 of the London Plan sets out additional cycle parking standards and states that additional cycle parking provision will be required for larger (C3) residential units.

Location, design and layout of off-street cycle parking

- 9.8 Cycle parking should be provided off-street, within the boundary of the site. Cycle parking needs to be accessible (in that everyone that uses a bike can easily store and remove a bike from the cycle parking) and secure (in that both wheels and the frame can easily be locked to the stand). Security is a critical concern in the location, design, enclosure and surveillance of all cycle parking. The table below provides detailed guidance on the location, design and layout of cycle parking for various groups of cyclists.

Location of off street cycle parking

<p>General</p> <ul style="list-style-type: none"> • Cycle parking outside buildings should be positioned near entrances and where frequent surveillance is possible. For short stays, the parking should be sited within 25 metres of building entrances. For stays of over an hour, the parking should be sited within 50 metres of building entrances. • All cycle parking, including all parts of the parked cycles, should be clear of routes needed for pedestrian movement. • The route to cycle parking from street level should be step free. cycle parking inside buildings should be at the entrance level of the building or accessible by a ramp or lift from street level that can accommodate a bike.
<p>Parking for visitors</p> <p>Parking for visitors should be clearly visible or clearly signed from the public highway, and should be near building entrances</p>
<p>Parking for employees (and other long stay parking)</p> <p>Parking for employees (and other long stay parking) should be provided either within the building, or otherwise protected from the weather. Consideration should be given to providing lockers and showers for cyclists. For larger development this would be expected and would be a requirement of a Travel Plan (see section 2 of this guidance concerning Travel Plans).</p>
<p>Parking for residents</p> <p>Parking for residents should be within the building. Parking for a resident may take the form of a space within an individual dwelling provided that the space is close to the door of the dwelling, and access to the dwelling is level, or by a ramp or lift that can accommodate a bike.</p>

Design and layout of cycle parking: Sheffield and “Camden” cycle stands

The Council recommends the use of either “Camden” or Sheffield for the provision of off-street cycle parking, as they meet the Council’s requirements in terms of accessibility and security, provided they are laid out correctly.

- The “Camden” stand is a new form of Sheffield Stand, which is now used for all new cycle parking installed on Camden’s public highway. Developers are encouraged to use it in place of the Sheffield stand, although the Sheffield stand is still acceptable. The Council’s Public Realm and Transport team can advice on purchasing “Camden” stands as they are not as widely available as the Sheffield stand.
- The Sheffield Stand is the most common type of cycle stand used in the public highway. It is recommended for use along with Josta two-tier cycle parking;

Annex 1 provides more detailed guidance on the design and layout of “Camden”, Sheffield and Josta stands.

We are willing to consider other forms of cycle parking, however you must meet our accessibility and security requirements, details of which can be obtained from the Council’s Public Realm and Transport team. Generally, designs that require cycles be lifted into place or provide insufficient opportunity to lock the cycle will not be acceptable.



The London Cycle Hire Scheme

- 9.9 The London Cycle Hire Scheme is a public bicycle sharing scheme for short journeys in and around central London. Users can pick up a bike from a docking station, use it for short journeys, then drop it off at any docking station, ready for the next person.
- 9.10 Whilst the cycle hire scheme is currently focused around central London, the Mayor of London is investigating its expansion. The Camden Core Strategy states that we will seek to ensure that the scheme is extended to key destinations across the borough, including our town centres (see Core Strategy paragraph 11.13).
- 9.11 Where appropriate, developments close the area covered by the London Cycle Hire Scheme will be expected to contribute towards the scheme,

where justified as a result of increased trips generated. Contributions could include:

- a financial contribution towards cycle hire facilities. The amount sought will be based on the number of additional trips that are generated by the scheme;
- provision of space on-site to accommodate new cycle hire docking stations, in larger developments where there is space and the location is suitable. Transport for London (TfL) is producing a set of guidance for developers regarding specifications and design requirements for docking stations due to be released in 2011.

9.12 Contributions sought will relate both to the individual impact of a scheme and to any cumulative impact of a number of schemes in the same area.

Cycle stations

9.13 Cycle stations provide a secure managed area for cycle parking. The Camden Core Strategy promotes the provision of cycle stations as part of an effort to increase the availability of cycle parking in the borough (see paragraph 11.13 of the Core Strategy), and we intend to create a network of publically accessible cycle stations across the borough.

9.14 We will seek the provision of cycle stations in locations where it will be possible to attract a sufficient number of users. Suitable locations include:

- town centres and the central London area;
- transport interchanges;
- large commercial developments;
- residential areas - linked to new and existing residential development of a suitable scale; and
- larger health and education facilities.

9.15 Where developments generate an increased level of activity they will be expected to provide contributions towards the provision and maintenance of nearby cycle stations, in order to mitigate the effects of the increased number of journeys.

9.16 We will also seek on-site provision of cycle stations as part of larger developments in suitable locations. On-site provision of cycle stations can incorporate a development's cycle parking requirements for visitors (as set out in our parking standards), but should also include extra provision for the wider public. Parking provision for employees and residents of a development, as set out in our parking standards, should be provided separately in order to ensure that they retain the appropriate number of spaces to meet the demand that they generate.

Design of cycle stations

9.17 As a minimum, cycle stations should incorporate indoor, sheltered standard cycle parking (e.g. Camden or Sheffield type cycle stands) with

controlled access to the indoor area, and lighting. Cycle stations can incorporate a variety of other features including automated cycle locks, changing facilities, lockers, toilets and showers. Access to and from the cycle station by bike must be safe and convenient and accounted for within the space.

9.18 The Camden Cycle Stations Programme - Review of Best Practice (March 2009) provides information on best practice in the provision of cycle stations. Features that contribute to a successful cycle station include:

- Being located not more than 100m from the target destination, with shorter stays requiring shorter distances;
- Good surveillance by staff, other users and passers-by.
- Effective maintenance and management
- Clear and unambiguous signing to and within the cycle station.

Further information

9.19 In addition to the guidance provided in Annex 1 below (which includes details on the layout of off-street cycle parking), reference may also need to be made to the Camden Streetscape Design Manual. The manual contains dimensions for on-street cycle parking and the widths required for unobstructed pedestrian routes.

9.20 Other supporting documents include:

- Forthcoming TfL Design and specification of cycle hire scheme
- Forthcoming TfL Guidance on Cycle Stations
- Camden Cycle Stations Programme - Review of Best Practice (March 2009)

9.21 London Cycle Network Design Manual (London Cycle Network Steering Group, March 1998)

Annex 1 – Sheffield Stand Cycle Parking

9.22 This Annex describes in detail how to lay out Sheffield stands. It also can also be applied to the layout of “CaMden” stands.

9.23 The "Sheffield Stand" refers to a common design of cycle parking made from a tubular steel loop, approximately 50mm to 75mm in diameter, that is fixed to the ground (either bolted through a baseplate or set in concrete). Each Sheffield Stand can accommodate two bicycles, one either side, provided there is sufficient clearance next to the stand and sufficient circulation space so all cycle parking spaces can be accessed

9.24 The CaMden Stand is similar to the Sheffield Stand but is in the shape of a rounded “M” rather than a simple loop. This is designed to encourage users to lock both wheels and the frame to the stand, rather than just the top tube / frame.

Figure 3. Sheffield Stand Elevation

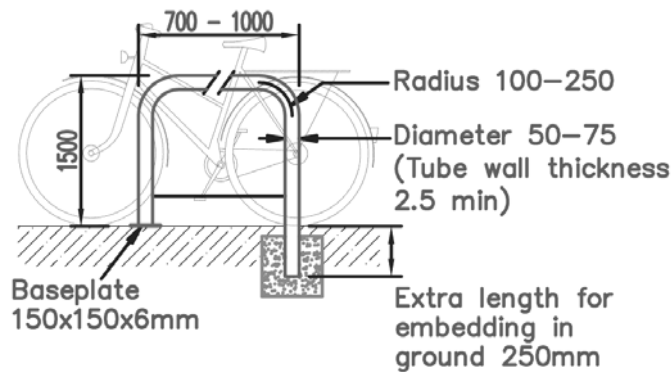
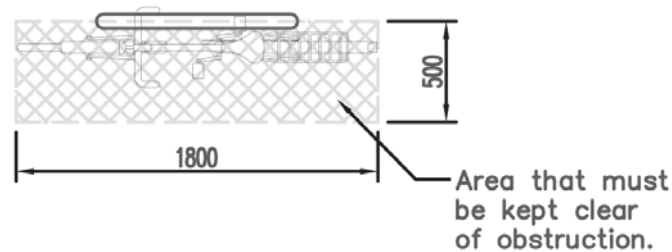
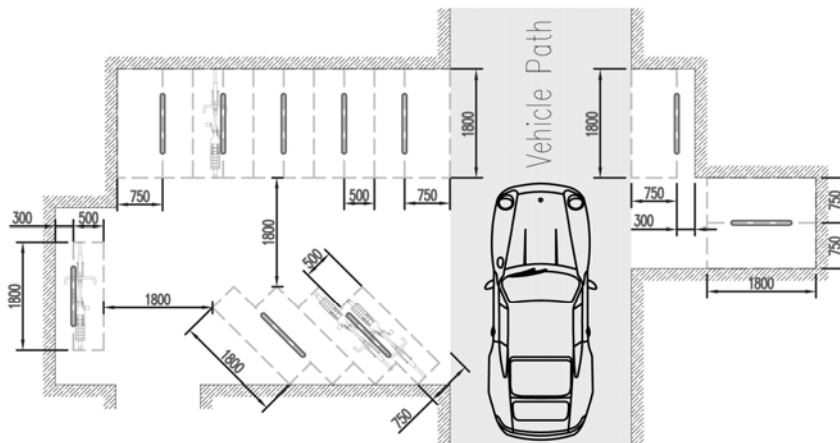


Figure 4. Sheffield Stand Plan



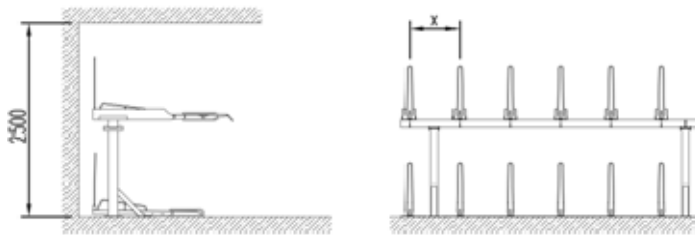
- 9.25 For adjacent stands, an area of at least 1800mm by 500mm next to the stand (measured from the centre line of the tube), must be kept clear for each cycle parking space to allow room for the cycle and working space for locking the bike to the stand. However, if a stand is next to a physical obstruction, such as a wall or a vehicular path, there must be at least 750mm between the stand and the physical obstruction to enable both sides of the stand to be used. If a stand is to be placed close to a wall or other physical obstruction so that only one side of it can be used (i.e. only one cycle can be locked to it), there must be at least 300mm between the stand and the physical obstruction.
- 9.26 Aisles around the cycle store must be at least 1800mm in width. An example cycle store showing various layout options is shown below. Note that the area to be kept clear does not actually have to be marked on the ground, but is shown in outline for clarity.

Figure 5. Cycle stand siting

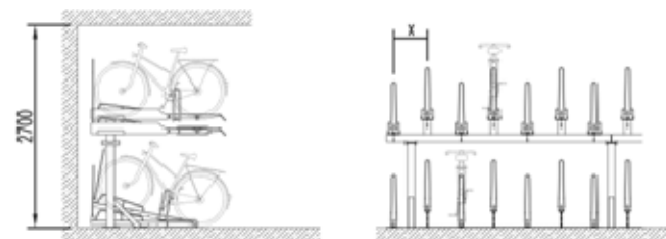


Josta Two-tier Cycle Parking

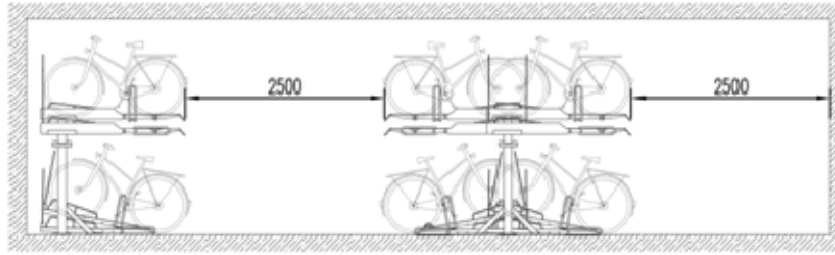
- 9.27 The Josta two-tier cycle parking system (or similar) is generally able to accommodate approximately twice as many cycles per square meter of floor space as Sheffield stands. It also still meets the Council's requirements for accessibility and security, but requires a ceiling height of at least 2500mm.
- 9.28 With a ceiling of at least 2500mm the stands can be placed 650mm apart, i.e. $X = 650\text{mm}$ in the diagram below.



- 9.29 With a ceiling of at least 2700mm the stands can be placed 400mm apart, i.e. $X = 400\text{mm}$ in the diagram below.



- 9.30 In order to enable the top tier to be used, at least 2500mm of clearance in front of the stand, measured on a line at the same angle at which the top tier stands are extended (see diagrams below), is required between rows of stands, walls or other obstructions.



- 9.31 The Josta stands can be arranged at different orientations (angles) provided there is 2500mm of clearance in front of the rack to remove cycles from the top tier (as described above) and aisles around the cycle store at least 1800mm in width. Examples, with minimum distances are shown below. "X" indicates the spacing between stands, which depends on the ceiling height as described on the previous page.

Figure 6. Josta Stand minimum siting dimensions

