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Master Licence No. 000100317

16th December 2017

Paul Jewis
CI PROPERTY

TOTAL SECURITY MANAGEMENT PLAN AND CPTED RECOMMENDATIONS FOR Nulon Motor Oils – Bringelly Road Business Hub, NSW

This report/plan will acknowledge receipt of your emailed instructions dated 13th December 2017 requesting a Total Security Management Plan for the proposed development at the above location.

I can confirm that I have had the opportunity to review the documentation that you kindly forwarded to me. This included the following:

1. Preliminary drawings issued 27/11/2017 Pdf titled 2-319-277062 DA Binder.pdf

I note that at the time of preparation of this report, a development application has not yet been submitted to council.

In summary, the proposal is for a bulk storage warehouse on 21,967 sqm with 2 levels of office space and 70 carparking spaces.

I have not inspected the site as I was advised that it is a greenfield area with no infrastructure or development to inspect.

I have analysed the BOCSAR crime statistics for the development location. Heat mapping shows crime in the West Hoxton, Leppington and Horningsea Park areas is assessed as moderate in all significant categories near the proposed development. A hotspot area is showing a high level of activity in close proximity to the proposes site in relation to Break, Enter and Steal – Non Dwelling.

Contents

DISCLAIMER

All efforts are afforded to identify relevant areas of risk. The results are provided to enable the client to ascertain potential risks and strategies to ameliorate risk. This report alone does not ensure a reduction of risk or safeguard the facility or persons from risk. This report should be used by the client as a tool to enable the management and relevant stakeholders or other duly authorised persons reviewing the recommendation to make an informed decision regarding the potential for remedial treatments of identified risks.

This plan does not guarantee the identification of all possible risks and the Consultants providing this plan accept no responsibility for risks identified or not identified within the report.

National Security Consulting accept no responsibility for the actions taken or not taken as a result of the plan and details provided within the plan.

It should be noted National Security Consulting, its Representatives, Employees, Contractors and Consultants are not legal experts, nor legally qualified. Opinions expressed herein relating to legal matters, obligations or ramifications are provided as an observation or opinion only. We recommend the client seek advice from a suitably qualified Legal Practitioner prior to acting upon or responding to opinions expressed within this report.

This plan utilises information provided through discussion with stakeholders. It does not represent or attempt to represent on behalf of all stakeholders on all matters and information contained within is anecdotal in nature until proven otherwise.

The document is neither an exhaustive nor an exclusive document and it is acknowledged that other issues may be raised during consultations and in discussions that may not be included in the report. The consultants undertaking the review have not verified the information provided by each stakeholder.

CONSULTANT CREDENTIALS

Paul Charles - Consultant Lic. No. 409173206 - Electronic and Barrier Security Specialist. 30 years experience
NSW Police Force accredited in Crime Prevention Through Environmental Design (CPTED)

I am a licensed Security Consultant specialising in all aspects of security risk assessment and advice. I have an electrical trade background followed by a 20 year career with the New South Wales Police Force where I attained the rank of Detective Inspector. I held command positions in various criminal investigation units in the metropolitan area, including Commander of the South Western Sydney Armed Hold-Up unit. I have extensive experience in all facets of criminal investigation including homicide, fraud and major property crime. I am a qualified Senior Police Bomb Disposal Technician and served as a member of the Bomb Response Unit for the Sydney Olympic Games.

I have experience in the design and implementation of high security systems across a range of premises including Defence sites, Police Stations, Retail Properties, Sports Facilities, Local Government buildings along with Banking and Finance institutions.

In 2005 I joined Westfield as the Security Manager of the Sydney CBD properties including the iconic Sydney Tower. I managed the largest retail security contract in Australia and initiated and managed the upgrade of CCTV and access control systems for many Westfield properties.

In 2007 I took on a Consultant Project Manager role with RailCorp where I managed electronic security projects, trials and technology assessment.

In 2008 I joined the Commonwealth Bank of Australia as the Executive Manager – Protective Security for all CBA interests globally.

In 2010 I founded National Security Consulting and have provided the following services to my clients

- CPTED reports and safer by design advice for large residential and combined use development. Clients include Mirvac, Dyldam, Kanebridge Group, Zhinar Architects and Integrated Project Services.
- Security and Safety assessments for Starwood Hotels throughout Asia Pacific region. Training of senior hotel management personnel in Incident and Emergency Management.
- General Security Consultancy work as a sub-contractor. High end Federal, State and Local Government clients including Department of Defence, DFACS and ANSTO. Various corporate clients including Lend Lease, King Street Wharf, ALDI, Goodman Group, Vicinity Centres, Stockland, QIC, Mainteck, Royal Agricultural Society – Sydney Showground and the Royal Sydney Golf Club
- Electronic and Barrier security equipment trials and assessment
- Development of Policy, Standards and Procedures for various clients
- Risk and vulnerability assessment
- Security Management Plan development
- Electronic Security system design, installation oversight and commissioning

I hold the following qualifications:

- Crime Prevention Through Environmental Design – NSW Police Force
- Diploma in Security and Risk Management
- Practical Application of Protective Security within Government – ASIO T4
- Certificate IV in Security and Risk Management
- Certificate III in Investigative Services
- Implementation of Emergency Risk Management / Emergency Exercise Management (NSW State EMC)
- Chemical, Biological and Radiological Weapons course (Australian Defence Force)
- Bomb Appraisal Technician (NSW Police Force)
- Bomb Disposal Technician (S.A.C.P.A.V – ADF)
- Detective Education Program, Advanced Criminal Investigation, Homicide Investigators Course, Arson Investigators Course (NSW Police College)
- Incident and Emergency Management (NSW Police – EMA accredited)
- Electrical Trade (TAFE)

STAKEHOLDER CONSULTATION

I confirm that pursuant to your instructions, I have consulted with the following stakeholders
Green Valley Police – Crime Prevention Officer Senior Constable Raphael Frisina.

S/C Frisina required the report to address the following:

- CCTV coverage at vehicle and pedestrian entry points, carparking a general perimeter coverage
- Secure mailbox area
- Landscaping to comply with safer by design requirements
- Security fencing

Each of these requirements have been covered in this report.

CCTV SURVEILLANCE

Site specific requirements.

- Position cameras to identify all people and vehicles entering the site
- Position cameras to provide general coverage of the carpark and perimeter fencing

CCTV is an integral part of a defence in depth approach to security. As part of the overall security strategy / framework, Closed Circuit Television Surveillance Cameras and Digital Recording Equipment installed throughout the site has been designed with the aim of:

- Minimising the likelihood / risk of harm, loss or injury to persons working in, or visiting the site by deterring potential criminals and;
- In the event of harm, loss or injury to a person or persons, assisting the authorities in bringing criminals to justice.

The site will utilise CCTV predominantly for the purpose of security. Whilst the intention is for use as a security tool, you will be able to utilise the same images, systems and information for the purposes of, but not restricted to:

- The provision of evidence in verifying the legitimacy of claims for incidents including slips, trip, and falls;
- Work Health and Safety (WHS), and;
- Other occupancy related issues where the cameras and images adequately allow.

The use of images for any other purpose is prohibited and the CCTV will not be used to invade the privacy of any individual.

CCTV images captured and stored on the Network Video Recorder (NVR) are sensitive data and must be treated as restricted information. The Privacy Act and Workplace Surveillance Act place strict controls on the use and management of CCTV systems. Staff must treat all footage with the utmost confidentiality. Police rely on CCTV for many investigations and the site policy is to facilitate any lawful request from a Police agency.

All data collected using this system, including images, will be managed in accordance with the provisions of the Privacy Act 1988 and the building management Ltd privacy policy. Any frivolous use or any use for private purposes of CCTV or the material it produces will constitute gross misconduct.

The CCTV philosophy is to ensure that:

- All persons entering the site are able to be identified including facial recognition
- Areas of the site which are open to and used by the public are able to be monitored including all street frontage areas
- Vehicles entering the site are able to be identified including number plate recognition
- Lift lobbies on the ground floor and basement will be monitored
- Lifts are monitored
- Areas of concealment within the basement levels will be monitored
- The mailbox areas will be monitored
- CCTV footage is retained for a minimum of 30 days

CAMERA PERFORMANCE REQUIREMENTS

The following information is intended for use by the contractor engaged to carry out the CCTV installation works. A licenced specialist electronic security installer must carry out installation of CCTV cameras and related equipment. Reference has also been made to building management responsibilities to ensure that the recommended system remains current and effective.

DO NOT USE ANALOGUE CAMERAS OR COAXIAL CABLING

DOME CAMERAS ARE NOT TO BE MOUNTED ON EXTERNAL VERTICAL WALLS WITHOUT USING USING A WALL MOUNT BRACKET TO ENSURE THE APEX OF THE DOME FACES THE GROUND.

Scenario Type - Facility Entry / Exit (Security) Identification of Persons

The typical identification camera must provide a clear and functional view:

Camera Placement
It is the responsibility of the Contractor to ensure the objective / purpose of the camera is achieved. It is the Contractors responsibility to achieve the specified coverage, views, and quality of image. The Contractor shall assess all indicative locations prior to placement to ensure he is satisfied the indicative location will achieve the specified result of image quality and image objective and purpose.

Cameras shall not necessarily be mounted on a ceiling or at a height that would produce a view looking down onto the target image. The view should capture entry of persons through a doorway from at least ground level to approximately 2 metres off ground, with approximately 1.5 metres across (or cover complete entry, whichever is the greater whilst still ensuring adequate quality of detail of the person entering or leaving through the doorway). The image must be functionally usable, crisp, and clear.

General Quality of image
The required and expected quality of image is such that the image will not flare in bright light, will manage bright back light situations, and will not distort due to cabling or power related induction. The image must be clearly in focus and the camera must be set up on site to suit the individual application to ensure the best possible image is attained. All images must be functionally usable with no part of the image adversely affecting the objective of the camera for its purpose as detailed below.

Image objective / Purpose:
Image of a person for identification purposes – The image is to show clear detail of a person's facial features, hair, skin colour and clothing including footwear. The image shall provide accurate colour reproduction in all light conditions. The image, when recorded to any media or printed, shall be capable of satisfying a court of law of the identity of a person beyond a reasonable doubt.

Image of an entrance / exit doorway
This will typically provide a clear view of the entrance or exit at the full extent from one side of the entry / exit way to the other. This image will show the complete opening from each extent to ensure the image of a person entering or leaving is clear and visible regardless of the direction or speed of travel used by the person to move through the entry or exit way, entrances and or exits to and from amenities, parents' rooms, and cash handling areas.

The camera used in this location must accommodate variable bright and dark contrasting scenes in both day light and night time, and the lens must accommodate clear and sharp images, edge to edge without distortion.

Key elements:

- ID at all entry points and mailbox areas. (Including difficult glare)
- High Resolution Camera to be set up to allow face to be seen (ie – not overhead)
- Camera set up with appropriate field of view to capture good detail.
- Face to be approximately 15% of the image
- NVR to record on LOW compression
- NVR to record 25 fps minimum at 1080p resolution and individually selectable per channel.

Scenario Type – Car Park Entrance & Exit Driveways, and Docks - Vehicle & Number plate ID

Locations identified are required for the purpose of recording vehicle and driver activity and movements.

Camera Placement

It is the Contractors responsibility to achieve the specified coverage, views, and quality of image. The Contractor shall assess all indicative locations prior to placement to ensure he / she is satisfied the indicative location will achieve the specified result of image quality and image objective and purpose. The view shall capture items, vehicles, and persons within the target view clearly with sharp and crisp reproduction.

General Quality of image

The required and expected quality of image is such that the image will not flare in bright light, will manage bright back light situations, and will not distort due to cabling or power related induction. The image must be clearly in focus and the camera must be set up on site to suit the individual application to ensure the best possible image is attained. All images must be functionally usable with no part of the image adversely affecting the objective of the camera for its purpose as detailed below.

The Contractor must assess the location and intended image with a view to installing a camera that is suited to the variable lighting conditions applicable to the location. This means, if there is a skylight, roller shutter, driveway facing toward bright external light or other variable light condition, the Contractor shall account for this in the application and selection of the camera. The lens must accommodate clear and sharp image edge to edge without distortion.

Image objective / Purpose:

The purpose of this camera is for use as evidence of entry, exit or delivery and related movements. Typical images from this view will record activity and movements taking place. Images should clearly view from each side of the entryway and the width of the roadway / path of vehicular movement. Approximate view will clearly display the target area to clearly identify vehicle types, number plates (where possible the driver situated within the vehicle) and other such items of interest. Eg; the whole of image showing the complete width of the vehicle and the associated vehicle control barrier, identifying the vehicle type, colour and registration plates, barriers and the like.

The camera used in this location must accommodate vehicle headlights, bright and dark contrasting scenes in both day light and night time.

Key elements:

- Vehicle Identification
- Camera to be set up so that both the driver and the number plate can be seen (ie: not overhead)
- Camera set up with appropriate field of view to capture good detail.
- Vehicle to be approximately 70% of the image, the number plate size should therefore represent no less than 5% of image (minimum 30 x 80 pixels)
- NVR to record on LOW compression
- NVR to record minimum 25 fps minimum at 1080p resolution individually selectable per channel.

Scenario Type – Perimeter Monitoring of Persons – Pathways, grounds and associated property for Incident Monitoring and security of pedestrians in low light applications, and use during day time and night time.

Locations marked or identified are required for the purpose of Monitoring of persons situated within the grounds, pathways and associated property adjacent to the site. Typically, this camera must provide a clear and functional view of a person moving in any direction in the area and also showing images of overall activity directly surrounding the target area. This camera is typically situated externally. The Contractor shall account for variable weather conditions.

Camera Placement

It is the responsibility of the Contractor to ensure the objective / purpose of the camera is achieved. It is the Contractors responsibility to achieve the specified coverage, views, and quality of image. The Contractor shall assess all indicative locations prior to placement to ensure he is satisfied the indicative location will achieve the specified result of image quality and image objective / purpose.

Camera placement will typically be mounted off ceiling or at a height that would produce a view looking down onto the target image. However, the view should capture persons within the target view clearly with sharp and crisp reproduction.

General Quality of image

The required and expected quality of image is such that the image will not flare in bright light, will manage bright back light situations, and will not distort due to cabling or power related induction. The image must be clearly in focus and the camera must be set up on site to suit the individual application to ensure the best possible image is attained. All images must be functionally usable with no part of the image adversely affecting the objective of the camera for its purpose as detailed below.

The Contractor must assess the location and intended image with a view to installing a camera that is suited to the variable lighting conditions applicable to the location. This means, if the camera is situated facing toward a rising or setting sun, the Contractor should account for this in the application and placement of the camera. The camera used in this location must accommodate variable bright and dark contrasting scenes in both day and night, and the lens must accommodate clear and sharp image edge to edge without distortion.

Routes of Travel

This will show a scene (within the view of the camera) clearly showing which direction the subject image has travelled from and which direction the subject image is travelling toward.

General Image of area

This will typically provide a clear view of the area or target image or area to be monitored. This image will show the complete area from each extent to ensure the image of a person moving through the area is as clearly as possible, visible (within substantial reason) regardless of the direction of travel used by the person approaching or departing the area.

Activity of persons

This will provide as clearly as possible information about the target image such as accurate colour reproduction, clear images of the person to enable identification of height, gender, clothing colour, and type, and other items of interest which authorities or management may use to assist in the identification of a person for whatever purpose is required.

The Contractor should determine the quantity and quality of cameras required in each area to ensure high quality images and adequate coverage. The Contractor is required to provide un-obscured views catering for continuity of images.

Key elements:

- Difficult Light conditions
- Cameras to be capable of managing changing and low light conditions
- NVR to record on Low compression subject to location
- NVR to record minimum 25 fps minimum at 1080p resolution subject to location and type and individually selectable per channel.

SYSTEM COMPONENTS

These requirements apply to all elements of the CCTV system installed in this property including but not limited to:

- Surveillance cameras. These are typically hard wired using IP (internet protocols) as the transmission medium, but in some cases may be wireless;
- Software applications and monitors to display and manage the images captured. These may be stand alone systems or form part of a larger networked environment;
- Recording equipment to record the images. All installed equipment relies on a NVR (Network Video Recorder or similar recording medium) and in large sites such as this, there may be several such devices that are networked together but appear as one virtual system;
- Secondary accessories/mechanisms that allow movement and protection of the cameras;
- Software that enables remote access over the internet to approved users, and;
- Software that activates cameras by video motion detection and alerts nominated staff of activity in pre-defined areas being monitored.

INTEGRATION WITH OTHER CRIME MANAGEMENT STRATEGIES

The CCTV systems installed are considered part of an overall security strategy / framework which includes:

- Security patrols and Police presence;
- Increased lighting in appropriate areas;
- Good natural surveillance;
- Crime prevention through environmental design strategies;
- Other physical security measures including intruder detection systems, access control and other electronic and/or mechanical means.

LOCATION OF EQUIPMENT

The Network Video Recorders (**NVR's**) must be installed in secure locations that are not accessible to, or capable of being viewed by unauthorised persons. A lockable storeroom is suitable.

The NVR's shall be rack mounted in a locked cabinet with access to the keys restricted to authorised users only.

Cabinet keys must be secured in the key safe when not being held by an authorised person.

No CCTV cameras are to be hidden in or near the site under any circumstances whatsoever and must be located in public view.

Dummy cameras are not permitted. All cameras must be active. Any cameras found to be not operating due to a fault are to be reported and repaired as soon as is practicable. Any cameras no longer required at a particular location are to be removed from the system.

SECURITY OF IMAGES

Physical and electronic security of images is critical to the integrity of the system. Access to the monitoring and recording equipment for live or stored/archived images is restricted to authorised persons who are fully trained in the use of the system.

Individual staff will be required to log on to the system with a unique password that logs the time and date of their access. The user login and password will restrict the operation of the system based on authority levels assigned by the system administrator or authorised user.

Hard copies of any images printed from the system are to be securely stored. Hard copies that are not required must be shredded.

Soft copies of images held on portable media such as CD, DVD or memory stick must be clearly labeled and securely stored.

Images held on this media that are no longer required must be effectively destroyed.

Images stored for evidentiary purposes must be securely stored and labeled

Video taping of the monitoring screen using a mobile phone or other portable device shall be strictly prohibited.

SYSTEM CHECK

At the commencement of every shift (if applicable) the Building Manager shall check that the system is operating correctly and that the date and time are correctly set. The system check shall be recorded in the CCTV Log.

SYSTEM DOCUMENTATION

CCTV system documentation includes:

- The operation and maintenance manuals - supplied by the system installer;
- The list of installed cameras and other devices - supplied by the system installer;
- The system schematic diagrams - supplied by the system installer;
- The maintenance and testing log book – supplied by the system installer, and;
- Request for access forms.

REQUEST FOR ACCESS TO STORED IMAGES

Any requests to access images captured by the CCTV system are to be carefully scrutinised and thoroughly documented. Access in this context means:

- Watching a live feed of images on a monitor;
- Reviewing stored images on a monitor;
- Requesting a soft copy of stored images on portable media such as CD, DVD or memory stick, and/or;
- Requesting a hard copy (print out) of an image.

All request/s for access to CCTV images must be formally documented and authorised.

As a minimum, the following information must be obtained / documented:

- Date of request;
- Time of request;
- Name (rank and registered number if a Police request) of person making the request;
- Verification of identification (ID) of person making the request;
- Contact details of the person making the request;
- Time, date and place of event under investigation;
- Nature of the request (for what purpose is the information being requested);
- Nature of the incident / event (assault, theft, robbery for example);
- Name of the offender or victim (if applicable / known);
- If a printout or soft copy of the image/s was made – the time and date it was handed to the Police or other authorised person;
- The signature of the applicant;
- The name and signature of the building management authorised person.

ACCESS BY POLICE

Any building management policy is to facilitate access to live or stored images by members of any Police Force or the Australian Federal Police making inquiries generally or in a specific case.

All requests for access to CCTV images must be documented regardless of whether a copy is made and handed to the applicant Police officer.

DELEGATION

The Building Manager is authorised to approve any request for access to images by a member of the Police force, subject to completion of the request for access to CCTV image form.

ACCESS BY OTHER THIRD PARTIES

From time to time, building management may receive requests for access to images by other parties including solicitors and the media.

Images are not to be released to a solicitor, the media or any other person unless directed by Subpoena in a particular case. Any such request, whether verbal or in writing, or the service of legal documents seeking access must be referred to the Building Manager and advice shall be sought from your legal representative. The person receiving the request in the first instance is to ensure that full contact details for the person making the request are obtained / documented.

Under no circumstances is any person to be given access to CCTV images without the appropriate authorisation. This includes video recording of CCTV monitor/s by another recording devices such as a mobile phone or video camera.

INAPPROPRIATE USE OF THE SYSTEM

If the CCTV system enables an operator to focus on or zoom in to a specific person or activity, under no circumstances is this capability to be used for anything other than legitimate monitoring or investigations. The use of this capability to zoom in on people, or view, capture, print or manipulate images for personal enjoyment or any other frivolous or personal purpose is prohibited and amounts to gross misconduct.

The system shall be capable of 'masking' any particular area for privacy reasons.

REMOTE ACCESS

The system shall be capable of providing remote access to all system functions via an internet (TCP/IP) connection for authorised users. The use of remote access functionality is limited to:

- Remote engineering support and diagnostics for system administration, support, and maintenance,
- Operational access in specific cases by authorised building management staff and;
- An authorised monitoring company. TBA

The ability to remotely access the system in either case shall be restricted by password and login controls as well as written authorisation from relevant building management.

Additionally, the remote diagnostic communications (modem) shall be capable of being physically disconnected by building management or the operator from the external PSTN line or where appropriate – network connection.

SIGNAGE

The installed system must be complemented by signs displayed at entry points and other locations in the site with the aim of ensuring all visitors are aware that CCTV is operating. The wording is,

"For your safety and security this area is under recorded video surveillance".

TRAINING

All staff and contractors who use the system must be trained from both a technical as well as a procedural perspective. The basis of this training will include reference to the operating manual and this policy and procedure.

Untrained staff must not access the system unless receiving training under supervision.

LIGHTING

Lighting plays an important role in improving Surveillance in darker areas and to maintain Surveillance at night. Vandal Resistant Security Lighting shall be installed to illuminate any areas of concealment. **Mercury Vapour or Low Pressure Sodium lighting shall not be utilised within this site.**

Lighting can contribute to crime prevention because:

- People feel safer in well-illuminated areas because they can see what and who is around them.
- It increases the risk of offenders being seen, reported and potentially apprehended.
- People are encouraged to use well-illuminated areas, which increases activity and thereby further deters crime and unwanted behaviours.

There are numerous Australian Standards for designing lighting for traffic and pedestrian safety, including:

- AS/NZS 1158.0:2005 Lighting for roads and public spaces – Introduction.
- AS/NZS 1158.3.1:2005 Lighting for roads and public spaces – Pedestrian area (Category P) lighting – Performance and design requirements.

Security Lighting (AS/NZS 1158.3.1:2005 Section 1.1)

The main purpose of the lighting covered in this Standard is to:

"*Assist pedestrians to orientate themselves and detect potential hazards and to discourage fear of crime and crime against the person while protecting the integrity of the night time environment through control of light spill and glare*"

Lighting for CCTV

Some CCTV cameras can provide images in low light conditions, but generally CCTV requires support from lighting in order to provide footage that can be of value for monitoring, investigations or provision of evidence.

Considerations for lighting to support CCTV should include:

- Consideration for even/continuous lighting levels that do not create shadows or dark spots to ensure clarity of footage.
- Ensuring that lighting does not create glare for the cameras (thereby obscuring or flaring images).
- Consideration for lighting that provides good colour rendition (See following section).

Colour Rendering AS/NZS 1158.3.1:2005

Colour rendering refers to the ability of the light source to accurately reflect the colour of objects.
For example, some lighting types (eg. sodium based lighting) make objects look more yellow than they normally look.
What the standards say about colour rendering:

AS/NZS 1158.3.1:2005 (Section 2.7 COLOUR RENDERING) suggests:

"The choice of light source should be based on an analysis of all the factors relevant to the particular application including aesthetics, environmental, lamp mortality and lumen depreciation, lamp cost, energy use, etc. Compatible with the operational and economical requirements of the lighting scheme, in general the type of light source used should have the highest colour rendering index (CRI) possible."

Further considerations for colour rendition:

The choice of light source should also be based on analysis of local crime and security lighting requirements. Some potential crime prevention related factors that may be relevant, that are not mentioned, include:
Lighting colour to support safety perception:

Research suggests that facial recognition is improved with the use of white light that provides good colour rendition. This also improves most people's perception of safety. British lighting standards recognise this and permit lower overall levels of lighting if the lighting sources provide the required colour rendition criteria.

Australian Standards take this issue into account for low light levels. Therefore, all external lighting shall comply with Australian Standards as detailed above.

LANDSCAPING FOR SURVEILLANCE

Landscaping design should allow clear, unobstructed views of surrounding public, semi-public and semi-private space.

Community Safety
Mature vegetation should be preserved wherever possible. New plants and landscaping should be shown on landscape plans with land user safety considerations clearly outlined. All landscaping and amenity areas should balance opportunities for natural observation with privacy considerations so as to err on the side of community safety.

Concealment
Avoid the planting of trees with concentrated (top-to-bottom) foliage as these provide concealment for potential offenders and generate fear of crime. Vegetation should not obscure observation of building entries, windows, and other vulnerable areas, recreation sites and pedestrian routes. Street/boulevard planting should ensure a clear site line for vehicular traffic to maximize natural surveillance opportunities. Where selected or existing vegetation restricts observation, lower canopy limbs should be trimmed to a point above head height (2.2 metres).

Shape Specific Species
Plant species such as low hedges and shrubs (0.9 metres max), creepers and groundcovers can be used to dissect normal site lines. Pencil pines, trained vines and other shape specific plant species can be used between windows and other building features to accommodate both design aesthetics and natural visibility.

Locations Requiring Minimal Surveillance
Experience has shown that the planting of shrubs against hard walls or security fences both prevents gratuitous crimes such as graffiti, and softens visually harsh landscapes.

MAINTENANCE

We recommend systematic maintenance of all perimeter lighting be undertaken.

Building management shall establish a policy in relation to the maintenance of all vegetation on site. Vegetation should be maintained in such a manner that complies with the above requirements and that vision of public and private areas is not obscured.

Systematic maintenance of the CCTV and Electronic Access control System shall be undertaken by a suitably qualified professional.

FENCING AND GATES

- Avoid using Colorbond fencing as this creates a surface that is desirable to graffiti artists.
- Where required, fencing and associated gates shall be Diplomat (or similar) 'Spear Top' anti-climb security fencing.
- The fencing and gates shall be installed to a minimum height of 1.8m although 2.1m is preferable.
- Fence panels shall be affixed using tamper resistant security screws.
- Fencing shall not be installed adjacent to an object that will assist a person to climb the fence.
- All gates shall be fitted with a door closer or similar gate specific closing mechanism.

GRAFFITI MANAGEMENT PLAN

Any surface can be a target of graffiti, however graffitists will generally choose a target that provides maximum exposure of their "tag" which will remain in place for the maximum amount of time, and which they can graffiti without being apprehended.

Therefore, more likely targets of graffiti may include:

- Blank walls along major roads;
- Elevated locations that are accessible to offenders and highly visible;
- Areas that offenders can graffiti and escape from quickly;
- Areas where graffitists don't stand out so they can graffiti without raising suspicion, e.g. transport stations/vehicles;
- Areas that are obscured from view so offenders are unlikely to be seen;
- Areas that are difficult to clean so the offender's tag will remain in place for some time; and
- Surfaces that are easy to apply spray paint or markers to, e.g. concrete, brick walls or porous surfaces.

Strategies that may be implemented for target hardening include –

- Choose surfaces that are difficult to apply paint or markers to, such as stainless steel, rough/uneven surfaces, non-porous materials such as impervious glazed ceramics, or use hedging plants or creeping vegetation to cover walls, or natural fencing material, e.g. bamboo or brush reed fencing (Green Screening);
- Minimise natural ladders that provide graffitists access to upper-level targets, e.g. high walls are highly visible so make very desirable targets for offenders;
- Locate signs at a height that makes them difficult for offenders to reach.
- Anti–graffiti coatings can be applied to most walls and structure types to make cleaning graffiti faster and easier.
- Secure garbage bins so they cannot be used to assist graffiti attacks.
- Use of lighting and CCTV to maximise the chances that offenders will be seen or caught (or increase their perceived risk).

Post-occupation, the building manager shall be tasked with inspecting the premises on a daily basis for presence of graffiti or other malicious damage.

Building management should have in place an appropriate contract for the prompt removal of graffiti.

In the event that graffiti is detected, it should be removed or painted over within 24 hours to deter further graffiti attacks.

NATURAL SURVEILLANCE

To ensure optimum levels of vision into and out of confined spaces such as stair wells and entrances, clear glass shall be used where possible instead of solid wall construction methods.

SECURITY OF UTILITIES

Utilities such as electrical mains, gas mains and telecommunications shall be protected by a lockable secure cabinet or secure room. External utility room doors shall be of solid core material and shall be fitted with a blocker plate to prevent jemmying of the lock.

STREET NUMBERING AND DIRECTIONAL SIGNAGE

- Street numbers must be clearly visible from the street in both day and night;
- There must be directional signage located at all entry points to the complex indicating the location of the building managers office;
- The car park will have directional arrows and signage;
- Pedestrian pathways will be clearly defined;
- A map of the complex must be displayed in the vicinity of the emergency vehicle parking areas;
- 'Park Smarter' theft prevention signage shall be installed at all vehicle and pedestrian entry points to any carpark.

MAIL BOX SECURITY

The mail box shall be vandal resistant and fitted with a secure key lock to prevent and deter mail theft.

WITNESS TESTING AND COMMISSIONING

It is a requirement that all of the above security features are witness tested and commissioned by an appropriately qualified Security Consultant. This is particularly important in regards to the CCTV and Electronic Access Control System if fitted.

CONSTRUCTION SITE SECURITY REQUIREMENTS

Offenders are frequently targeting construction sites and committing a range of offences such as Break, Enter and Steal, Malicious Damage and general theft of property. Items targeted include tools, appliances and copper.

The construction site shall be secured by an appropriate security fence which is to be properly locked and secured when the site is not operational. Valuable items such as tools, appliances and copper shall be secured in lockable containers in a single well lit area of the site that is clearly visible from the street.

Nightly security patrols should be utilised to deter and detect offences at the site.

Consideration should be given to using a monitored video verification alarm system to secure high value items. The Videofied system is recommended. These systems can be leased for the construction period.

CONCLUSION

The strategies identified within the CPTED Report have been developed through research, awareness, and general discussion, with the objective of 'target hardening' the development to deter possible offenders. With surveillance and access control, lighting, open public spaces and clear signage and sight lines, there is sufficient security and safety provisions to mitigate the risk of crime.

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