Block 1 Central Park SSD Application

Crime Prevention Through Environmental Design Report

Client:
Central Park JV No.2

Date:
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APPENDICES

1 Introduction

1.1 Overview

This report has been prepared to accompany a State Significant Development Application (SSDA) for the mixed use development of Block 1 in Central Park (formerly known as Frasers Broadway), Chippendale.

The purpose of this report is to carry out a Crime Prevention through Environmental Design (CPTED) analysis of the proposed development of Block 1. It addresses 'Safer by Design' principles for crime prevention for Block 1, in accordance with the Secretary's Environmental Assessment Requirements (SEARs) dated 25 June 2014. Condition 3 of the SEARs ('Built form and design') requires that consideration be given to 'Safer by design' in the assessment of the proposal for Block 1.

This report contains:

» **Community Safety Strategy** – which outlines broad aims, objectives and strategies for CPTED that generally apply across the whole Central Park site against best practice 'Safer by Design' principles, and

» **Community Safety Plan** – which provides commentary, assessment and recommendations relating to Block 1's building design, parking structure design and other design considerations, against the stated aims, objectives and strategies in the Community Safety Strategy.

This report considers design (physical) and management / operational (non-physical) components of Block 1 that relate to crime prevention and community safety.

Refer to **Appendix A** for further details and explanation of CPTED terminology.

Frasers prides itself on delivering high quality and environmentally responsible development projects and Block 1 demonstrates the Frasers ethos.

1.2 Statement of Commitments

This report has been prepared to satisfy the Statement of Commitments associated with the approved Concept Plan. Specifically, this report addresses commitments no. 30 – 32 contained within Schedule 4 of the Concept Plan Approval (MP06_0171) as modified. Commitments no. 30 – 32 relate to the undertaking of detailed CPTED assessment as part of the preparation of detailed project applications.

The relevant commitments are:

30. A Safety Management Strategy will be prepared and provide guidelines for the application of CPTED principles and 'Safer by Design' best practice models.

31. A Safety Management Plan will be submitted which address issues relating to building design and parking structures design, vandal proof finishes and graffiti proof finishes, lighting, convenience location and other design considerations. The Safety Management Plans will also incorporate the performance criteria and compliance checklist addressing the guidelines outlined in the Department of Urban Affairs and Planning (now the Department of Planning and Infrastructure) Crime Prevention and Assessment of the Development Applications Guidelines under Section 79C of the Environmental Planning and Assessment Act 1979.

32. The NSW Police will be consulted throughout the CPTED assessments for all applications for the CUB site.

1.3 CPTED Principles

The assessment undertaken in the preparation of this report is based on an overarching strategy for safety and crime prevention at Central Park, as contained within the overarching CPTED Report for the modified Concept Plan (*Preliminary CPTED Report for Modified Concept Plan*, Elton Consulting, April 2008). The overarching report set out the CPTED framework for all development at Central Park and contained an analysis of the crime and safety issues in the neighbourhoods surrounding the Central Park site, including crime hot spots, incidents and trends.

The principles adopted in the overarching report are those of CPTED – a contextual approach to crime prevention. This involves using design to both intensify the difficulty to possible offenders and diminishing the rewards. The report is supported by five overlapping principles that have been applied to the modified Concept Plan, and are described in **Appendix A**. They are:

» Territoriality
» Natural Surveillance
» Access Control
» Maintenance (space management)
» Activity Control.

The assessment of Block 1 is consistent with the overarching report for the Concept Plan and in doing so, is consistent with principles and philosophy NSW Department of Urban Affairs and Planning's (now the Department of Planning and Infrastructure), *Crime prevention and the assessment of development applications: Guidelines under section 79C of the Environmental Planning and Assessment Act 1979*.

The assessment of Block 1 investigates how the design of Block 1 embraces, or intends to embrace, principles of CPTED; natural surveillance, access control, ownership (territoriality) and space management (maintenance).

Development and implementation of ongoing security management systems for the proposed development are considered essential to achieve the 'Safety by Design' principles. This is referred to as CPTEM ('Crime Prevention Through Environmental Management'). It is therefore recommended that as an ongoing crime prevention strategy, the security management regularly link in with the security systems in place for other buildings in Central Park.

1.4 Methodology

Elton Consulting has relied on consultation with the project team, desktop research and review and analysis of design documents in the preparation of this report. The design drawings prepared by Foster and Partners with PTW as collaborating local architects, and landscape / public domain drawings prepared by Jeppe Aagaard Andersen & Turf Design Studio (JAAA+TDS) have been reviewed in the preparation of this report. Consultation with the NSW Police has also been undertaken.

1.5 Disclaimer

Information within this report is based upon information provided to Elton Consulting in June 2014. In preparing this report, Elton Consulting does not offer any promise or guarantee of safety to persons or property. This report has been peer reviewed by a qualified CPTED professional. This report is accurate in so much as it relies on information provided at the time of the review and reporting process. As additional information is provided it may be necessary to review and update this report.

2 Proposed Development

2.1 Central Park

The Central Park site is a 5.795 hectare rectangular parcel of land that occupies a significant proportion of the north eastern section of the suburb of Chippendale. Central Park is located on the southern edge of the Sydney CBD. The site is in close proximity to Central Station, Broadway Shopping Centre and the University of Technology, Sydney.

Following the purchase of the site in June 2007, the landowner undertook an extensive community consultation and design enquiry process. One of the major issues identified by the public during consultation was community health and safety. In response to this, CPTED has been incorporated into the overall design approach.

2.1.1 Approved Concept Plan

The Concept Plan approval for Central Park (MP 06_0171), as modified, permits the construction of a mixed use precinct comprising:

» 11 development blocks
» 255,500m^2 of Gross Floor Area (GFA) of which a minimum of 30% must be commercial floor space
» Combined basement car parking
» A new public park
» Tri-generation and re-cycle water treatment plants
» Retention of heritage items
» Public domain works
» Contributions.

A number of modifications have been made to the Concept Plan since 2009 relating to the distribution of GFA, design of public domain and amendments to conditions. In December 2013, approval was granted for a modification to the concept plan to permit residential land uses within Block 1.

2.2 Proposed Development of Block 1

2.2.1 Location

Block 1 is located on the northern boundary of the Central Park site, with frontage to Broadway. The site is bounded by Block 4N to the west (located on the corner of Broadway and Abercrombie Street) and Chippendale Way to the east, which provides vehicle access into Central Park site from Broadway. The southern boundary of the site has frontage to Central Park Avenue. Further south of the site is the existing heritage brewery building.

The application also includes the below ground area below Block 1 and 4N, in the location of the existing basement car park approved under MP 08_0253.

Within the Central Park site, development that surrounds Block 1 includes a range of uses. These include:

» Office uses to the west, with commercial (retail) development on the ground floor

» Residential uses to the east, with commercial (retail) development on the ground and lower ground floors

» Open space to the south, with the existing heritage brewery building to be retained and adaptively reused for a mix of commercial uses.

Block 1 is located along the major transportation corridor of Broadway, along the northern border of the Central Park precinct. Development across Broadway from Block 1 includes retail and educational premises related to the University of Technology, Sydney.

2.2.2 Proposal

Block 1 will provide a mix of residential accommodation in an area well serviced by public transport and in close proximity to the retail, work and education opportunities offered by the Sydney Central Business District (CBD) and surrounds.

The SSD application seeks consent for the redevelopment of Block 1 as a residential flat building, with associated non-residential/retail uses located on ground floor. The proposed 18 storey building includes 17 levels of residential apartments, roof plant room and five basement levels below Block 1 and Block 4N.

The proposed building will accommodate 281 apartments, a gym, a pool area, sauna, and terraces/balconies and/or loggias to all apartments (refer to Architectural Plans prepared by Foster and Partners with PTW as collaborating local architects). The ground floor contains retail tenancies (totalling 1,098m2 of GFA).

Access to the basement is via Abercrombie Street (loading dock entry) and Central Park Avenue (residential/visitor/car parking entry).

Proposed public domain works involve hard and soft landscape treatment of the surrounding footpath areas around the proposed built form envelope (refer to Landscape Plans prepared by JAAA+TDS).

Figure 1 Location of Block 1

Source: Near Maps

3 Consultation

Central Park has been developed through a major and ongoing commitment to engagement with the community and other key stakeholders. This includes consultation on issues pertaining to crime and safety for this project. Extensive consultation has previously occurred as part of the preparation of the initial CPTED Report for the Concept Plan (2006) and the modified Concept Plan (2008). This included consultation with:

» City of Sydney Council Community Safety officer
» NSW Police (Redfern Local Area Command and Parramatta Crime Prevention Office)
» NSW Department of Planning and Infrastructure (formerly NSW Department of Planning)
» UTS Security Service
» TAFE (Sydney Institute)
» State Transit Authority (STA).

These stakeholders provided information on crime hotspots, crime incidents and perceptions, and crime trends for the neighbourhoods and educational institutions surrounding the Fraser's Broadway site.

Some key points mentioned were:

» Crime hotspots in the Chippendale area, while relatively common, were mostly transitory in nature and did not have a prolonged life
» The City of Sydney Council Community Safety Officer noted that there was a general perception among Chippendale residents that crime levels in the area were decreasing and that the area was becoming a safer place to live
» Other crime hot spots identified by the Redfern Local Area Command were Redfern Railway Station and Victoria Park.

In addition, consultation with the NSW Police (Redfern Local Area Command) has occurred in the preparation of detailed CPTED reports for individual blocks, including Block 1. A meeting was held with the Crime Prevention Officer from Redfern Local Area Command on 12 June 2014. The purpose of the meeting was to provide details of the current proposal for Block 1 to the NSW Police, discuss key CPTED issues and obtain feedback on relevant matters for this application.

Feedback received during the meeting has been taken into consideration in the assessment of Block 1. It is intended that the preparation of this report reflects the issues and recommendations arising from these earlier consultations.

Ongoing consultation with key stakeholders throughout development of the project is occurring. It is understood that consultation on the design of Block 1 will be carried out with key stakeholders in accordance with the requirements of the SEAR's. In particular, consultation will be carried out with the Chippendale Residents Interest Groups (CRIG). A summary of issues raised during consultation, and how the proposal responds to those issues, shall be provided in the EIS.

Relevant stakeholders will also have the opportunity to access information about the proposal and / or provide formal feedback at the public exhibition stage.

3.1 Feedback from NSW Police

A summary of key issues discussed with the NSW Police, and how these issues have been or will be addressed in Block 1, is presented in the table below.

Table 1 Issues raised by NSW Police

Issue	How the proposed development responds
1. Ground floor retail uses – minimise opportunities for theft by reducing the number of entries/exists to individual tenancies (i.e. avoid 3+ entries/exists to a single tenancy)	With the exception of 2 tenancies, which have 2 entries each, all retail tenancies have a single entry/exit. Refer to Ground Floor plan prepared by Foster & Partners.
2. Ground floor retail uses – ensure CCTV cameras capture entry/exit to each tenancy.	All entry/exit points will be monitored by CCTV cameras. Refer to Section 5.2.9 of this report and the Security Camera Plan enclosed with the SSDA documentation.
3. Ground floor pedestrian walkway between Block 1 and 4N – ensure this space incorporates crime prevention through environmental design aspects such as: a. CCTV monitoring whole space b. Lighting (low lights should face down to avoid glare) c. Shopfront exposure d. Landscaping that will not inhibit CCTV from capturing the pedestrian space.	Refer to Section 5.2.5 of this Report. The pedestrian walkway shall be monitored by CCTV cameras placed on the periphery of Block 1. Refer to Section 5.2.6 for discussion about lighting, 5.2.6 regarding landscaping, and section 5.2.10 regarding the ground floor retail uses to encourage surveillance.
4. Residential pool/gym – ensure compliance with relevant regulations in relation to pool safety, including guidelines around CCTV footage, signage, self-closing doors, high door handles, etc to protect pool users, in particular children.	The residential pool will comply with the pool safety requirements with respect to pool fences.
5. Residential pool/gym – minimise potential for complaints from neighbours and residents by sound proofing the pool / gym. Potentially give consideration to nominating set hours for access to the pool.	A noise assessment has been carried out for the Block 1 SSDA. The assessment concludes that all potential noise impacts have be addressed, and necessary noise mitigation measures put in pace, in accordance with BCA requirements, to ensure noise from the residential pool and gym can be managed.
6. Residential gym – consider a glass wall to the gym to allow for users to see in and out when entering and exiting the gym, and to avoid predators hiding in the gym space.	The residential gym space will consist of a combination of glass and solid walls.
7. Residential balconies on Level 03 – minimise opportunities for illegitimate entry between residences by controlling height of balustrades / opportunities to access the Level 03 garden.	Refer to Figure 4. Planting is provided as a barrier between balconies and the skylight to the pool, which acts as a barrier.

Issue	How the proposed development responds
8. Skylight to pool on Level 03 – ensure the treatment / material of skylight prevents illegitimate entry or opportunities to throw items into the pool from balconies.	Refer to Section 5.2.3 of this report. The pool skylight cannot be opened, and will be treated with fixed glass panels.
9. Residential communal BBQ space – consider building management restricting hours of operation / use of the BBQ space and requiring deposits for larger groups.	Refer to Section 5.2.3 of this report. Whilst not an issue to be resolved at this SSDA stage, recommendations about the use and hours of operation of communal areas have been made.
10. Residential communal BBQ space – ensure balustrade is of a sufficient height to prevent items being thrown from the edge.	Refer to Section 5.2.3 of this report. The balustrade height complies with relevant BCA requirements. Appropriate measures have been incorporated into the design to minimise opportunities for objects to be thrown from the edge. Signage will be installed to outline the rules when using the space.
11. Residential mail room – to prevent illegitimate access to mail boxes, consider potential to provide glass lockable access door to the mail room, or, ensure key card/security access to residential building lobby.	Refer to Section 5.2.1 of this report. The mail room is separated from the public realm by the main lobby doors, with are key car/security controlled. The mail room is also visible from the resident lounge on the ground floor and positioned behind the concierge desk, thereby able to be surveyed by residents and the concierge. The mail room is considered to be appropriately located some distance from the main entry to assist in preventing mail theft.

4 Community Safety Strategy

4.1 Overview

This section contains a Community Safety Strategy to satisfy commitment no. 30 contained within the Concept Plan approval for Central Park (as modified).

According to the Statement of Commitments, the Community Safety Strategy provides guidelines for the application of CPTED principles and 'Safer by Design' best practice models. As such, the Strategy is broad and contains objectives and generic design features that, if implemented, could assist to achieve CPTED principles.

The Community Safety Strategy contains broad, overarching principles that have been applied generally to all blocks at Central Park.

4.2 CPTED objectives

The following objectives underpin the Community Safety Strategy for Block 1:

» Create a secure public domain for all users at all times
» Create a secure and easily accessed pedestrian and transport network
» Create a secure environment during the construction process
» Address the crime prevention needs of special user groups
» Contribute to the creation of a secure community for residents around and on site
» Promote health and injury prevention
» Promote and support crime prevention through formal surveillance and appropriate signage
» Create a secure and well-maintained built environment.

It is noted that these objectives refer to aspects of community safety that are outside of the scope of CPTED; however, are important elements to the creation of an environment that promotes community safety.

These objectives are consistent in principle and philosophy within the guidelines outlined in the NSW Department of Urban Affairs and Planning's (now Department of Planning and Environment)*Crime prevention and the assessment of development applications: Guidelines under section 79C of the Environmental Planning and Assessment Act 1979*and the City of Sydney's *Design Guide for a Safer Community: A Framework for Planning a Safer City* (John Maynard, June 2004).

4.3 CPTED design and management features

Objective 1: Create a secure public domain for all users at all times

Explanation of the objective

The public domain around Block 1 shall be legible, easy to navigate, promote social interaction and contain lively public spaces that are filled with activities compatible with surrounding uses.

In pursuit of this objective, the proposal shall include the following design and/or management elements:

» A public domain that encourages visual and pedestrian permeability by connecting to the existing road and pedestrian pathways
» A public domain that maximises opportunities for natural surveillance and visibility, and created uninterrupted sightlines, through the use of lighting, appropriate landscaping and straight, wide and legible pathways
» Activated streets and public spaces that allow for a variety of compatible activities and user groups (e.g. shops, cafes, entrances to building lobbies, etc.) to attract pedestrian activity and thereby maximise natural surveillance
» A mix of uses that are compatible with adjoining and co-located uses and are designed to support public safety and health
» Avoidance of small corners or entrapment spaces in the public domain.

Design features to assist in achieving this objective

» Use of glazing on the building facade at the ground floor to enclose private areas from the adjacent public areas but also encourage sightlines and casual surveillance between public and private domain
» Position outdoor lighting at regular intervals, to provide consistency of lighting and prevent shadows and glare
» Use landscaping that consists of low-lying plants or high-canopy trees that facilitate visual permeability and sightlines in the public domain and to prevent potential spaces for concealment
» Use of security cameras in strategic locations to record potential criminal or anti-social activity

Objective 2: Create a secure and easily accessed pedestrian and transport network

Explanation of the objective

Block 1 will be located within a safe, locatable and easily accessed pedestrian and public transport network.

In pursuit of this objective, the proposal shall include the following design and/or management elements:

» A secure pedestrian network, made up of preferred routes and safe spots in public spaces, that increase security of all users during the day and at night
» Signage used throughout the pedestrian network that includes non-written forms of signage, such as maps, to assist non-English speaking people to navigate the site
» Co-locate pedestrian, cycle and vehicle routes that maximise activity and natural surveillance opportunities, whilst ensuring a safe interface between all modes of transport
» Footpaths, cycle-ways and pedestrian areas designed to ensure that pedestrians and cyclists have priority over vehicles
» Car parks that provide direct access routes which maximise natural surveillance and visibility

» A pedestrian and cycle network which facilitates efficient connectivity with external facilities, including the Central public transport hub
» Activity generators (cafes, restaurant and entertainment areas) that have short logical connections to public transport and the safe pedestrian network.

Design features to assist in achieving this objective

» Use appropriate lighting in the public domain, particularly on pedestrian and vehicle pathways and entry points to the building/lobby
» Discourage the location of blank walls along main roads or pedestrian routes
» Use temporary and permanent signage during construction to assist people to easily locate desired active and public transport services and facilities.

Objective 3: Create a secure environment during the construction process

Explanation of the objective

Development of Block 1 will be managed to provide a safe and amenable environment for surrounding business owners, visitors and residents throughout the construction process.

In pursuit of this objective, the proposal shall include the following design and/or management elements:

» Proactively manage and stage development so that a safe environment is created for visitors, business owners and residents who pass the site at all times during the construction process (e.g. manage public access to areas under construction, undeveloped sites and roads)
» Ensure prompt maintenance and repairs at all construction sites (e.g. remove graffiti promptly to maintain a 'cared for' image) and facilitate prompt reporting of any damage or repair needs (e.g. place signs indicating contact details for emergency maintenance in a prominent location)
» Educate surrounding residents, visitors and business owners on safe areas and "no go zones" during the development process
» Conduct site safety audit each day during construction to ensure safety standards are maintained by workers.

Design features to assist in achieving this objective

» Provide security barriers and necessary fencing during the construction phase
» Ensure paving of pedestrian pathways and public domain areas is consistent and provide smooth transition along pathways during construction.

Objective 4: Address the crime prevention needs of special user groups

Explanation of the objective

The specific crime prevention needs of special user groups (e.g. children, younger people, older people and people living with a disability) are understood and addressed.

In pursuit of this objective, the proposal shall include the following design and/or management elements:

» Ground level maximises pedestrian comfort, amenity and accessibility through wide openings and easy access to retail spaces
» Provision of lifts and ramps in publicly accessible areas
» Pedestrian walkways that accommodates users with mobility disabilities (e.g. use of ramps)

» Create non-written means of legibility, such as the creation of visually and physically inviting places, through the use of lighting and wide, inviting pedestrian pathways
» Undertake discussions with relevant authorities and community organisations to manage homelessness and social issues positively
» Ensure the public domain provides stimulus for a wide diversity of user groups including young children, youth, physical as well as mentally impaired and the elderly
» Provide a diversity of fittings and modifications to the public domain that facilitate accessibility and ease of movement for the physically handicapped and for children, such as lighting, handrails, ramps (where required).

Design features to assist in achieving this objective

» Provide consistent ground treatments (e.g. paving) and smooth transitions between public domain, semi-public and private areas.

Objective 5: Develop a secure community for residents around and on-site

Explanation of the objective

Residents, visitors, business owners and service providers (e.g. UTS, TAFE, City of Sydney Council, NSW Police, fire, ambulance, security, State Transit, taxi operators, etc.) will be supported as active partners in creating a safe environment.

In pursuit of this objective, the proposal shall include the following design and/or management elements:

» On-going consultation with surrounding residents and communities on design and construction progress, to inform adjacent residents and other major stakeholders of key safety initiatives during construction
» Consult with government agencies, adjacent communities and residents and owners of commercial facilities during development
» Technical surveillance provided for Central Park.

Objective 6: Promote health and injury prevention

Explanation of the objective

Encourage people to work and live a healthy lifestyle and take an active role in safety and injury prevention.

In pursuit of this objective, the proposal shall include the following design and/or management elements:

» Encourage a variety of diverse and active uses linked to public open space
» Proactively work with all stakeholders during the development phase, including clients, designers, contractors and the workforce, to create an incident and injury-free workplace.

Objective 7: Promote and support crime prevention through formal surveillance and appropriate signage

Explanation of the objective

Ensure publicly accessible areas will be safe for all user groups through the use of formal surveillance and signage.

In pursuit of the above objective, the proposal includes the following elements:

» A comprehensive security management system that includes CCTV cameras in the public domain and semi-public areas if the building and on-site management to monitor Block 1 and its surrounds

» Install CCTV cameras in appropriate locations to enable surveillance of vulnerable areas
» Use signage to increase safety by improving people's ability to find their way about Block 1 at all hours
» Use signage to provide clear information about access routes.

Design features to assist in achieving this objective

» Ensure that signs that are essential for night-time use are lit.

Objective 8: Create a secure and well maintained built environment

Explanation of the objective

Block 1 will have a legible, durable and well maintained built environment that is secure, feels safe to users and deters crime.

In pursuit of the above objective, the proposal includes the following elements:

» Buildings should be made to feel safe and deter crime by creating a legible hierarchy of spaces; providing safe egress and access at all building entrances; removing opportunities for illegitimate entry; clearly delineating boundaries between public, semi-public (or shared) and private spaces; locating lifts for maximum visibility and natural surveillance
» Maximise opportunities for passive surveillance, particularly of public open space areas
» Ensure ample and safe opportunities for maintenance of the public domain
» Provide a safe level of illumination at the ground level and public domain around the buildings with an emphasis given to preferred routes to encourage their usage by pedestrians, and supplementary lighting at lobby entry points
» Clearly delineate public and private spaces through the provision of glazing, doors and materials
» Ensure consistent ground surface and transition between public and private spaces
» Ensure prompt maintenance and repairs of the built environment (e.g. remove graffiti promptly to maintain a 'cared for' image) and facilitate prompt reporting of any damage or repair needs
» Develop a building management or facilities maintenance plan on occupation to ensure maintenance is carried out regularly.

Design features to assist in achieving this objective

» Use appropriate locking systems where access should be restricted
» Design lighting so that entrances, exits, service areas, pathways etc., are well lit after dark when they are likely to be used
» Provide wide pedestrian thoroughfares across the site
» Use glazing at the ground level where public and private spaces interface
» Use materials, finishes, equipment and fixtures that are attractive, robust, replaceable, reduce opportunities for graffiti and vandalism.

5 Community Safety Plan

5.1 Overview

This section contains the Community Safety Plan to satisfy commitment no. 31 of the Concept Plan approval for Central Park (as modified). The Community Safety Plan uses the broad objectives of the Community Safety Strategy as the basis to describe and assess the proposed SSD application for Block 1.

The assessment contained in this section of the report is structured in accordance with the main design (physical) and management (non-physical) elements of Block 1 and addresses the public domain, semi-public domain and interface between public/semi-public and private areas.

The CPTED assessment of the Block 1 SSDA Plans addresses the following:

» Building design (e.g. entry/exit points)
» Building design – car and bicycle parking and delivery / loading areas
» Building design – communal areas
» Building design – servicing areas (e.g. "back of house" areas such as plant rooms and garbage rooms)
» Public domain design
» Public domain design – lighting
» Public domain design – signage
» Landscaping
» Formal surveillance and security
» Building uses
» Transport
» Construction management
» Consultation.

5.1.1 Summary of CPTED assessment

Block 1 consists of public domain elements, built form elements associated with the proposed building, and the interface of the public and private areas, as well as the surrounding pedestrian and transport network. Each of these aspects works in combination to contribute to crime prevention and the creation of spaces that promote community safety.

This section focuses on both the physical design aspects for Block 1 which contribute to achieving the principles of CPTED, as well as the non-physical/operational/management aspects of the building (once occupied).

Only the physical design elements can be certified as being complied with at the time of occupation.

Public domain

Public areas within and around Block 1 consist of the public streets and pathways directly surrounding the proposed built form, which are made attractive and inviting for legitimate users through a variety of physical design and non-physical elements. These include:

» Built form design that facilitates safety, sightlines and surveillance, and avoids entrapment, in the public domain
» Use of appropriate materials, fixtures, finishes, lighting and landscaping
» Appropriate building uses that generate activity
» Ensuring maintenance of the public domain is facilitated.

The public domain to the east of the site is a public street (Chippendale Way) that separates Block 1 from One Central Park. Chippendale Way is a significant entry into the Central Park site, allowing pedestrians to access the open space in the centre of the Central Park site (and associated bar/retail/entertainment uses proposed). It is envisaged that the link will generate high volumes of pedestrian activity.

The public domain to the west of the site is publicly accessible via a pedestrian thoroughfare. The thoroughfare separates Block 1 from the building to the west (Block 4N). This thoroughfare is a pedestrian-only north-south link allowing pedestrians to access the central part of the Central Park site from Broadway and connecting to Central Park Avenue. It is envisaged that the link will generate high volumes of pedestrian activity.

Activity generating uses within Block 1 are located on the ground floor generally wrapping around the entire ground floor frontage of the building, with the exception of the vehicular entrance along Central Park Avenue to the south and the residential lobby fronting Chippendale Way to the east. The provision of retail uses at the ground floor on all façades of the building will attract shoppers and pedestrians to the area.

The design of the building provides opportunities for surveillance of the public domain adjoining the retail spaces. This is achieved through the use of glazing, which facilitates direct sightlines and light spill from internal lighting, and therefore contributes to lighting the pathways and making public areas feel safer during the day and night.

There are multiple opportunities to include cafes/restaurants within the ground floor, which would generate night and day activity in the area.

The provision of terraces, loggias and balconies above ground level provides opportunities for overlooking of the surrounding streets and public areas, to enhance surveillance of the public domain. Terraces and/or loggias are provided on the northern, southern, eastern and western facades of the building on Levels 1 through Level 18 as follows:

» Level 2: Pool terrace on western facades and balconies to northern, eastern and southern facades

» Levels 2 to 15: Balconies on all facades

» Level 16: BBQ terrace to southern façade overlooking Central Park Avenue, terraces to eastern and western facades and balconies to northern, eastern and western facades

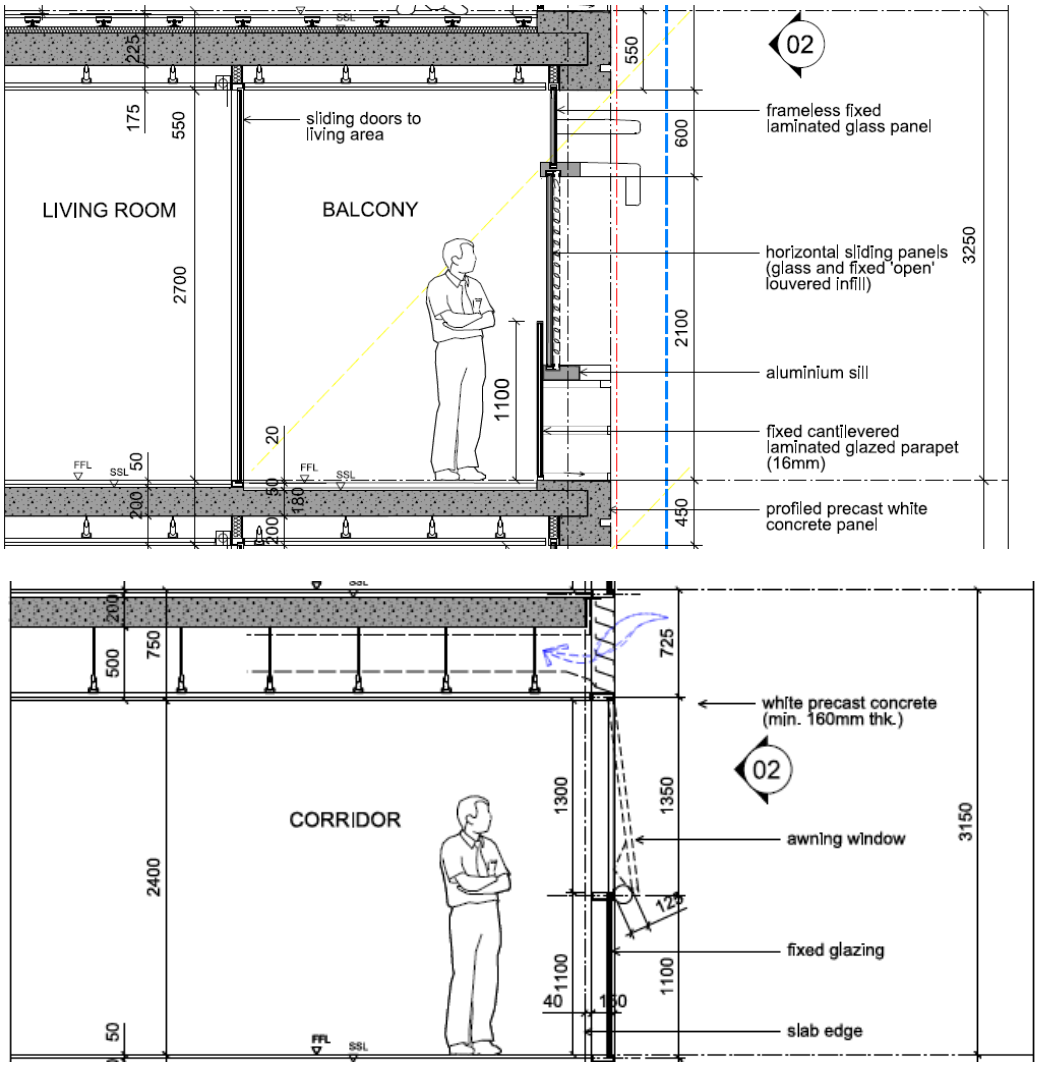
» Level 17: Balconies to eastern, northern and western facades

» Level 18: Balconies on northern, eastern and western facades, terrace on northern façade and balconies on eastern and western facades.

The provision of loggias, terraces and balconies on all facades of the building provides opportunities for passive surveillance from the private residential areas of the surrounding public domain, including the surrounding pedestrian and transport network, whilst maintaining safety for residents. Generally a 1.1m high fixed glass parapet is provided, with a glass awning (moveable) or glass horizontal sliding panels (with fixed 'open' louvres) (see Figure 2). Where terraces are provided for residential dwellings, a 1.1m high fixed glass parapet is provided, together with a planter and vertical stone clad fin wall which prevents opportunities to project objects off the edge (see Figure 3).

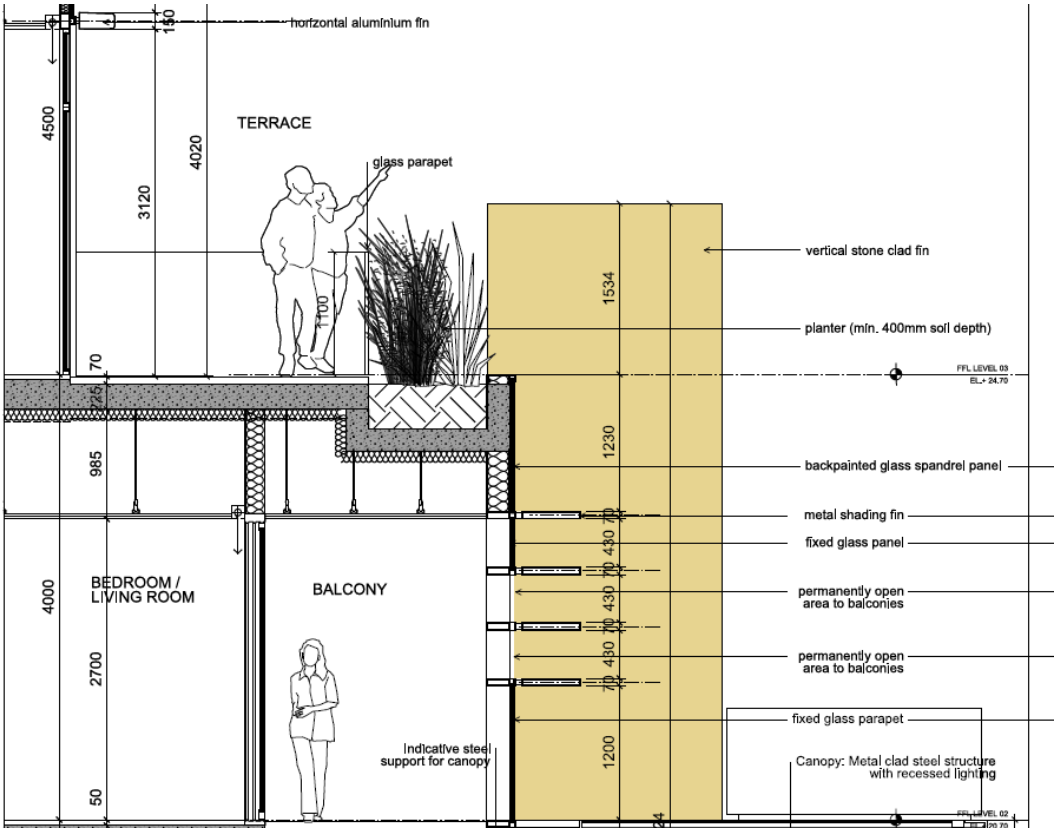
This surveillance is an important aspect of CPTED and assists to create a feeling of greater safety for users of the public domain.

Figure 2 Example of treatment of residential facades (balconies, loggias and corridors)



Source: Foster & Partners

Figure 3 Example of treatment of residential terraces



Source: Foster & Partners

Pedestrian and transport network

The pedestrian and transport network surrounding the site comprises of:

- **Broadway**: provides direct connection to one of the most heavily travelled vehicle, public transport and pedestrian links in central Sydney. Broadway is the northern boundary of Block 1.
- **Chippendale Way**: provides a road link between Broadway and Central Park Avenue. This road is the eastern boundary of Block 1. Chippendale Way provides an essential connection into the site from Broadway.
- **Central Park Avenue**: one of the key roads within the Central Park site, this road provides access between Broadway (Parramatta Road) and O'Connor Street and is the main link to the existing road network and the new internal streets. Central Park Avenue is the southern border of Block 1.
- **Public Thoroughfare**: provides a pedestrian link along the western boundary of Block 1 to Central Park Avenue.

The topography of the site is such that a slope from east (Central Park Avenue) to west (Abercrombie Street) is evident.

This network of streets and pathways should be made safe and accessible through the design of the public domain and adjacent buildings (e.g. activity generating uses fronting onto the main routes), use of materials and fixtures (e.g. lighting, appropriate landscaping and furniture to promote activity) and technical surveillance systems (e.g. CCTV).

The pathways immediately adjoining Block 1 should provide seamless access and transition to adjoining pathways, roads or public spaces to enable safe movement across Central Park. It will be important to incorporate crime prevention design components such as effective use of lighting and CCTV within the pedestrian-only link.

5.2 CPTED review of Block 1

5.2.1 Building design

This section focuses on the proposed built form for Block 1 and considers whether the building design is secure, feels 'safe' to users and is designed to help deter crime.

Aspects of the built form that influence the feeling of safety include:

» Design of the building to be legible, create a clear hierarchy of space, enable safe access/egress, and enable formal and passive surveillance
» Selection of appropriate materials, fixtures and lighting (which are durable and kept well maintained) to enhance community safety
» Proposed use of the building to promote activity (detailed in Section 5.2.10).

The creation of active retail/commercial edges along all facades of the proposed building will be important to activate the public domain, therefore building features that encourage sightlines between active and public places are to be encouraged around the entirety of the building.

It is anticipated that Block 1 will attract a high volume of visitors, as well as nearby residents who will utilise the retail opportunities on the ground floor. To ensure the security of these people, a range of measures have been implemented in the building design, in terms of access and egress, building materials, lighting design and security/management systems.

Whilst these groups will generate activity and vibrancy around the site, thus enhancing opportunities for surveillance, the measures implemented in the design of the buildings, together with the associated management systems, should assist to prevent crimes.

CPTED objective	Assessment / Commentary / Notation / Recommendation for Block 1
Safe egress and access at entry points	*As a general rule, main building entries should:* » *Provide safe egress and access* » *Remove opportunities for illegitimate entry* » *Create clearly defined entry points* » *Are designed so that they cannot hide intruders* » *Provide for maximum visibility.* **Main building entry/exit** In Block 1, entrance and exit doors are not hidden from view of people in the public realm and are designed to be visible from the exterior so that there are clear views out from within buildings for people exiting. The main entrance to the residential component of Block 1 (lobby) is located in a prominent position visible from Chippendale Way and the facing retail uses in Block 2. Glass sliding doors with key card access/intercom is provided. Several residential tenancies on upper floors facing Broadway, Chippendale Way, Central Park Avenue and the pedestrian thoroughfare adjacent Block 4N have direct visibility to the surrounding streets and footpaths. Areas for planting and loggias to some units create private areas that encourage passive surveillance of the surrounding public domain. These design features assists in activating this part of the site, addressing surrounding streets rather than providing a blank wall to the edge of the Central Park precinct. These design features help to integrate the Central Park site with surrounding (existing) uses.

CPTED objective	Assessment / Commentary / Notation / Recommendation for Block 1
	A concierge will also be located in the main lobby of Block 1. **Clearly defined entry points** The entry to the residential lobby is glazed and located off a public street/thoroughfare and, as such, provides direct access and clearly defined entry points. Hiding places are minimised through the avoidance of low-lying planting in the areas outside the lobby that would otherwise enable offenders to hide. Refer to Landscaping Section below. The entry way is to be clearly distinguishable from public walkways leading to it through the use of appropriate lighting that should highlight the entrance, as well as doorways designed setback from the building edge. Paving features should also distinguish the public domain from the internal lobby.
Surveillance – glazing	Opportunities for surveillance are maximised through the use of glazing on walls that define public from private space, as follows: **Residential lobby** Glazing is provided at the entrance to the residential lobby. The glazing ensures the surrounding streets and pathways are highly visible to people exiting Block 1 whilst occupants/visitors entering Block 1 have clear sightlines into the building so as to detect any offenders. Street lighting, under-awning lighting, light spill from retail tenancies and other forms of pathway lighting (i.e. pole-mounted lighting) should be designed to create consistent and even lighting spread so that there is no glare for pedestrians and thus no adverse impact to visual sightlines in the evenings. Low-level pole lighting should be directed downward to best avoid glare for pedestrians. **Retail development** Glazing is provided along the retail frontage to all facades to provide for clear, unobstructed casual surveillance to streets, footpaths and public areas. This provides an active edge to the public realm along all building facades, promotes clear and unobstructed natural surveillance of the street and encourages ground level pedestrian activity. In turn, this assists to deter crime by making the offender's behaviour more easily noticeable to passers-by. It is recommended that glazing be used at the entrances to the retail spaces. Any back of house areas which provide access for staff, where not glazed, should be security/code locked.
Access control	Access control shall be provided to all non-public areas of Block 1. Security code/intercom/access passes shall be used to control illegitimate entry or access to the residential components of Block 1. Specifically, security measures shall be applied to the Block 1 lobby doors to reduce opportunities for illegitimate entry. The entry/exit will be glazed to enable visibility for residents entering/exiting the building. Sightlines to this entry should be enhanced by appropriate lighting design and clear, unimpeded sightlines to/from the outdoor areas. Deterrence of illegitimate entry shall also be encouraged at the "back of house" areas where doors provide risks for entry. In particular along the Chippendale Way and Central Park Avenue frontage, doors that provide access to the stairwells and service areas shall be security key/code accessible only for the use of residents/tenants of

CPTED objective	Assessment / Commentary / Notation / Recommendation for Block 1
	the residential accommodation. The ground floor retail uses should be security lockable (with security key card or lock system) to deter illegitimate entry. It is noted that the mail room is located alongside the residential lifts and Wheelchair accessible bathroom on the ground floor. In this location, the mail room is set back from the main lobby entry and behind the resident communal lounge and concierge desk. Access to the main lobby is key card/security controlled. This feature limits illegitimate entry to the lobby (and in turn, the mail room). As an additional feature, a glazed door may be provided to the entry to the mail room. However, it is not considered a requirement as there is sufficient distance (and security measures) between the main building entry and the mail room.
Defined spaces	Clearly defined external/public versus private areas express a sense of ownership and reduce opportunities for illegitimate use or entry. Physical and/or psychological barriers can be used to define spaces to reinforce this sense of ownership. Internal and external spaces within Block 1 are defined by glass doors and facades (to define ownership but clear maintain sightlines). Internal spaces within Block 1 at the ground floor are distinguished from outdoor public areas through the use of walls and doors. However, glazing along the active ground floor facades helps to maintain opportunities for surveillance, thereby deterring crime by making the offender's behaviour more easily noticeable to passers-by and users of the outdoor spaces. The higher ceiling level on ground floor creates a spacious feel to the entrance lobby and further defines this space. The extensive use of glazing along most of the building facades, and at entry points, will ensure public and private spaces are visible yet differentiated from one another. Outdoor paving materials are differentiated from indoor flooring materials to define the space.
Avoidance of large blank walls	There no large expanses of blank brick walls that would attract graffiti. The use of glazing at the ground level has been maximised as a means of deterring vandalism. Installation of lighting at the perimeter of the site, and day and night activity generating uses, will also help to deter opportunities for graffiti in the first instance by encouraging surveillance.
Entrapment spots	The ground floor design does not create entrapments spots that would be considered to enable or facilitate crime. It is recommended that any facilities such as ATMs or public telephones in the public realm are provided in areas that are well-lit and not obstructed by walls so as to reduce entrapment risks.
Lift entrances	The residential lifts within Block 1 are located in a highly visible, well-used and accessible area in the Ground Floor lobby of the building. The lifts are not obstructed by any walls and are directly visible from the entrance to the residential lobby to encourage maximum visibility and surveillance. As an added security measure, glazing used for the lift doors could be considered to deter opportunities for graffiti and further encourage sightlines. However, the lobby in Block 1 does not present a vulnerable security risk and as such, this design feature

CPTED objective	Assessment / Commentary / Notation / Recommendation for Block 1
	is not considered essential.
Materials and finishes	The design of the building does not include large blank walls and is largely comprised of glazing and small expanses of blank wall sections. These design features will deter people from undertaking vandalism on the building. Full details of specific building materials and design details are unknown at this stage and will be confirmed at detailed design (CC) stage. However, the following features are recommended in the choice of detailed materials and finishes: » Avoid solid shutters on front windows and doors as this will create an impression that the area is uninhabited and inhibit natural surveillance » Robust, durable and high quality materials are used » Use strong, wear-resistant laminate, impervious glazed ceramics, treated masonry products, stainless steel materials, anti-graffiti paints and clear over sprays to reduce the opportunity for vandalism.
Hardware and fixtures	Details of security hardware are not known at this stage and will be confirmed at detailed design (CC) stage. However, it is recommended that robust and durable hardware and fixtures are used to prevent illegitimate entry and ensure security. The following recommendations are noted: » Use sturdy, non-corrosive catches, bolts and locks (e.g. metallic bollards and bike racks located along Central Park Avenue) » Use flush-mounted meter boxes or service points within a secure building/enclosure for protection » Use non-corrosive security locks and bolts » Communal/street furniture should be made of hardwearing vandal resistant materials and secured by sturdy anchor points or removed after hours » Specify appropriate heavy-duty hardware, such as dead-bolt locks for all storage areas adjacent to pedestrian routes » Use transparent, unbreakable materials in parts of doors and walls at major entry points » Provide monitored alarm systems » Security alarms and fixtures should be installed to best practice specifications.
Maintenance	Maintenance and repairs of the built environment (e.g. remove graffiti promptly to maintain a 'cared for' image) and reporting of any damage or repair needs should be done promptly. It is understood that common activities and maintenance around Block 1 will be administered and managed by a Building Management Committee. Maintenance issues to be addressed after occupation should include: » Ensure light fixtures are maintained in a clean condition and replaced if burnt out or broken » If graffiti/vandalism occurs, graffiti removal is to occur immediately by contracted specialist cleaners or coordinated by the Building Management Committee.

5.2.2 Building design – car and bicycle parking

This section focuses on specific crime prevention and community safety issues for the car parking and bicycle parking areas of Block 1.

Five basement levels are proposed.

Entry/exit to the basement is via a ramp at the Central Park Avenue frontage, with a separate loading dock entry off Abercrombie Street. Bicycle parking/storage for residents is provided in the basement levels.

Design of the basement should ensure safe access and surveillance for these areas, during the day and night, and ensure blind spots, sharp angle corners, heavy columns and entrapment spots are minimised within the car park.

CPTED objective	Assessment / Commentary / Notation / Recommendation for Block 1
Safe access and surveillance for private **car** parking areas	Based on a review of the basement and ground floor plans, the design of the car park is considered to provide direct access routes that enable natural surveillance and visibility. The vehicle ramp to the basement is incorporated in Block 1 off Central Park Avenue. A roller shutter will close the ramp off. The intention is to make the ramp as inconspicuous within the façade design as possible. Entry to car parking for residents is via direct ramp located off Central Park Avenue. Review of basement level car parking plans indicates that the design provides no concealed areas that may pose a risk to residents of the development. The parking areas are to be well lit and subject to security access to ensure maximum safety for residents. Ceiling heights in car park shall be at least 2.2m to allow for maximum visual surveillance within the basement levels, as well as to reduce vandalism of lighting fixtures. As an added safety precaution, a mirror could be utilised at the driveway to the car park to aid in visibility (where exiting cars would have blind spots). Pedestrian entry to the car park for residents is directly from the building via lifts.
Safe access and surveillance for **bicycle** parking areas	Based on a review of the basement plans, it is considered that private storage areas are located appropriately in the basement so that it can be surveyed by users upon approach. Storage cages are provided throughout the basement levels B04, B03 and B02. Access to/from the basement for bicycle storage shall be access controlled to ensure no illegitimate entry to the Block 1 basement levels. Visitor bike spaces are provided on basement level B00 and B01. Access to visitor spaces will be managed by on-site security and concierge. The basement and bicycle storage area shall be lit at all times. As an added safety measure, it is recommended that CCTV be provided in bicycle parking areas. Male and female showers and lockers located on Basement Level 01 shall be lockable and accessed only via key card entry to avoid illegitimate entry.
Technical surveillance	It is recommended that technical surveillance via security (CCTV) cameras is provided in the basement car parks and visitor bicycle parking room/s. Refer to section 5.2.9 for further details.

5.2.3 Building design – communal areas

This section provides commentary on the communal areas of the proposed Block 1 development. The main communal / semi-public areas of the proposal include:

» A pool and gym on Level 2 (see Figure 4)

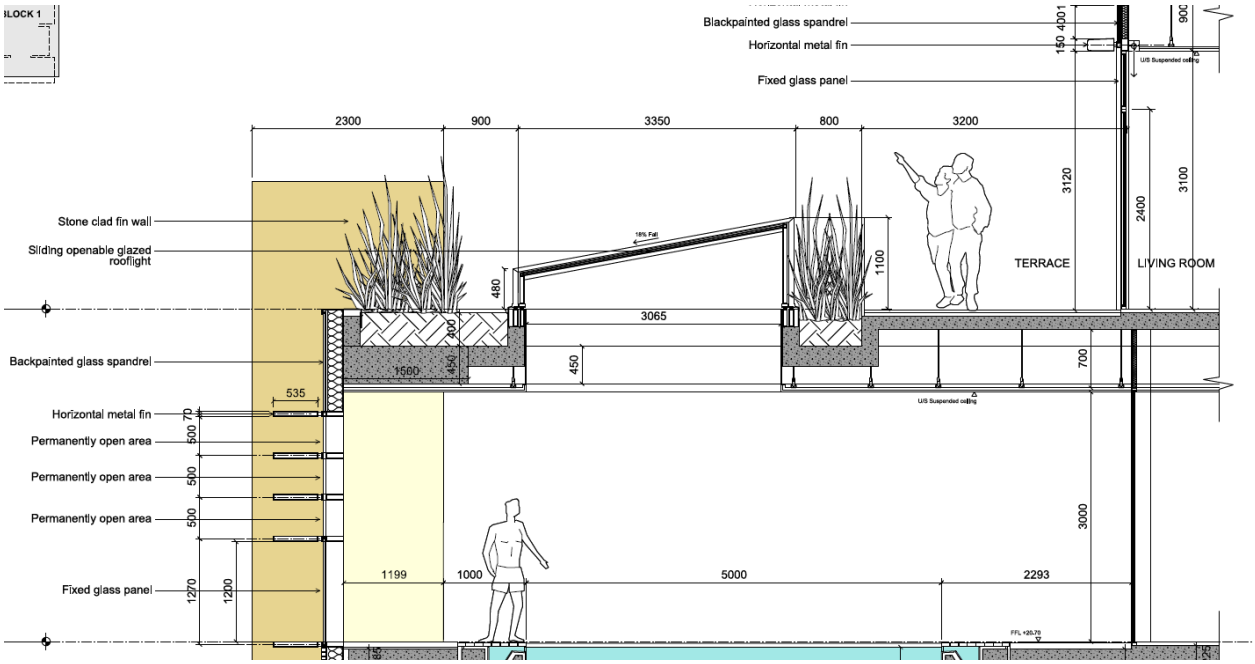
» Landscaped communal roof terrace with BBQ area and jacuzzi on Level 16 (see Figure 5 and Figure 6).

Design of the communal areas should be interesting and inviting to attract usage by legitimate users, and ensure the continuation of crime prevention and community safety design elements.

CPTED Item	Assessment / Commentary / Notation / Recommendation for Block 1
Surveillance and legibility	**Level 02 pool and gym** A communal pool and a gym are located on the western side of Level 2 of Block 1. The pool and gym are accessible via a series of two doors located off the lift area on Level 2. Access to the pool and gym should be restricted to residents (and their visitors, if supervised) only. Change rooms are also located in this area and should be limited to the same restrictions as the pool and gym. A key card/security access should be used for all spaces to deter illegitimate entry. The entrances to the pool, gym and communal roof terrace should be glazed to ensure people leaving or entering the space can clearly see if offenders are hiding. Glazing to 1.2m is provided on the facade wall of the pool area, which overlooks the pedestrian thoroughfare separating Block 1 from Block 4N. Permanent open spaces alternate with protruding metal fins for the remainder of the wall height on the western wall of the pool area. This design provides good surveillance opportunities of the public thoroughfare. The gym appears to be surrounded completely by solid walls. Along the internal corridors not fronting apartment entries, some glazing may be recommended to allow for views into and surveillance both within and from the gym. **Level 16 communal rooftop terrace** A communal space is provided on Level 16 where residents can access open space, a jacuzzi and a BBQ area. The roof terrace is landscaped with fixed and loose freestanding planters (refer to Landscape Report by JAAA+TDS). Communal amenities and a storage area are located off the external terrace. The jacuzzi is to be accessed via steps form the deck or via a disabled platform lift off the corridor. Private balconies are shielded from the communal terrace by 2.5m wide planters with privacy planting. A fixed glazed balustrade (1.1m high) with edge protection is provided on the edge of the terrace to provide for the safety of individuals on the terrace. **Balconies overlooking pool skylight** Visibility to, and opportunities for vandalism or access via the pool skylight are limited through the design of balconies on level 3. The balconies of Level 3 which has potential to overlook the skylight (see Figure4) are provided with a 1.1m high balustrade and 800m width landscaped planter to. The planter and choice of plants should limit the opportunity to climb from one balcony into the landscaped area and then enter the private balcony of another unit.

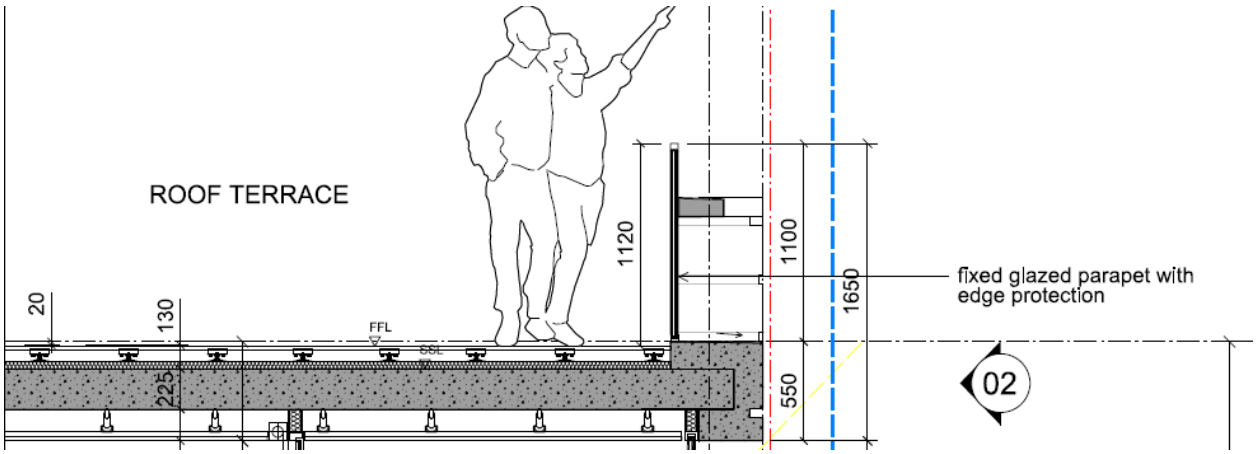
CPTED Item	Assessment / Commentary / Notation / Recommendation for Block 1
	The landscaped roof area should be designed to limit the opportunity for this intrusion.
Landscaping	Landscaping is proposed on the communal rooftop terrace. Refer to landscaping section (5.2.8) for assessment/comment.
Building management	Whilst not a matter to be dealt with at the SSDA stage, it is recommended that prior to the issue of an occupation certificate, appropriate building management systems are put in place to address issues such as: » Hours of operation / access to gym, pool and communal BBQ areas, and restricting hours if/when appropriate, » Acceptable behaviour at the communal areas, including providing deposits for larger gatherings.

Figure 4 Level 2/3 (elevation view)



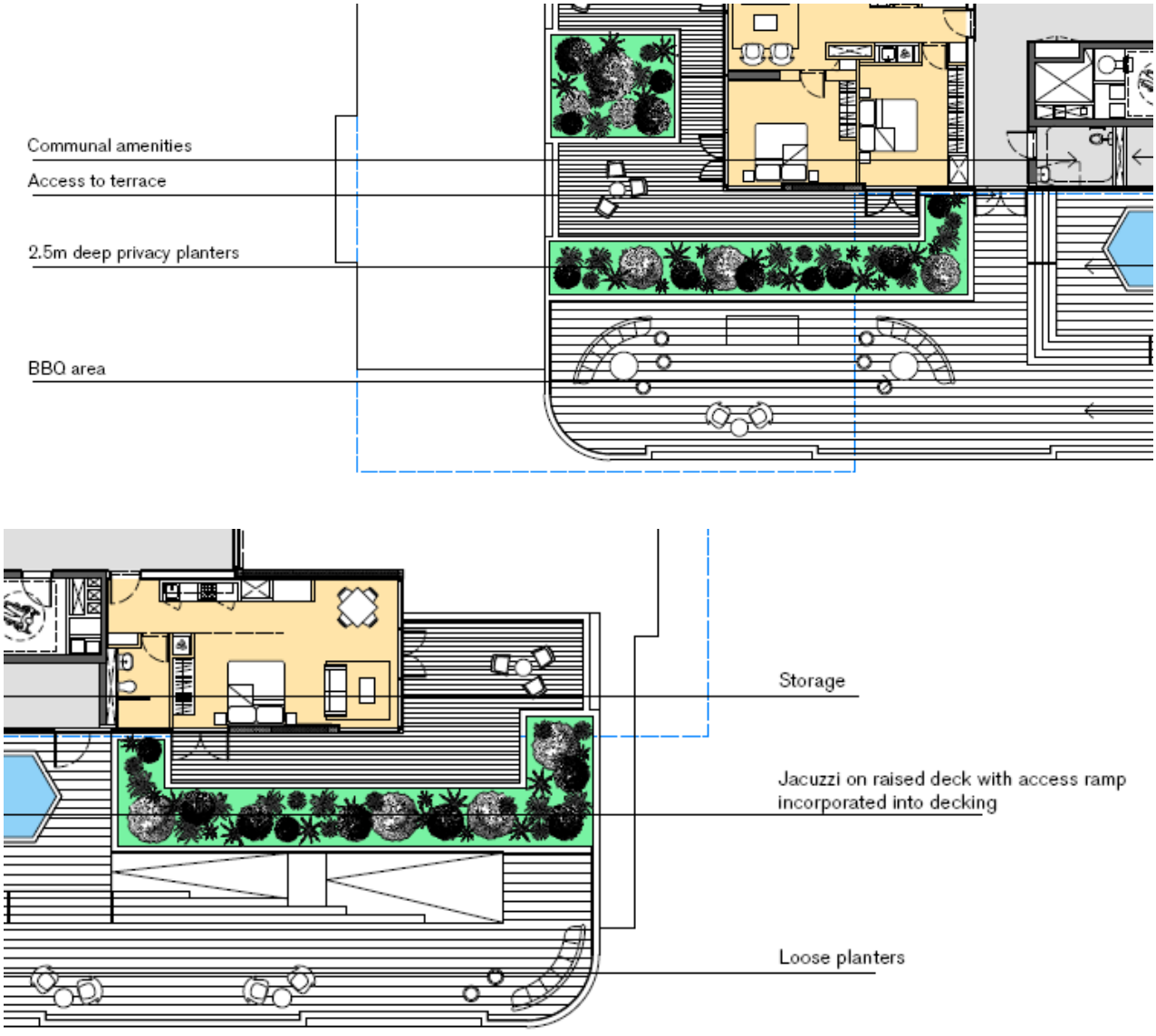
Source: Foster and Partners

Figure 5 Level 16 communal space (elevation view)



Source: Foster and Partners

Figure 6 Level 16 communal space (plan view)



Source: Foster and Partners

5.2.4 Building design – servicing areas

Servicing areas, such as garbage rooms, loading areas, etc, are generally considered to be vulnerable elements of a residential or mixed use development. These spaces are generally less active and therefore vulnerable to illegitimate entry, vandalism and crime.

Building servicing areas are located within Block 1 and the basement levels, and mainly include:

» Basement 01: Servicing and building plant rooms, bin rooms (residential and commercial), loading dock office & amenities.

» Basement 00: Servicing and building plant rooms.

The design of Block 1 should ensure that servicing areas located in the basement deter crime by avoiding the creation of entrapment spots.

CPTED Item	Assessment / Commentary / Notation / Recommendation for Block 1
Entrances to non-pedestrian areas	Illicit entry to Block 1 shall be restricted through security lockable doors. Entry to servicing or "back of house" areas is available from external areas (off Central Park Avenue) and via a goods lift that opens to the loading bay within the basement. Opportunities for illegitimate entry at the servicing / loading areas of the building should be minimised through the installation of key card/security access at each servicing entry.
Surveillance	As the servicing areas of the building are considered to be more vulnerable because of lower levels of activity and thus fewer opportunities for passive surveillance, it is considered appropriate to install CCTV cameras to the garbage room and loading bay. CCTV cameras in the car parking and bicycle storage areas are also recommended, as well as in the mail room. Refer to technical surveillance details in Section 5.2.9 of this report.

5.2.5 Public domain design

This section addresses aspects of the public domain design (and interface between the public, semi-public and private realms) to encourage crime prevention and community safety.

Public domain areas of the site shall be designed to be interesting and inviting to attract usage by legitimate users, as well as encourage visual and pedestrian permeability. This section also considers the use of materials, finishes, equipment and fixtures in the design of the public domain that are attractive, robust and replaceable, so as to reduce opportunities for graffiti and vandalism.

The public domain design shall also consider specific crime prevention needs of special user groups (e.g. children, younger people, older people and people living with a disability). For example, the need to escape during a crime should be made legible for the elderly, young and people in a wheelchair.

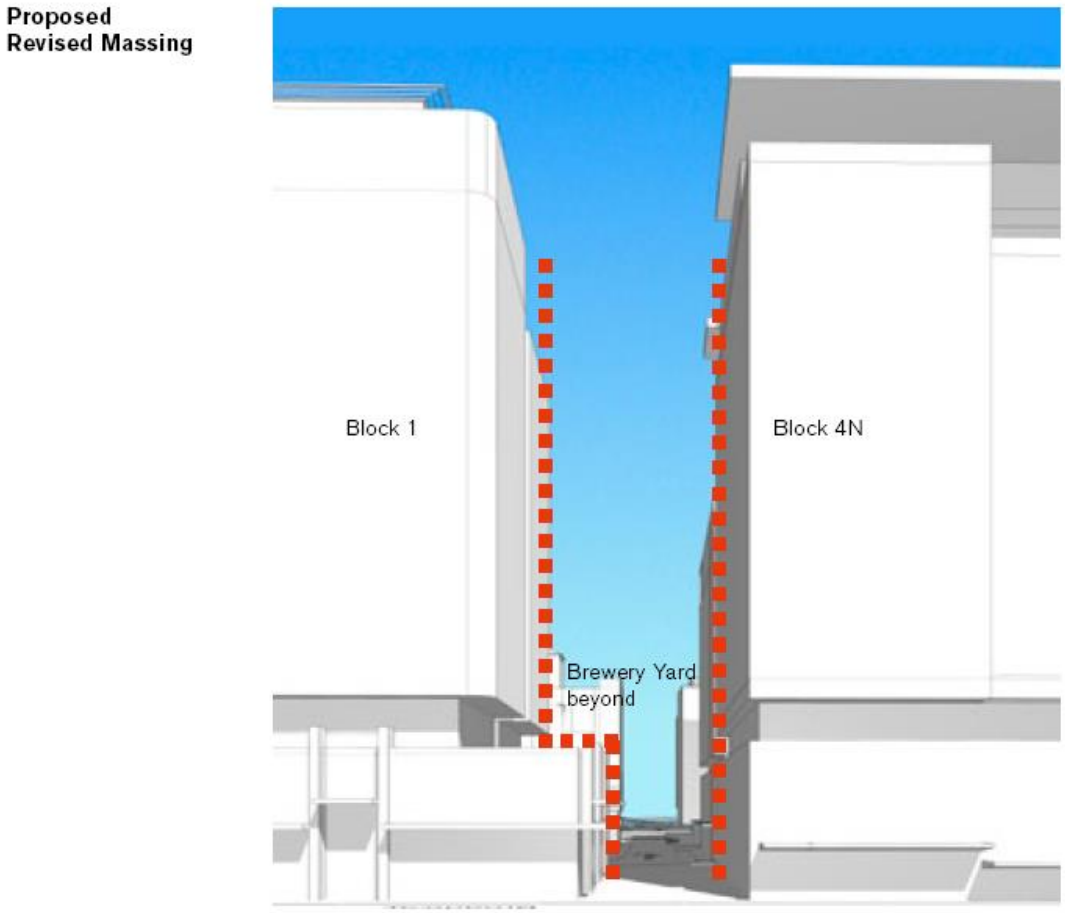
It is noted that this report does not consider BCA issues or Australian Standards and compliance with all relevant BCA matters and relevant Australian Standards is recommended.

CPTED Item	Assessment / Commentary / Notation / Recommendation for Block 1
Design public areas to be legible	The design of the public domain within Block 1 is legible (i.e. easily understood and navigated). The areas outside the building footprint connect to the existing grid pattern of surrounding streets. As shown in the Landscape Plans / Public Domain Plans by JAAA+TDS, the pedestrian pathways that make up the public domain enable it to be clearly legible from the existing street grid, through the use of different paving types. A new pedestrian link between Broadway and the Brewery Yard square is provided between Blocks 1 and 4N (see Figure 7 below). This provides a pedestrian gateway into the precinct, where the retail in Block 1 and Block 4N is adjacent. It is envisaged that some of the retail units will be able to "spill-out" in to areas designated as "zones of exclusive use" without compromising the 3.00m minimum public pavement width around the building. This adds to the activity-generation within the pedestrian link. Canopies have been incorporated into the design of the façade (compliant with City of Sydney guidelines) which will provide shelter throughout the year while maintaining a pedestrian-friendly environment. The rest of the ground plane of the building is dedicated to access to the residential apartments on the eastern facade from a residential entrance lobby off Chippendale Way, vehicular access to the underground parking is by use of a ramp off Central Park Avenue on the southern façade and minimising provision for fire egress and maintenance access. Public pathways around the proposed building are straight, wide and connect to existing or proposed public thoroughfares. The pedestrian pathways have been design to provide a "step free" environment, taking into account the fall of the site. In this regard, it is recommended that pathway paving types are consistent with the paving selections in adjoining blocks to create continuity in the public domain. All paving materials should be non-slip, in particular across the loading bay driveway. Other strategies to ensure the public domain is legible (i.e. easily understood and navigated) include the provision of signage to assist in way-finding.
Activity-generating uses	Activity generating uses have been located adjacent to public domain areas along all surrounding streets and the pedestrian thoroughfare, namely footpaths and the public street, which will maximise natural surveillance of the adjacent public domain

CPTED Item	Assessment / Commentary / Notation / Recommendation for Block 1
	(refer to Section 5.2.1 for detail on building design features that will promote natural surveillance, and Section 5.2.10 for discussion about the proposed building uses). All surrounding streets and thoroughfares are pedestrian routes; therefore locating activity generators along these areas provides passive surveillance of the area (in combination with the balconies of units above ground level).
Safe routes	The proposal does not obstruct safe routes to nearby facilities, including public transport facilities at Broadway. Rather, the proposal opens up a new pedestrian link between the Brewery Yard and Broadway, encouraging pedestrian activity. Pedestrian routes will be made safe through the use of appropriate lighting within the public domain, in particular along streets, to encourage visibility at night. Lighting should be directed downward in order to avoid glare for pedestrians. Paving materials selected for the public domain shall provide seamless public/private domain connectivity for pedestrians, thus not visually or physically prohibiting public access across the site.
Entrapment spots	Multiple entries/exits to all public open space areas should be provided so to act as escape routes if people are being pursued. Block 1 is surrounded on all four frontages by public streets or pedestrian thoroughfares, thereby multiple escape routes are provided to ensure alternative ways of escaping dangerous situations. Based on a review of the ground floor plans, there is no major recessing in the external perimeter of the proposed buildings that would create a safety risk for people in the public domain, thus opportunities for concealment or entrapment in the public domain are minimised. There are multiple entry and exit routes in the public domain surrounding the proposed building. The street network is such that there are no "dead-ends". Opportunities for escape are provided along the street and pedestrian network. The pedestrian network is based on a right angle grid pattern and does not showcase curves or bends that could impede sightlines. This allows for direct sight lines.
Materials and finishes	The selection of materials for pathways should be consistent with and complement the selection of pathway materials in surrounding blocks in Central Park (i.e. paving design will integrate with other public domain areas). Universal access to Australian Standards (AS) has been incorporated into the streetscape, connecting walkways and building entries without compromising design quality. It is understood that paving in public areas of the site shall comply with the relevant BCA requirements to ensure slip resistant pedestrian surface materials. Path edging shall be consistent and sturdy, ensuring that paving meets the surrounding ground at grade to avoid falls. The site should adhere to all BCA requirements.
Design bicycle routes both for convenience and security	A cycle route is indicated along Chippendale Way adjacent to pedestrian and vehicle traffic. Lighting of this thoroughfare shall enhance the pathways by providing safety through adequate illumination and thus visibility.

CPTED Item	Assessment / Commentary / Notation / Recommendation for Block 1
Surveillance – sight lines	There will be ample opportunities for natural surveillance and visibility of the public domain (i.e. of the pedestrian pathways surrounding Block 1) from pedestrian, cycle and vehicle movement systems around Block 1. As shown in the Ground Floor Plan prepared by Foster & Partners, there will be clear sight lines between the streets and the pedestrian pathways. Opportunities for natural surveillance/visibility of the pathways from pedestrian, cycle and vehicular movements systems is improved through the use of consistent lighting, avoidance of low-lying plants and the activation of the ground floor uses, which will attract pedestrians to the area surrounding the site. Trees are positioned along the northern and western frontages; however, the landscaping section of this report (Section 5.2.8) details the recommended soft and hard landscaping selections that will ensure species and planting types do not create visual or physical barriers, particularly to sightlines.
Escape routes	The proposal provides a viable exit point (or escape route) in the public domain to enable a person to avoid a situation in which he or she might feel threatened. As mentioned previously, there are no "dead ends" in the public domain created by the proposed development. All pedestrian routes have alternative access (escape route) via a connecting street.
Maintenance	Public domain areas containing landscaping shall be carefully maintained to avoid hazards. Refer to Section 5.2.8 for further details on maintenance of landscaping.
Technical surveillance	Technical surveillance via security cameras is proposed in the basement car parks. Refer to Section 5.2.9 of this report.

Figure 7 Pedestrian link between Blocks 1 and 4N



View from Broadway showing space between Blocks 4N and proposed Block1 with view opened up

Source: Foster & Partners

5.2.6 Public domain design – lighting

This section addresses the design, location and selection of lighting in the public domain.

The design of lighting should ensure that entrances, exits, service areas, pathways, car parking etc., are well lit after dark. It should also provide a safe level of illumination across the site with an emphasis given to preferred routes, namely Broadway, Chippendale Way, Central Park Avenue and the public thoroughfare between Block 1 and Block 4N, to encourage use by pedestrians.

CPTED Item	Assessment / Commentary / Notation / Recommendation for Block 1
Surveillance – Lighting at entries/ exits/ streets	Lighting details are unknown at this stage. However, a range of recommendations for the selection, location and maintenance of lighting are outlined below. » All external public domain areas are required to be well lit through the installation of street lighting and/or external building lighting » Building entry points shall be lit to a higher lux level than surrounding streets » Broadway, Chippendale Way, Central Park Avenue and the public thoroughfare between Block 1 and Block 4N shall be well lit to encourage pedestrians to use these thoroughfares » All street lighting shall preferably be pole-mounted lights, and spaced at regular intervals along key thoroughfares to encourage pedestrian activity » Low level pole mounted lighting shall be directed downward, to avoid glare and temporary blinding of pedestrians that may impact sightlines » Adequate internal lighting (in the building entries and lobbies) as well as light-throw from street lights should ensure the pathways around Block 1 are well lit in the day and night » All external lighting and lighting in semi-private areas shall be compliant with Australian Standards and Design Guides for Lux Levels.
Surveillance – Positioning of lights	Lighting details are unknown at this stage. However, a range of recommendations for the selection, location and maintenance of lighting are outlined below. » As a guide, areas should be lit well enough to enable users to identify a person's face from 15m away » In addition to street lighting, lighting shall be provided on the underside of awnings or within building entries (where glazed) to illuminate the building/lobby entry point » Direct lights towards access/egress routes to illuminate potential offenders, rather than towards buildings or observation points » Direct low level lighting downwards, rather than upwards and into observers' eyes » Care should be taken to provide good lighting at the servicing areas and doors accessing the building along the Central Park Avenue facade. » Illuminate pre-identified "preferred pedestrian routes" so that these become the focus of legitimate pedestrian activity after dark and pedestrians are discouraged from using other routes after dark » Provide adequate illumination for directional signage and maps » Ensure lighting is out-of-reach and/or shielded to minimise opportunities to vandalise lighting fixtures
Surveillance – Selection of	The following recommendations for the selection of lighting are noted. » Use luminaires with a wide beam of illumination that reaches to the beam of the

CPTED Item	Assessment / Commentary / Notation / Recommendation for Block 1
lighting	next light, or the perimeter of the site or area being traversed » Wherever practical, use luminaires that have a Full Cut-Off (FCO) light distribution characteristic to keep discomfort and disability glare to a minimum » Avoid time-switched lamps, as they can be inoperative for days if there is a long maintenance cycle » Select light sources which provide good colour rendition — preferably equal to or better than Ra 85.
Lighting design	It is recommended that a CPTED lighting expert is consulted throughout the detailed design phase to ensure that lighting provisions and requirements are in accordance to Australian Standards and/or building management practices.

5.2.7 Public domain design – signage

This section addresses the design, location and selection of signage in the public domain.

Signage should be used to provide clear information about places of security, preferred routes, facilities/amenities and locations of entry/exit/escape routes

Building signage should be located so as to be clear and visible to pedestrians in the public domain, and highlight preferred access routes. In particular, signage should be located for maximum visibility, during the day and night, along preferred routes and so that it cannot be obscured.

It is understood that a Signage Strategy will be prepared for the Central Park site. As such, the table below contains a series of recommendations to be incorporated into the Signage Strategy.

CPTED Item	Assessment / Commentary / Notation / Recommendation for Block 1
Ensure signage is easily legible	Signage related to way-finding and the location of nearby blocks/ amenities should be located at the entrance to open space areas so as to provide clear information regarding access routes and designated special use open spaces. It is recommended that the Signage Strategy detail measures to address ease of way-finding for pedestrians accessing services and public transport and for motorists. It is recommended that the following features be incorporated into the Signage Strategy for implementation: » Pool signage in accordance with relevant legislation » Use of LED electronic signage where appropriate, to ensure visibility of essential signs at night » Information containing warnings/details about the emergency access/egress for Block 1 » Building numbering and/or naming so that buildings are clearly identifiable » Ensure that the size and siting of signs outside of building entries/exits do not create entrapment spaces
Signage location	It is recommended that the following features be incorporated into the Signage Strategy for implementation: » Place signs at building entrances and near activity nodes » Where signs are placed close to vegetation, ensure the siting (and vegetation selection) of the sign cannot be obscured by growing vegetation as it matures
Signage content	It is recommended that the following content features be incorporated into the Signage Strategy for implementation: » Closing hours at building entrances adjacent to public areas that are closed off at night » Clear and regular signposting to main pedestrian routes.

5.2.8 Landscaping

Landscaping has a significant impact on creating an attractive public domain; however, landscaping should be carefully designed to avoid the creation of obstructions that facilitate crime.

As a general rule of thumb, the design and location of landscaping should allow for, and not inhibit, natural surveillance. In relation to soft landscaping in particular (i.e. plantings and the like), the type and location of species, noting their size and form at maturity, should be taken into account to minimise the creation of possible hiding places for intruders both at the time of construction and in the future. This is particularly the case in planting within the pedestrian links off Broadway (see Figure 7).

The proposal incorporates both hard and soft landscaping features as shown in the Landscaping and Public Domain plans. Key aspects of the landscaping design include:

» Street trees

» Private courtyard planting to the terraces on Level 3 fronting the roof of the pool and on all other frontages of Level 3

» Private courtyard planting to the terraces on Level 18

» Plantings within the communal BBQ terrace on Level 16

» Building void planting.

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Surveillance	Landscaping in the public domain should be selected so as to protect and maintain natural surveillance of the site and its surrounds. This includes no use of shrubs or low-lying plants in public domain areas and maintenance of wide, paved pedestrian pathways that are well lit. Trees are proposed to be planted along Broadway and the public thoroughfare between Block 1 and Block 4N on the northern and western building frontages in the public domain of Block 1. The selection of trees/planting types, and their location in the public domain, has the potential to impede sightlines for pedestrians. Based on a review of the plans provided, the street trees proposed should not obstruct building entries. Although tall trees will be planted along the street frontages, it is envisaged that there should be sufficient footpath width to avoid unnecessary obstruction of building entries. Any proposed tree planting along the pathways should take into account their shape and size as they mature (refer to 'plant types' below). As shown in the Plans, the location of street trees is in an orderly arrangement that will not limit the proposal's legibility or pedestrian visibility, by being planted in a linear fashion.
Planting types	The selection of plants for the public domain is outlined in the Landscape Plans. It is recommended that no dense shrubs be planted on the ground floor level which may create a visual barrier to key thoroughfares and building entries. The selection of trees should consider the following: » Select trees for planting in the public domain that do not have branches below 1.5m (for the trees' protection, it is better if they do not have branches below 2.4m) » Select trees in the vicinity of the built form which will not overhand balconies » Avoid medium-height vegetation with concentrated top-to-bottom foliage,

CPTED Item	Assessment / Commentary / Notation / Recommendation for Block 1
	especially within the pedestrian link between Blocks 1 and 4N (so that CCTV cameras are not impeded) » Ensure that planting within 5m of a pedestrian pathway is lower than 600mm OR thin-trunked with a high canopy » Use low planting (maximum height 600mm) and high-branching trees (2m) to open sightlines; these are particularly recommended within a distance of 15m from bicycle stop signs or road junctions » Rather than planting saplings, consider planting heavy standard (120-140mm girth), extra heavy standard (140-160mm girth) or even semi-mature trees (200-720mm) to make it physically more difficult to snap main growing stems.
Future sightline impediments	The planting selections should ensure that, when mature, the plants will not serve as screens or barriers to unimpeded views of pathways etc.
Landscaping in communal areas	Landscaped rooftop terraces are proposed on Levels 3, 16 and 18. Landscaping is uses to provide a green edge to communal areas. The selection of planting in communal areas should ensure no large dense bushes where predators may hide. It is recommended that any pebbles used in the inner side of the balustrade, where they could be picked up and used thrown, should be fixed rather than loose. Alternatively, soft plantings could be used in place of the pebbles on the inner side of the balustrades. All concrete planters placed on the rooftop terraces should be either fixed or of a weight that does not enable them to be picked up or thrown.
Pathways	Pathways in the public domain should create a solid, non-slip surface. Based on a review of the Landscape Plans, no pedestrian pathways in Block 1 feature gravel paths and borders. It is recommended that all surfaces have stable and seamless paving, or provide appropriate transitions where paving materials differ. Paving used in the public domain should be non-slip and provide stable transitions between pathways and streets, and pathways and private areas.

5.2.9 Formal surveillance and security

This section focuses on promoting community safety and crime prevention through the implementation or formal surveillance and security measures to help create a safe environment and ensure vulnerable areas are monitored. It is understood that a centralised security management plan is to be developed for the whole Central Park site.

The Plan should provide for centralised technical surveillance and monitoring systems. The security management shall be confirmed prior to occupation of the site.

Refer to Ground Floor CCTV / Security plan enclosed with the application which illustrated location of CCTV cameras and areas to be monitored.

CPTED Item	Assessment / Commentary / Notation / Recommendation for Block 1
Security cameras	Installation of security cameras – real-time video surveillance (CCTV) – shall be positioned to monitor all high-activity areas, such as: » all retail frontages and outside the building along the major pedestrian routes along all four frontages of the building » lobby entry point (especially near the residential and goods lifts) » in the corridors to the communal areas on Levels 2 and 16 » where there is access to "back-of-house" areas fronting Central Park Avenue, and access to communal areas » at the entry to the loading bay and garbage collection areas, and » public areas in the basement level (e.g. corridors opposite the lift). The positioning of CCTV cameras on the Ground Floor is considered to provide appropriate coverage to high-traffic areas and entry points.
Security controlled access	The entry doors to the building should be controlled by security card/key access. All "back of house" areas including garbage rooms, loading bay, bike storage room and fire stairs should also be controlled by security card/key access. It is recommended that the pool, gym, change rooms and communal terrace with BBQ area and sauna also be restricted for access and use by residents (and their visitors, if supervised) only. It is recommended that a consistent electronic security system that provides intruder detection and electronic access control is provided for all entries to Block 1, which accords with that used in other Central Park developments. Access control should use a common platform across all buildings yet provide flexibility in credential card types and formats.
Security management	It is understood that a security presence shall be provided via a 24-hour on-site security and facilities control centre. The control centre will be responsible for the provision of the following services: » Operation and management of the CCTV system » Response co-ordination to help-points and other enquires » Operation and administration of electronic access control systems » Co-ordination and management of property maintenance » Security patrols (including licensed uniformed security officers). The security presence shall also be operational at the Central Park site upon occupation. It is understood that a concierge may be present on site, within the residential lobby.

5.2.10 Building uses

This section addresses the details related to the proposed building uses and the implications for crime prevention and community safety. Building uses shall ensure that adjoining and co-located uses are compatible and do not create a dangerous situation.

Uses and activities with afterhours use along the edges of the pedestrian network should be encouraged.

Entertainment night zones, and centres of activity such as restaurants, should be planned and managed so that they do not disrupt residents and have short logical connections to public transport and car parks.

CPTED Item	Assessment / Commentary / Notation / Recommendation for Block 1
Active ground floor uses	A key design objective is to maximise active frontage at ground level. To achieve this all ground floor facades are occupied by retail units at street level the full length of the northern and western elevations, with retail and residential lobby along the eastern elevation. The southern elevation includes retail as well as entry to the basement. Retail uses at the ground level in Block 1 are adjacent to, and accessible from, public areas along all building frontages. The retail uses on the ground floor will have the potential for extended hours for café/restaurants in order to encourage night time use and activity. This will maximise natural surveillance and encourage activity after working hours. Building design features, such as extensive glazing on the ground floor, will help to encourage passive surveillance. These uses can potentially be used by workers, residents and general visitors to Central Park. These uses will encourage activity and provide natural surveillance to the site. There will be opportunities for pedestrian activity/social gathering in and around the retail uses, which can potentially "spillout" and extend onto the pathways to accommodate outdoor dining and the like. Projecting awnings at the ground floor level provide shelter to the adjacent public realm on the North, East and West side retail spaces. A specially designed awning draws attention to the residential entrance lobby on the east side. This assists in making the pedestrian environment comfortable.
Surveillance	Opportunities for surveillance of the public domain are afforded through the location of balconies/terraces on upper floors of the proposed development. Overlooking of the public domain from private space is considered a contributing form of overarching surveillance of the site and surrounding areas, namely the public streets and thoroughfare.
Compatible adjoining uses	Areas adjoining Block 1 include: » One Central Park to the east (retail ground floor uses) » Block 4N to the west (retail and commercial ground floor uses) » Brewery Yard to the south (public open space and retail and commercial uses) » Surrounding development (not within the Central Park precinct) to the north containing educational uses for UTS. Residential accommodation and a small amount of retail are considered to be a suitable mix of uses in this locality. The ground floor retail uses facilitate activation at the street level and assist in passive surveillance of the surrounding public domain. As noted in the lighting section of this report (Section 5.2.6), given the location of the

CPTED Item	Assessment / Commentary / Notation / Recommendation for Block 1
	site at the edge of the Central Park precinct, continuous lighting is recommended to the pathways that adjoin Block 1. The street/pathway lighting should be complementary to the existing City of Sydney Council street lighting. Care should be taken in the selection of street lights to avoid creating glare or shadow. This will ensure users of adjoining buildings have secure and legible paths of travel.
Night zones	The proposed retail uses within Block 1 have potential to convert to night-time uses (e.g. restaurants or cafes) or trade with extended trading hours. It is envisaged that the ground floor will contain retail tenancies operating between 9am to 11pm (subject to future approvals). This has the potential to increase pedestrian activity, and therefore passive and active surveillance, of the surrounding public domain in Block 1 at night. These 'night zones' are closely situated to public transport services along Broadway and the proposed basement car parking in Block 1. A series of measures are proposed that will ensure the pedestrian route to Broadway is safe, including the installation of consistent and regular streetlights along Broadway, Chippendale Way, Central Park Avenue and the public thoroughfare between Block 1 and Block 4N. It is envisaged that appropriate management of spill over noise from retail spaces shall be required with future DA's for the proposed use, to minimise disruption to future residents in Block 1 and surrounding buildings. Any future applications for building uses, with include licenced premises, shall be made to be consistent with, and address all issues relating to, safety and security measures. Appropriate plans of management shall be submitted at the development application stage. Notwithstanding, the provision of ground floor non-residential tenancies is considered to be an appropriate use to activate the broader precinct, and entirely appropriate considering the location and context of the site.
Cross-demographic user groups	The proposal provides for a range of possible uses within the ground floor retail tenancies, uses, with the potential for a night café/restaurant use. The proposed uses will be subject to future DA's. Potential uses such as shops and/or cafes have the potential to attract a wide range of users groups including workers, residents (existing and future), students from nearby universities (UTS and TAFE) and general visitors during different times and days of the week.

5.2.11 Transport

This section describes the CPTED implications for transport and travel behaviour as a result of the Block 1 proposal. In particular, the development shall ensure that natural surveillance is provided to public transport nodes and key pedestrian routes.

Opportunities for alternative transport should be optimised, by designing the Public Domain and proposed development so that pedestrians and cyclists have priority over vehicles (where possible).

CPTED Item	Assessment / Commentary / Notation / Recommendation for Block 1
Natural surveillance	The existing bus stops along Broadway and at Central are well located to service the site. Natural surveillance will be provided by the retail uses located along Broadway to assist in the natural surveillance of these public transport nodes. The proposal for Block 1 does not detract from the natural surveillance afforded to these stops. The proposal contributes to the creation of an active frontage (containing active retail ground floor uses) along Broadway, Chippendale Way, Central Park Avenue and the public thoroughfare between Block 1 and Block 4N, to assist in natural surveillance of these key pedestrian routes.
Alternative transport	As shown in the Ground Floor Plan, cyclists and pedestrians have multiple options to travel to/from Block 1. Pathways adjacent to the streets are located around the perimeter of the buildings. A network of linked pathways ultimately connects to the pathway network along surrounding (existing) streets such as Broadway and Abercrombie Street. Safe bicycle parking facilities are located within the basement levels of Block 1 to encourage cycling as a preferred form of transport.
Emergency vehicle access	Emergency vehicle access must be made available via all streets within the street network in Central Park.

5.2.12 Construction management

This section addresses crime prevention and community safety for the construction phase of the development. Work Health and Safety matters are not within the scope of this report. However, it is important to ensure the site, during construction, will be secure and planned in such a pay so as to encourage crime prevention and community safety.

It is envisaged that further detail will be provided in a Construction Safety Management Plan at the next stage of the development process. Construction Safety Management Plans should include information relating to safety of workers and the public during construction, construction signage and site access. The Plan should outline necessary maintenance procedures to ensure safety during the construction phase.

CPTED Item	Assessment / Commentary / Notation / Recommendation for Block 1
Construction Management Plan	On-site security of the site is recommended in order to limit opportunities for vandalism. Where vandalism or graffiti occurs, it should be removed or repaired promptly to maintain a 'cared for' image. Signs indicating contact details for emergency maintenance should be located in prominent locations. Signs should also be used to assist in informing surrounding residents/visitors/business owners on safe areas and 'no go zones' during the construction phase. These aspects should be incorporated into a Construction Management Plan for the site.

5.2.13 Consultation

A major aspect of the planning and development approach for Central Park has been to facilitate active partnerships with key stakeholders and the community.

Whilst not a direct CPTED matter, as part of the strategies for broader community safety, it is noted that on-going consultation with external stakeholders with an interest in Central Park has been maintained.

The most recent consultation process occurred in May 2014 2013, and it is understood that consultation specific to Block 1 is being carried out in addition to the minimum statutory requirements for consultation. It is also noted that one-on-one discussions with the NSW Police were carried out in the preparation of this report. The design of Block 1 is considered to have incorporated comments made by the NSW Police (or made recommendations effect the comments made by the NSW Police).

Once the buildings are operational, ongoing liaison between the on-site security and/or strata managers is recommended to ensure the safety of residents.

6 Addressing CPTED provisions of Sydney DCP 2012

Section 3.13.1 of the Sydney DCP 2013 addresses crime prevention through environmental design. The objective of this section of the DCP is to:

"Provide a safe environment and minimise opportunities for criminal and anti-social behaviour."

As outlined in this report, the proposal for Block 1 has been designed to incorporate and satisfy all CPTED principles, thus achieves this objective. The following table provides an overview of how this report, and the Block 1 proposal, addresses the relevant provisions of Section 3.13.1.

Table 2 Sydney DCP 2012 compliance

DCP provision	Block 1 compliance	Comments
(1) Active spaces and windows of habitable rooms within buildings are to be located to maximise casual surveillance of streets, laneways, parking areas, public spaces and communal courtyard space.	✓	As shown in the Architectural Plans, all facades provide for residential balconies, terraces or loggias, where glazing is used to maximise surveillance of the surrounding streets, park and public domain.
(2) In commercial, retail or public buildings, facilities such as toilets and parents rooms are to be conveniently located and designed to maximise casual surveillance to facility entries.	✓	The retail premises will provide amenities as required (details to be provided in building use DA's). It is noted that wheelchair accessible toilets are located in the residential lobby of Block 1.
(3) Minimise blind-corners, recesses and other external areas that have the potential for concealment or entrapment.	✓	The design of Block 1 avoids blind-corners, recesses and other entrapment spaces. The design of the interface between the public and private (and semi-private) domain encourages good surveillance and does not create areas where predators can be concealed.
(4) Building entries are to be clearly visible, unobstructed and easily identifiable from the street, other public areas and other development. Where practicable lift lobbies, stairwells, hallways and corridors should be visible from the public domain.	✓	The residential lobby is clearly defined through the use of glazed automatic doors. A high ceiling height further defines this space. All other ground floor entries are glazed, and awnings are provided to define the pedestrian realm on the periphery of the building. It has been recommended that under-awning lighting is used to further define and enlighten entry points.

DCP provision	Block 1 compliance	Comments
(5) Ground floors of non-residential buildings, the non-residential component of mixed use developments, and the foyers of residential buildings, are to be designed to enable surveillance from the public domain to the inside of the building at night.	✓	The entire ground floor, with the exception of the driveway entry points and fire egress, is glazed and shall be provided with under awning lighting.
(6) Pedestrian routes from car parking spaces to lift lobbies are to be as direct as possible with clear lines of sight along the route.	✓	The basement levels plans have been reviewed, and it is considered that the basement levels provide good sightlines to lifts and stairs. Appropriate lighting to ensure no dark areas of excessive shadow is provided in the basement levels.
(7) Where dwelling units have individual main entries directly from a public space, the entry is to include a clearly defined transitional space between public and private areas.	N/A	
(8) Building details such as fencing, drainpipes and landscaping are to be designed so that illegitimate access is not facilitated by the opportunity for foot or hand-holds, concealment and the like.	✓	Opportunities for illegitimate entry have been minimised through the use of glazing along the majority of the building façade. CCTV cameras shall monitor all public domain areas. It is also noted that the landscaping section of this report (Section 5.2.8) has recommended that a safe distance is provided between high canopy trees and the building edge to minimise opportunities for illegitimate entry via building openings (e.g. Level 3 terraces).

7 Conclusion and implementation

7.1 General

This Safety Management Strategy and Plan details how the design of Block 1 meets and/or exceeds the 'safer by design' principles of CPTED.

Frasers Broadway Pty Ltd or any future purchasers of Block 1 will need to comply with all safety management requirements during the construction phase of the project and beyond. Additional information on specific materials, fittings and location of building and public domain elements will be provided in the detailed design stages.

Based upon this assessment, the proposal for Block 1 is considered worthy of support from a safety and crime prevention perspective, subject to the recommendation contained within this report.

7.2 Compliance

This report sets out a variety of CPTED matters that concern physical aspects of the building design, as well as non-physical aspects such as on-going management. Compliance assessment of the proposal in future stages of development (e.g. Construction Certificate or Occupation Certificate) should be carried out against the observations and recommendations made in respect to the physical building design aspects only.

Appendices

A Appendix A: What is CPTED

What is Crime Prevention Through Environmental Design (CPTED)

General CPTED concepts

Crime Prevention through Environmental Design (CPTED) is the design and effective use of the built environment so as to lead to a reduction in the fear and incidence of crime and an improvement in the quality of life. CPTED involves the design of a physical space so that it enhances the needs of legitimate users of the space. This emphasis on design and use deviates from the traditional 'target-hardening' approach to crime prevention.

For CPTED to be successful, it must be understandable and practicable for the normal users of the space. The normal users know more about what is going on in the environment and they have a vested interest (their own well-being) in ensuring that their immediate environment operates properly.

The Three D's: designation, definition and design

The 'Three D's' approach to space assessment provides a simple guide for the normal users in determining the appropriateness of how their space is designed and used. The Three-D concept is based on the three functions or dimensions of human space:

» All human space has some designated purpose;

» All human space has social, cultural, legal or physical definitions that prescribe the desired and acceptable behaviours; and

» All human space is designed to support and encourage the desired behaviours.

CPTED involves the design of the physical space in the context of the legitimate user of the space, the normal and expected use of that space, and the predictable behaviour of the bona fide users and offenders. CPTED emphasises the connection between the functional objective of space utilisation and behaviour management. We must differentiate between designation of the purpose of space, its definition in terms of management and identity and its design as it relates to function and behaviour management.

By using the 'Three D's' as a guide, space may be evaluated by asking the following types of questions:

<u>Designation</u>

» What is the designated purpose of this space?

» For what purpose was it originally intended?

» How well does the space support its current use or its intended use?

» Is there conflict?

<u>Definition</u>

» How is space defined?

» Is it clear who owns it?

» Where are its borders?

» Are there social or cultural definitions that affect how space is used?

» Are the legal or administrative rules clearly set out and reinforced in policy?

» Are there signs?

» Is there conflict or confusion between purpose and definition?

Design

» How well does the physical design support the intended function?

» How well does the physical design support the desired or accepted behaviours?

» Does the physical design conflict with or impede the productive use of the space or the proper functioning of the intended human activity?

» Is there confusion or conflict in the manner in which physical design is intended to control behaviour?

Once these questions have been asked, the information received may be used as a means of guiding decisions about the use of human space. The proper functions have to be matched with space that can support them.

The design must assure that the intended activity can function well and it must directly support the control of any behaviour that results.

Five key CPTED principles

CPTED is supported by the following five overlapping principles that are applied to specific sites and situations.

Territoriality

Territoriality is a concept that clearly delineates private space from semi-public and public spaces, and creates a sense of ownership. People usually protect territory that they feel is their own and have a certain respect for the territory of others. Fences, paving, art, signs, good maintenance and landscaping are some physical ways to express ownership. Identifying intruders is much easier in a well-defined space. An area that looks protected gives the impression that greater effort is required to commit a crime. A cared for environment can also reduce fear of crime. Areas that are run-down and the subject of graffiti and vandalism are generally more intimidating than areas that do not display such characteristics. Ownership creates an environment where appearance of such strangers and intruders stand out and are more easily identified through:

» An enhanced feeling of legitimate ownership by reinforcing existing natural surveillance and natural access control strategies with additional symbolic or social ones;

» Design of space to allow for its continued use and intended purpose; and

» Use of pavement treatments, landscaping, art, signage, screening and fences to define and outline ownership of space.

Natural surveillance

Natural surveillance is a design concept directed primarily at keeping intruders under observation. Provision of natural surveillance helps to create environments where there is plenty of opportunity for people engaged in their normal behaviour to observe the space around them.

Criminals usually do not want to be seen. Placing physical features, activities and people in ways that maximise the ability to see what is happening discourages crime. For example, placing cafés and kiosks in parks increases natural surveillance by park users, while placing clotheslines near play equipment in a multiple unit development increases natural surveillance of the play area.

Barriers such as bushes or sheds can make it difficult to observe activity. Areas can be designed so they are more easily observed through design and placement of physical features to maximise visibility. This will include:

» Building orientation, windows, entrances and exits, car parks, rubbish bins, walkways; landscape trees and shrubs, use of wrought iron fences or walls, signage and other physical obstructions;

» Placement of persons or activities to maximise surveillance possibilities; and

» Minimum maintained lighting standards that provide for night-time illumination of car parks, walkways, entrances, exits and related areas to promote a safe environment.

Access control

Access control is a design concept directed primarily at decreasing criminal accessibility. Provision of natural access control limits access and increases natural surveillance to restrict criminal intrusion, especially into areas where they will not be easily observed. Access can be restricted by physical barriers such as bollards, fences, doorways etc., or by security hardware such as locks, chains and alarms. Human measures can also be used, such as security guards. All these methods aim to increase the effort required to commit a crime and therefore, reduce the potential for it to happen.

When present, intruders are more readily recognised through:

» Use footpaths, pavement, gates, lighting and landscaping to clearly guide the public to and from entrances and exits; and

» Use gates, fences, walls, landscaping and lighting to prevent or discourage public access to or from dark or unmonitored areas.

Activity support

Activity support is the presence of activity planned for the space. Activity support involves placing activity where the individuals engaged in such an activity will become part of the natural surveillance system. Examples include:

» Place safe activities in areas that will discourage would be offenders, to increase the natural surveillance of these activities and the perception of safety for normal users, and the perception of risk for offenders;

» Place high-risk activities in safer locations to overcome the vulnerability of these activities by using natural surveillance and access control of the safe area;

» Locate gathering areas in locations that provide for natural surveillance and access control or in locations away from the view of would-be offenders; and

» Improve the scheduling of space to allow for effective use and appropriate intensity of accepted behaviours.

Maintenance

Proper maintenance of landscaping, lighting treatment and other features can facilitate the principles of CPTED, territorial reinforcement, natural surveillance and natural access control. Functions include:

» Proper maintenance of lighting fixtures to prescribed standards;

» Landscaping which is maintained at prescribed standards; and

» Minimising the conflicts between surveillance and landscaping as the ground cover, shrubs and trees mature.

Crime risk assessment: key design elements

During a crime-risk assessment process, specific types of problems can be identified. These include features such as activity generators, edge effects, movement predictors, conflicting user groups, crime "hotspots" and displacement effects. Once identified, CPTED principles can be brought to bear to reduce the impact of these problems. These are summarised below.

Activity generators

Activity generators are features that tend to create local activity: playgrounds, benches, picnic areas and kiosks. Crime opportunities can be high in such areas if CPTED is not applied. In some circumstances, activity generators can be used to reduce opportunities for crime.

Edge effects

Edge effects are generated around the actual, or perceived, physical borders of different land uses, such as the edge of a park, the border of a commercial strip or around a shopping mall. Research has shown that high crime rates have been found in such areas. Contemporary CPTED aims to identify, soften or eliminate as many as possible.

Movement predictors

Movement predictors are predictable or unchangeable routes or paths that offer few choices to pedestrians. Pedestrian bridges, enclosed pathways and staircases are examples. Often alternate routes are unavailable to pedestrians and this becomes a problem, especially if the movement predictor contains entrapment areas where offenders can hide and wait for victims. Movement predictors also determine the awareness spaces that offenders have of neighbourhoods and where targets may be located.

Conflicting user groups

Urban features designated for one legitimate group can conflict with other groups nearby, such as older people. In addition, different groups using design features for different reasons can often cause conflicts, such as walking trails used by both bicyclists and hikers. Attention must be given to avoid generating opportunities for problems by creating or exacerbating conflicts between user groups.

Hotspots

Hotspots are existing high-crime locations that can affect a nearby area. These can include areas of high car theft such as certain underground parking lots, pick-pocketing in bus terminals, or specific pubs experiencing fights at closing time. Consideration must be given to the proximity of such locations and how to provide for public safety in the project.

Displacement

The 'displacement phenomenon' occurs when crime is moved away, or drawn into, new projects. Many aspects of a problem or crime can be displaced, including its place, timing, and nature of offence, target and the method. Research has shown that displacement is not always negative. It can be controlled, and even used positively, if proper CPTED planning principles are incorporated.

Thinking like a criminal when designing to reduce crime: Rational Choice Theory

Criminologists have long known that criminals make rational choices about their targets and generally:

- The greater the risk of being seen, challenged or caught, the less likely they are to commit a crime;
- The greater the effort required, the less likely they are to commit a crime;
- The fewer the reasonable or believable excuses that can be offered, the less likely they are to commit a crime; and
- The lesser the actual or perceived reward, the less likely they are to commit a crime.
- CPTED principles in planning, design and management of the environment are therefore used to ensure that:
  - There is more chance of being seen, challenged or caught;
  - Greater effort is required;
  - Territorial boundaries make it clear when people are not on public land or in public space;
  - The actual or perceived rewards are less; and
  - Opportunities for criminal activity are minimised.

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