SECURITY WITHOUT THE EXPENSE

Some suggestions for reducing the cost and environmental impact of security measures, while still effectively protecting site assets and occupants, are offered by Norman Disney & Young’s MARK JARRATT.

Sustainability is a widespread and popular concept in modern approaches to facilities management. It is widely accepted that creating and maintaining sustainable facilities according to environmentally sound principles benefits the environment and reduces recurring operating costs, regardless of the purpose and function of the site or building.

Sustainability, however, is not usually the first principle considered when devising security measures for a site, so how do we create sustainable security?

THE PROBLEM WITH THE USUAL 3G APPROACH

Security is frequently associated with obvious and often intrusive measures, such as armed guards, high fences topped with razor wire, physical screening of people, vehicles and cargo, and electronic surveillance, including intruder alarms and closed circuit television (CCTV). This traditional approach to security is usually described as the 3G paradigm – guards, guns and gates – and can create a rather foreboding and unwelcoming environment.

The 3G approach can be appropriate for high security sites containing significant valuable and attractive assets, such as cash, gemstones, weapons or narcotics, where there is a need to provide visible deterrence by creating the perception that the site is a hard target. The 3G security posture, however, can be costly in equipment, fuel and power. Full coverage by static and mobile guarding and remote security alarm monitoring is also resource intensive and the obvious appearance of physical security measures contributes to a low trust environment.

The 3G approach is not appropriate for the majority of commercial or residential sites. The primary security aim for standard office buildings and residential complexes is to encourage approved use of the space by legitimate people in a high trust environment. High trust environments reduce levels of theft, vandalism, assault and other crimes because people are more likely to cooperate and work towards shared objectives.

People who use spaces with obvious and intrusive security measures are less at ease. Prominent security measures create the perception that the site or facility is highly regulated and any unwelcome behaviour will attract swift response.

The security design challenge is to make the specific site or facility attractive to authorised users, while sending clear signals to unauthorised people, such as trespassers, that they should not be there. A security design based on this will be more sustainable and green by relying on reinforcing the desired behaviour of authorised users instead of tangible security equipment, surveillance, monitoring and response.

Any facilities manager can save money and improve sustainability by reducing reliance on expensive equipment and guarding through applying CPTED principles.
MINIMISING SECURITY EXPENDITURE VIA CPTED

The crime prevention through environmental design (CPTED) security concept provides a framework to identify and implement measures for the protection of a site or facility without relying on the costly and sometimes counterproductive 3G approach. CPTED offers a holistic approach to the overall perceptions of security at a particular location, site or facility, which can result in considerable savings in capital expenditure on electronic and guard-based security.

The critical elements of security design, for new or refurbished sites, are to some extent limited by geography, location and function. Any facilities manager can nevertheless save money and improve sustainability by reducing reliance on expensive equipment and guarding through applying CPTED principles.

These principles rely upon passive rather than active security measures using the built environment at the site to create a perception of safety and security, which deters criminal and antisocial behaviour. The aim is to give those people intent upon, capable of and motivated to commit opportunistic crime the perception that they will not succeed.

The central elements that need to be implemented to create a secure environment using the CPTED approach follow.

1. Natural surveillance

Natural surveillance (eyesight, as opposed to electronic surveillance using CCTV) provides users of the site with awareness of potential security threats and hazards, and creates a sense of openness in which individuals can observe each other from distinct defined spaces. This also promotes safety, as individuals can see if others are distressed or exposed to danger.

Effective natural surveillance requires clear sightlines and open spaces in the built environment. When transparent materials, such as glazing, are used, authorised entrants encounter an environment in which they can see beyond physical walls and barriers. Where applicable, the use of wide-aperture fencing allows vision through barriers that may otherwise conceal illegitimate activities.

The use of lighting is particularly important to denote public spaces and provide a sense of space and security to the users of that space. Lighting design needs to take into account pedestrian traffic routes, such as footpaths, at the facility by providing sufficient lighting to ensure the perception of safety and security is generated. Lighting should be bright and uniform and not create areas of high contrast, shadows or glare, particularly at alcoves, service areas and similar places of potential concealment.
Motion-activated lighting can be used for alcoves or other places of potential concealment and antisocial behaviour as activation creates a perception that the intruder has been noticed. Lighting should also be even and consistent, sufficient to recognise people at up to 30 metres. Cool white fluorescent lighting provides the best overall colour rendition and should be contained within vandal-resistant luminaires.

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2. Territoriality
Territoriality promotes clear delineation between public and private space. Using barriers, whether real or symbolic, effectively achieves territoriality. For residential complexes, territorial design can be used to restrict the movement of resident and visitor vehicles to prescribed areas. Appropriate road markings complement this aim, and planters or similar vehicle barriers can be placed to guide vehicular access, helping to deter visiting service and trades personnel from parking on public walkways.

Publicly accessible spaces within a particular site or facility should promote clear delineation of public and private space to deter loitering and antisocial behaviour. The use of discreet warning signs – such as those stating ‘private property’ – is another measure that can achieve this.

Further enforcement of territoriality can be designed – through construction materials, changes of level, artwork, low walls and seating – to define desired movement areas and delineate borders between public, shared and private spaces; for example, many residential complexes have shared barbecue areas and swimming pools.

The delineation of public and private space through territoriality provides an element of psychological deterrence to criminals, who will be reluctant to enter places at the site that appear to be public, populated or with restricted access.

3. Ownership
In CPTED terms, ownership is the concept where the community and legitimate users of a facility take symbolic possession of the space to maintain and protect it. This can be accomplished by collaboration through means such as tenant and resident committees. For commercial sites, local law enforcement (police local area command) and emergency responses (ambulance and fire brigade) can also be involved.

Using clear signage to guide and direct entrants will aid in ensuring people go to the correct place, as both vehicles and pedestrians will be encouraged to correctly use the semi-public areas at the site, creating a safer environment and making it obvious if people are loitering or lost.

A perception that an area, site or facility is neglected will tend to attract a cycle of vandalism, squatting and other unwelcome use. Demonstrating ownership through actions such as removing graffiti and rubbish and fixing broken windows indicates to unauthorised users that the legitimate occupants care for the site, discouraging intrusion and antisocial behaviour.

4. Management
In the CPTED context, the space management concept extends to carefully selecting construction materials and the prompt maintenance and repair of the space. This aims to deter crime by presenting an environment that is well maintained and constantly used by authorised persons who will notice unusual incidents, such as people wandering about the site without a legitimate purpose.

Active measures include choosing graffiti resistant materials, implementing a system of regular and prompt repair, and ensuring common areas remain suitable for use by maintaining rubbish removal and cleanliness throughout the space.

Garden beds should be low enough so they do not provide space for concealment, and the edges may be treated with anti-skating obstacles or discs to prevent skateboard ‘grinding’. In addition, prickly or thorny plants can discourage intruders or loiterers from hiding in garden beds.

SECURITY SUSTAINED COST-EFFECTIVELY
The security measures described above are not exhaustive, as every site is unique in terms of the function, geography, assets held and local security risk profile. The CPTED approach does, however, provide a useful method to ensure asset protection and security measures at a particular site involve the minimum expenditure of scarce resources, effectively enabling sustainable legitimate facilities operations without disruption. FM

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