

Secured by Design



Official Police Security Initiative



COMMERCIAL DEVELOPMENTS 2015

VERSION 2



designing out crime

Introduction

Secured by Design (SBD) is a crime prevention initiative operated by the Police Services of the United Kingdom. *Secured by Design Commercial 2015* is one of several guidance documents that aim to reduce crime in the built environment. Secured by Design continually evaluate the effectiveness of all guidance and periodically amends the various guides in response to research findings and changing standards. This new guidance for commercial developments incorporates numerous new and improved security standards that have been developed to address emerging criminal methods of attack.

A sensible and practical level of security, which will not adversely affect the efficiency of a business, is essential for a successful and profitable business. The majority of criminal incidents in commercial development relate to property crime. This is because the modern business contains a vast array of portable and desirable goods with a ready market, such as plant and machinery and raw materials, personal computers, laptops, and other valuable electronic equipment. Other crimes that regularly occur include acts of vandalism, such as graffiti and arson and occasional assaults on members of staff.

The Police Service places great importance upon the need to build sustainable developments. This not only includes the need to use environmentally friendly products, materials and construction methods, but also the need to raise awareness of the fact that

crime prevention is a positive sustainability issue. Academic research conducted on behalf of SBD has confirmed that crime committed in the UK is responsible for the release of at least 6,000,000 tonnes of CO₂ into the atmosphere each year. It therefore follows that the achievement of an SBD certificate for commercial premises not only indicates that the designer has made a significant effort to create a secure working environment, but has also vastly reduced the carbon footprint of the development. To that end applicants are also encouraged to build to the Building Research Establishment's environmental and sustainability standard BES 5052: Issue 4.1. The standard's requirements can be found in the BREEAM UK New Construction: Non-domestic Buildings Technical Manual: SD5076: 2.1 2014

It is also important that the benefits of a new secure commercial building are complemented with a clear management & maintenance programme and a business continuity and resilience plan to ensure a safe and secure working environment. Further information about risk management in both new and existing commercial buildings can be obtained from the SBD partner initiative 'Secured Environments' at www.securedenvironments.com.

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How to use this document

SBD Commercial differs somewhat from other SBD documents in that it does not provide the reader with a menu of requirements in order to gain SBD approval. Since the scope of the document covers all types of commercial premises from a small storage unit to multi use business parks or leisure centres, and, since the risks associated with commercial premises vary considerably from a corner shop containing low value goods to an iconic business hub that may attract the unwarranted attentions of international terrorists, there is no 'one size fits all' solution.

However we have endeavoured to produce as much information as possible in order that an initial assessment of the building or proposed new development can be made prior to contacting the police Crime Prevention Design Advisor (CPDA). The following paragraphs both set the political theme by providing a broad understanding of the planning requirements intended to reduce crime and provide guidance within the 'Scope' and 'Applying for a Secured by Design Commercial Award' paragraphs. Further detailed advice is contained within the following two sections:

- Section 1: Deals with the development layout and design and all external features
- Section 2: Provides the detailed technical standards for various elements of the building

It cannot be stressed enough that if full SBD Accreditation of the development is required then the CPDA must be contacted at the earliest possible opportunity, preferably at concept stage and definitely before submission to planning for a new development or prior to commencing work on the refurbishment of an existing building or development.

Scope of SBD Commercial

This document encapsulates both commercial developments where the public have no formal access e.g. factory or office buildings, and those where public access is integral to the commercial use such as retail premises, leisure centres and public buildings. Such developments may range in size from a single building with a defined use to a group of buildings with multiple uses.

This document provides design guidance and specification requirements for reducing the risks for crimes against the person and property. Typically this will include burglary, theft, arson, vehicle crime and assault. Provision has also been made for the prevention of terrorism. The same advice is also intended to reduce the fear of crime and the incidence of anti-social behaviour. Consequently, consideration is given to both environmental design and physical security. This is best achieved through negotiation with the designers of new commercial building development or major refurbishment at pre-planning stage. Where acts of terrorism and or extremist activity are of a concern to the business owner, the developer, or their agent, such concerns should be communicated to the police Crime Prevention Design Adviser dealing with the Secured by Design application, who will in turn notify the relevant security experts. In some circumstances it may be the police service that identifies vulnerable buildings or commercial activities that require detailed counter terrorism advice, this will be communicated to the relevant applicant and the earliest possible opportunity.

Section 1 of this document addresses the development – layout and design issues together with general external environment issues, whilst Section 2 deals with the specific physical crime prevention requirements. Compliance with both sections is required to achieve Secured by Design certification.

SBD operates throughout England, Scotland, Wales, Northern Ireland, The Isle of Man and the Channel Islands.

Applying for a Secured by Design Commercial Award

In order to stand the best chance of achieving SBD award it is of the utmost importance to consult the relevant Crime Prevention Design Adviser (CPDA) prior to a planning application being made. In some areas the CPDA is entitled Architectural Liaison Officer (ALO), however all subsequent references within this guidance will refer to the process being administered by a CPDA.

Should you wish to apply for SBD Award please complete an application and checklist form,

which can be found at www.securedbydesign.com Send the application to the relevant CPDA whose details can also be found on the website.

Policy and strategic guidance in support of Secured by Design

Secured by Design reflects the established principles of designing out crime. The application of these principles, the design details and specifications for the particular development, must be agreed between the developer and/or the developer's agent and the police Crime Prevention Design Adviser (CPDA).

Local planning conditions, crime risk assessment and other statutory provisions such as both national and local planning policies that may influence the measures to be adopted, should be addressed. Such as:

- The National Planning Policy Framework (NPPF) and accompanying National Planning Practice Guidance (NPPG) in England.
- For Scotland, PAN 77 Designing Safer Places applies, available at www.scotland.gov.uk
- In Wales TAN 12 Design applies, available at www.wales.gov.uk
- In Northern Ireland Secured by Design is referenced in the government guidance for new buildings.

The advice given by the CPDA will be dependent upon the outcome of a crime risk analysis and an understanding of local crime occurrence. Consequently, specific measures recommended to address particular types of crime may vary from one site to another. It is important to note that the national SBD guidelines are minimum requirements and in areas of higher risk, greater crime resistance will be required. Therefore it is inevitable that the advice given to design professionals may occasionally vary according to crime risk whilst still maintaining a consistent approach.

Design & Access Statements

Still a requirement for many development schemes, compliance with the Secured by Design award scheme criteria can be a major indication that a proposal has adequately addressed the crime prevention component

required to be included in Design and Access Statements (DAS).

As 'crime' has a potentially adverse economic, social and environmental impact upon a development, and the National Planning Policy Framework requires that crime and the fear of crime should not undermine quality of life or community cohesion, 'crime' should be afforded due consideration within the DAS. Insufficient or inadequate crime prevention information within the DAS may hinder the application.

Where acts of terrorism or extremist activity are of a concern reference to consultation documents: '*Safer places: a counter-terrorism supplement*', '*Working together to protect crowded places*' and '*RIBA Guidance on Designing for Counter Terrorism*' are recommended. These documents are available from www.gov.uk/government/publications

It is important to note that the national SBD guidelines for the security of commercial buildings are set at a minimum level and in areas of greater crime risk a higher level of crime resistance may be required. The advice given and requirements made by the CPDA will be dependent upon the outcome of a crime risk assessment and an understanding of local crime context. Consequently, specific measures addressing particular types of crime or anti-social behaviour may vary from one site to another. It is important therefore that frequent and continued dialogue exists between the CPDA and those responsible for design and construction to ensure that any local site specific and/or additional requirements are met.



SECTION 1: DEVELOPMENT – LAYOUT & DESIGN (Planning and external specification issues)

Urban design and planning policy

1 Creating a sense of place

- 1.1 Creating an easily legible sense of place where employers, employees and legitimate visitors are able to go about their daily routine without undue fear of crime is a key element of the SBD initiative for commercial developments. Crime and anti-social behaviour are facilitated by a lack of definition of ownership of space.

2 The Planning System and Crime Prevention

- 2.1 National Planning Policy Framework 2012

The National Planning Policy Framework (NPPF) states that “Planning policies and decisions should aim to ensure that developments create: ...

- Safe and accessible environments where crime and disorder, and the fear of crime, do not undermine quality of life or community cohesion (para.58)...
- Safe and accessible developments, containing clear and legible pedestrian routes, and high quality public space, which encourage the active and continual use of public areas” (para.69)

Creating a sense of place where businesses and legitimate business users are able to go about their daily routine, without undue fear of crime or insecurity is a key element of the Secured by Design initiative.

The police service supports seven key attributes as integral to achieving sustainable communities. It is essential that developers demonstrate that these attributes have been considered and applied within the design of the development regardless of the geographical location within the United Kingdom.

Crime and anti-social behaviour are more likely to occur if the following seven attributes of sustainable

communities are not incorporated:

1. Access and movement: places with well-defined and well used routes with spaces and entrances that provide for convenient movement without compromising security
2. Structure: places that are structured so that different uses do not cause conflict
3. Surveillance: places where all publicly accessible spaces are overlooked
4. Ownership: places that promote a sense of ownership, respect, territorial responsibility and community
5. Physical protection: places that include necessary, well-designed security features
6. Activity: places where the level of human activity is appropriate to the location and creates a reduced risk of crime and a sense of safety at all times
7. Management and maintenance: places that are designed with management and maintenance in mind, to discourage crime in the present and the future, encouraging businesses and legitimate business users to feel a sense of ownership and responsibility for their surroundings can make an important contribution to community safety and crime prevention. Clarity in defining the use of space can help to achieve a feeling of wellbeing and limit opportunities for crime.

3 Phased or speculative developments

- 3.1 It is recognised that some commercial developments or mixed use (domestic and commercial) may be either phased; developed when the market allows, or speculative; the developer provides the infrastructure but there are no specific building designs available. Neither of the above circumstances will necessarily preclude achievement of SBD certification provided that there is a continuous dialogue with the CPDA.

4 Location and adjoining land use

- 4.1 Security requirements will be influenced by the location of new or existing commercial and non commercial buildings, both in the immediate vicinity and in the surrounding area, the hours of business operation, the type of business, by the numbers of employees working on site and others visiting the site and by transport links to and from the local area.
- 4.2 Security may be affected by the type of land use or property immediately adjoining the site. Wooded areas or open fields can make the grounds easier to access by trespassers. In contrast, houses with gardens adjoining the boundary can generate natural surveillance increasing the likelihood of crime or anti-social behaviour being observed and reported.
- 4.3 In planning new commercial areas or when re-developing such areas, sustainable design principles should be utilised, including the relationship of the commercial development with other facilities in the local area. Security will be significantly improved if the new buildings benefit from natural surveillance from existing occupied buildings. Such measures create conditions in which potential offenders feel vulnerable to detection. However, reliance on natural surveillance alone is not a guarantee of lower crime. Natural surveillance has to work in tandem with defensible space and the presence of persons who can act as potential deterrents and/or witnesses.

5 Configuration of buildings

- 5.1 It is important to consider the crime risks that a large number of commercial buildings might inadvertently create, such as numerous paths behind buildings for emergency exit and large areas set aside for car parking. Legitimate activity on industrial estates for example can be very low at weekends, and at night, and this inactivity can attract criminals.

Configuring buildings to maximise natural surveillance is of great importance, careful layout can help resolve many of the crime problems associated with in these developments. SBD recognises that there will often be site constraints or other considerations, such as solar energy efficiency gain requirements which may influence the orientation of buildings.

6 Outdoor amenity spaces

- 6.1 The location of seating areas and other recreational spaces provided for the use of the employees or the public must be carefully planned. Such amenity should be within view of occupied rooms from surrounding buildings (see *glossary of terms*). Recreation spaces may encourage trespass outside normal business hours and may require additional fencing or other security measures and should be discussed with the CPDA.

Roads and footpaths

7 Vehicular and pedestrian routes

- 7.1 It is desirable that vehicular and pedestrian routes are designed in a way that ensures they are visually open, direct, and well used. They should not undermine the defensible space of commercial developments. Design features can help to identify the acceptable routes through a development and appropriate areas for public access, thereby encouraging their greater use, and in doing so enhance the feeling of safety. Where it is desirable to limit access/use to employers, employees and legitimate visitors features such as rumble strips, change of road surface (by colour or texture), pillars or narrowing of the carriageway may be used. This helps to define the defensible space, psychologically giving the impression that the area beyond is private.



8 Through-roads and cul-de-sacs

8.1 There are advantages in some road layout patterns over others especially where the pattern frustrates the searching behaviour and limits escape opportunities of the criminal. Whilst it is accepted that through routes may be included within commercial development layouts the designer must ensure that the security of the development is not compromised by excessive permeability, such as allowing the criminal legitimate access to the rear or side boundaries of buildings or providing too many or unnecessary segregated footpaths (Note 8.1).

Note 8.1: It is generally accepted that routes for pedestrians, cyclists and vehicles should, in most cases, run alongside one another, and not be segregated. Movement frameworks based upon 'primary routes' and shared spaces, remove the need for under-used alleyways, short-cuts, footpaths and a large number of minor access points that can become vulnerable to/or facilitate crime.

A review of available research in this area concluded that: "Neighbourhood permeability... is one of the community level design features most reliably linked to crime rates, and the connections operate consistently in the same direction across studies: more permeability, more crime. Several studies across several decades link

neighbourhood property crime rates with permeability versus inaccessibility of neighbourhood layout. Neighbourhoods with smaller streets or more one-way streets, or fewer entrance streets or with more turnings have lower property crime rates..." Source: Taylor R B 2002 "Crime Prevention through Environmental Design (CPTED): Yes, No, Maybe, Unknowable, and all of the above" in Bechtel RB (ed) "Handbook of Environmental Psychology", John Wiley, New York, Pages 413 – 426. Cited by Professor Ted Kitchen Sheffield Hallam University.

8.2 Good surveillance of the street from buildings has been proven to reduce the opportunities for crime.

8.3 Cul-de-sacs on commercial developments should be short in length and not linked by footpaths so as to create safe environments where premises can benefit from low crime. Research shows that features that generate crime within cul-de-sacs invariably incorporate one or more of the following undesirable features:

- backing onto open land, railway lines, canal towpaths etc, and/or
- are overly long and/or
- linked to one another by footpaths.

If any of the above features are present in a development additional security measures may be required.



9 Footpath design

- 9.1 Routes for pedestrians, cyclists and vehicles should run alongside one another and not be segregated. All planned routes should have a rational purpose and follow natural 'desire lines'. They should be well overlooked and integrated. Unsanctioned direct routes such as underused alleyways, shortcuts and a large number of minor access points can create hiding areas and anonymity for offenders.
- 9.2 Public footpaths should not run to the rear of, and provide access to industrial units, rear yards or neighbouring buildings (commercial units or dwellings) as these have been proven to generate crime. Private footpaths that serve as emergency exit routes at the rear of industrial premises should be secured with gates of steel construction (See section 2 paragraphs 44.2 and 44.3 for appropriate standard) and locking systems that restrict access but still facilitate emergency egress where required.
- 9.3 Where a segregated footpath is deemed to be essential, designers should carefully consider the possible impact on crime. Such routes have in the past been proven to facilitate crime, hence they must be straight, wide, well lit, avoid potential hiding places and be overlooked by surrounding buildings and activities. Physical barriers may also have to be put in place where unsanctioned 'desire lines' would place

a pedestrian in danger such as at a busy road junction. It is important that the pedestrian has good visibility along the route of the footpath. The footpath should be as carefully 'designed' as the buildings.

- 9.4 Where necessary and where space permits, segregated footpaths should be at least 3 metres wide (to allow people to pass without infringing each other's personal space), with at least a two-metre verge on either side. Some footpaths may be designated as an emergency access route and if so should be wide enough to allow the passage of emergency vehicles, service vehicles and have lockable barriers.
- 9.5 Keeping pedestrians and vehicles at the same level avoids creating intimidating spaces such as subways, footbridges and underpasses. If a subway is essential it should be as wide and as short as possible with a clear line of sight to the exit. Chamfering the access points can help reduce areas of concealment.

10 Planting next to footpaths

- 10.1 In general, planting next to a footpath should begin at the outer edge of the verge, starting with low growing plants with taller shrubs and trees to the rear. Planting immediately abutting the path should generally be avoided as the plants could have a tendency to grow over the path creating pinch points,

places of concealment, reduction of visibility and unnecessary maintenance.

10.2 Where footpaths run next to buildings or roads the path should be open to view. This does not prevent planting, but will influence the choice of species and the density of planting. Public footpaths should not run immediately next to doors and windows, therefore buffer zones should be created to separate a path from a building elevation. This is particularly important in areas with a known graffiti or anti-social behaviour problem where the use of defensive planting may be appropriate.

10.3 Careful selection of plant species is critical in order not to impede natural surveillance and to avoid an unnecessarily high maintenance requirement. Some hedging plants, for example, will require trimming twice a year, whereas other species might only need one visit every two years. Trees on appropriate root stocks can provide a more reliable means of reducing the likelihood of impeding natural surveillance. The potential cost savings of a reduced maintenance requirement could be substantial.

11 Lighting of roads and segregated footpaths

11.1 Roads and segregated footpaths for adopted highways and footpaths, private estate roads and car parks must comply with BS 5489-1:2013. Where conflict with other statutory provisions occurs, such as developments within conservation areas, requirements should be discussed with the CPDA and the local authority lighting engineer. Please note bollard lighting will not be compliant with BS5489:2013 or give sufficient light at the right height to aid the reduction of the fear of crime as they do not light people's faces sufficiently (Note 11.1).

Note 11.1: It is recognised that some local authorities have 'dark sky' policies and deliberately light some of their rural, low crime areas to very low levels of

illumination and that others are currently experimenting with switching off street lamps in low crime areas between certain hours of the night in order to save energy costs and reduce CO2 emissions. If such policies exist then these must be brought to the attention of the CPDA at the time of application. The Institution of Lighting Professionals (ILP) does not encourage switch off unless a full risk assessment has been carried out and it should never be implemented purely for cost saving. A variable controlled lighting level is the preferred option.

11.2 Landscaping, tree planting and lighting schemes shall not be in conflict with each other and lighting column positions should take priority over tree positions on new developments. Where trees are existing they shall be cut back and maintained so as not to impede the spread of light from the street lighting at any time.

11.3 The Overall Uniformity of light for an SBD development is expected to achieve a level of ideally above 15% for P classes, however the spacing window which is detailed in BS5489:2013 means that bad uniformity is not possible as a maximum average has to be achieved along with a minimum. As long as the scheme is BS 5489:2013 compliant it will have suitable uniformity.

Conflict areas such as roundabouts of a certain size and shared surfaces will require a higher uniformity which will be determined by compliance with BS5489:2013.

Major roads going through residential areas come under a different criterion of M classes with light levels measured in Candelas. Compliance to BS 5489:2013 will ensure a quality lighting scheme.

11.4 The Colour Rendering qualities of lamps used in an SBD development should achieve a minimum of at least 60Ra on the Colour Rendering Index (Note 11.4).

Note 11.4: The Colour Rendering Index, scaled from 0 to 100 indicates the colour rendering qualities of lamps. 0



is a non-existent ability to render colour under illumination, such as low pressure sodium lamps (SOX) (not allowed under BS5489:2013), and 100 is the colour rendering qualities of daylight. The 'Higher the RA the better the colour rendition qualities. Properly optically controlled white light (higher than RA60) will enable humans to see more clearly and improves facial recognition than if the light has an RA of lower than 60 such as High Pressure Sodium (SON). This is because it falls into the Mesopic range of vision and therefore the eye uses both rods and cones to determine the image. The British Standard has different levels of lighting as part of its P classes which now take into account the Mesopic properties of each type of lamp and its effect on the human eye. This is called an S/P ratio and will be an additional factor when the designer is choosing the lighting class. Please note that C classes and M classes are not affected by this and do not have the scope to lower lighting levels due to the use of white light.

- 11.5 The CPDA should always be provided with a 'Lux Plan' which shows both contour lines and lux points in order that the lighting system can be assessed. Additionally a risk and environmental assessment (EMS) for the CDM designer compliance requirements must be included. The plan should be compiled by a "competent" independent designer with at least level 3 or 4 competency under the ILP guidance notes (see additional documentation). The designer

should be MILP and either IEng or CEng to be deemed competent to be able to design under CDM regulations. Manufacturer designed schemes without risk or environmental assessments will not be accepted as they do not cover the CDM designer risk elements which are required.

Note 11.5: The details on the plan must include the maximum average, minimum and average lux levels proposed. The plan must also show the Uniformity (Uo) and colour rendering (Ra) values for the scheme.

- 11.6 Light Pollution must be minimised (*Note 11.6*)

Note 11.6: All living things adjust their behaviour according to natural light. The application of artificial light has done much to improve our experience of the night-time environment, but if this light is not properly controlled both physiological and ecological problems may occur. Minimising light emitted in directions where it is neither necessary nor desirable is extremely important. Obtrusive lighting from the private elements of the scheme is deemed a statutory nuisance (public lighting is not covered) and illuminating areas unintentionally is wasteful. SBD requires that only luminaires with suitable photometry serving to reduce light spill and upward light may be used.

In terms of sustainability consideration must be given to the consequences of

turning off street lights. Such a measure may be counterproductive in terms of CO2 emissions and lead to the greater use of motor vehicles because residents are too afraid to use unlit streets. Crime levels, and in particular fear of crime levels, must also be carefully monitored to see what impact such an action has made to the community. The alternatives to switching off are Central Management Systems (CMS) which allow varying lighting levels for different times of the night and are centrally controlled by a Web based system. Also stand alone dimming equipment can be pre-set to dim after an agreed time when most residents are asleep. Both systems are preferable to switching off. Some light sources are more controllable than others and these should be considered where possible. The most controllable light source with the correct RA is LED, it also has no UV or IR so therefore does not impact as heavily as other light sources on wildlife and birdlife.

Presence sensing should not be considered unless in bin stores or rarely used areas as it can produce nuisance switching and become a problem to residents. Varying light levels via a CMS or stand-alone system reduces CO2, energy consumption and light pollution so is preferable where cost is not prohibitive and where the Council specification allows.

Glare is also an issue and is defined by direct view of the light source. Luminaires without good optical or lens control should not be used in residential areas.

12 Phased developments and footpaths

- 12.1 Where the construction of a footpath will be delayed because of phased development or long term planning policy, it may be prudent not to complete the footpath until such time as the full implications of its interaction with its environment can be understood. This will avoid in the short to medium

term the creation of an underused and possibly isolated movement route.

Perimeter security and site access

- 13 Enclosed commercial developments – industrial and office use**
- 13.1 Secured by Design supports single and multiple unit commercial developments that are contained within secure perimeters with access controlled entrances (industrial use only).
- 13.2 SBD recommends the use of one main entrance into an enclosed commercial development serving both vehicles and pedestrians or separate entrances that are located next to one another to aid mutual supervision. There should be clear demarcation between the roadway and the footway and a safety barrier between the two may be necessary to protect pedestrians from large vehicles/plant. In some cases an additional entrance may be required to service emergency access/egress. In these circumstances it may be prudent to provide additional electronic access control with CCTV.
- 13.3 For an extensive site and/or where there are higher risk security considerations, a staffed gatehouse may be required at the entrance. Such arrangements will invariably include the use of powered vehicular and pedestrian access gates. The CPDA should be consulted at the earliest possible opportunity in order to ascertain whether the risk analysis for the local area supports such a requirement (See Section 2 paragraphs 43 to 44 for further advice regarding perimeter security standards and specifications and Section 2 paragraphs 69 for standards relating to security guards and buildings).
- 14 Open commercial developments – office and industrial use**
- 14.1 Ideally, no part of a commercial building should immediately abut a public footpath, road or other public area. This



Photo: Jacksons Fencing

is to prevent a vehicle borne attack to penetrate a wall, door or window or to prevent parking of high sided vehicles close enough to the building to allow climbing to less secure windows or flat roofs.

- 14.2 In open planned developments a defensible area can be created between the unit and the public road through the introduction of visitor and staff car parking and measures such as high kerbs, dwarf walls and hard and soft landscaping. Access for pedestrians or vehicles along the side of a building must be controlled through the use of fencing and/or gates, thus allowing access for emergency vehicles and staff where appropriate and means of escape when required. Physical barriers, such as 'anti-ram' bollards, may also be required to protect vulnerable building elevations, doors, roller doors and shutters when the business is closed (see Section 2 paragraphs 45 for standards for bollards).

- 14.3 Soft landscaping to the front of commercial units is acceptable provided it is set back from paths and placed to avoid obstructing visibility of doors, windows or any other access points. Generous hard paving in front of the unit may reduce the likelihood of plants growing to excess and obscuring vulnerable areas.

- 14.4 Casual approaches to windows can be deterred through the creation of uneven hard surfaces such as cobbles or angled

brick sets set in concrete. Specifiers should take particular care when specifying the type of gravel or loose surface treatment in developments so as not to provide missiles which will create criminal damage opportunities.

15 Boundary types

- 15.1 Boundaries fall into three main categories:

- 15.2.1 Psychological: Those that are intended to psychologically define ownership of space and distinguish between private and public land using features such as rumble strips, change of road surface (by colour or texture), road markings, and landscaping

- 15.2.2 Controlled: Normally a low fence, wall, hedge or other boundary treatment intended to help staff manage a site by physically restricting casual intrusion onto the site and channelling visitors to a formal entrance point in the perimeter. These types of boundaries are generally not high enough or sufficiently resistant to intrusion to be classified as a secure boundary.

- 15.2.3 Secured: A fence, wall, hedge or other boundary treatment intended to physically prevent climbing and or penetration into restricted parts of the site. A secure boundary around the site, or in the case of open planned developments, to the rear and or side of a building will also frustrate the intruder intent on breaking into the building out of hours and or limit the quantity