BARKER RYAN STEWART

Deicorp Projects Showground Pty Ltd

Crime Prevention through Environmental Design Assessment

Proposed Mixed Use Development

2 Mandala Parade, Castle Hill

July 2021

ENGINEERING
PLANNING
SURVEYING
CERTIFICATION

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7	Final v7	14/07/2021	Review of The Hills 'Designing Safer Communities' Guidelines 2002

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1 Introduction

1.1 Overview

The purpose of this report is to consider the potential crime risk caused by the proposed mixed use development and to identify proactive and preventative building design measures to minimise opportunities for crime.

The report has been prepared in accordance with the Crime Prevention Through Environmental Design (CPTED) guidelines prepared by the NSW Police in conjunction with the Department of Planning.

Crime Prevention through Environmental Design (CPTED) provides a clear approach to crime prevention and focus on the '*planning, design and structure of cities and neighbourhoods'*. The main aims of the policy are to:

- increase the perception of risk to criminals by increasing the possibility of detection, challenge and capture;
- increase the effort required to commit crime by increasing the time, energy or resources which need to be expended;
- reduce the potential rewards of crime by minimising, removing or concealing 'crime benefits'; and
- remove conditions that create confusion about required norms of behaviour.

The NSW Police guidelines provide four key principles in limiting crime through design. These are:

1. Surveillance;
2. Access control;
3. Territorial re-enforcement; and
4. Space/activity management.

We have inspected the site and undertaken a preliminary assessment of the architectural plans against the above guidelines. This report recommends design principles for the mixed use development to reduce the potential for crime.

1.2 Site and Locality

The mixed use Doran Drive Precinct is located at 2 Mandala Parade (Lot 55 DP 12531217), Castle Hill.

The site is cleared for development and incorporates a total area of 7,969m^2.

The development site is located within the Hills Showground Station Precinct and adjacent to the Hills Showground Station. The metro station provides services to Tallawong in the west and Chatswood in the east and the locality incorporates bus stops on Doran Drive directly adjacent to the subject site.

Refer to Figure 1 for an aerial view of the site and surrounding development.

The site is zoned B2 Local Centre pursuant to The Hills Local Environmental Plan 2019 as shown in Figure 2.

Surrounding development includes:

- To the north: Castle Hill Showground and associated sporting and community facilities;
- To the east: Hills Showground Precinct East and further to Showground Road and residential development beyond;

- To the west: Hills Showground Precinct West, Commuter Car Park, Cattai Creek and further to commercial/ industrial development; and
- To the south: Hills Showground Station and further to existing residential development to the south of Carrington Road.

Figure 1: Aerial view of site and surrounding development

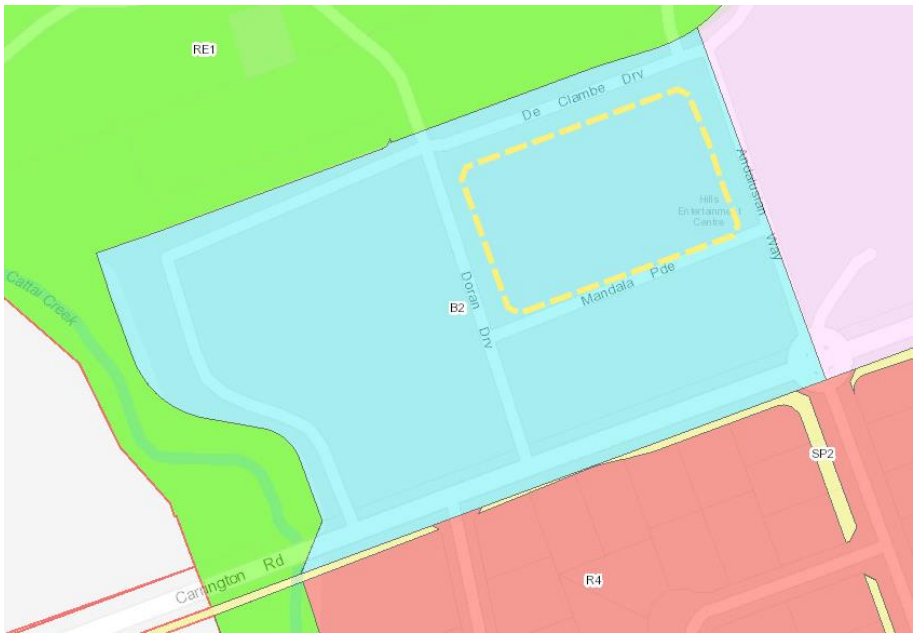

Figure 2: Extract of ePlanning zoning map

1.3 Crime Statistics

The NSW Bureau of Crime Statistics and Research provides an overview of the crime profile during the previous calendar year. The data can assist in identifying specific crimes prevalent in an area and guide design to limit the recurrence of anti-social behaviour.

The following table identifies the threat levels in the Castle Hill suburb and The Hills LGA for crimes relevant to the proposed mixed use development. BOCSAR data ranks crime rates out of 5 levels with one being the lowest and five being the highest.

As shown in Table 1, the Castle Hill suburb exhibits lower levels of most relevant crimes in comparison to The Hills LGA.

Table 1: Crime Levels in Castle Hill and The Hills LGA

Level of Crime	Crime Type by Location	
	Castle Hill	The Hills LGA
HIGHEST LEVEL CRIME	No relevant crimes	No relevant crimes
HIGH LEVEL CRIME	No relevant crimes	Robbery
MEDIUM LEVEL CRIME	No relevant crimes	Steal from Dwelling Break and Enter (Dwelling) Steal from person Steal from Motor Vehicle
LOW LEVEL CRIME	No relevant crimes	No relevant crimes
LOWEST LEVEL CRIME	Steal from Dwelling Break and Enter (Dwelling) Assault (Domestic) Assault (Non - domestic) Malicious Damage to Property Steal from Person Robbery Steal from Motor Vehicle	Malicious Damage to Property Assault (Non -Domestic) Assault (Domestic)

Steal from Dwelling

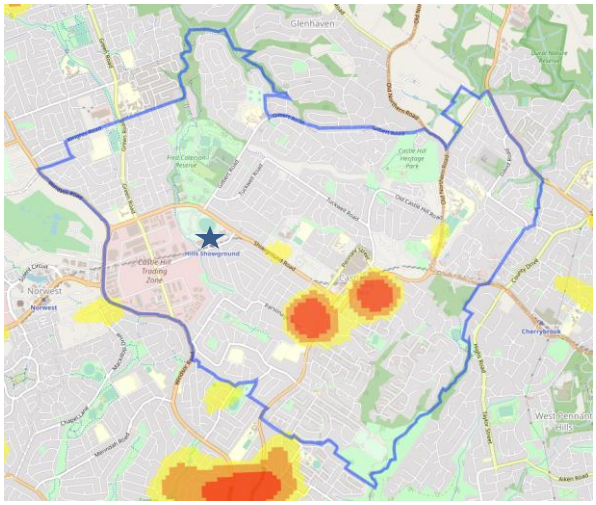

Figure 3: Steal from Dwelling 2015

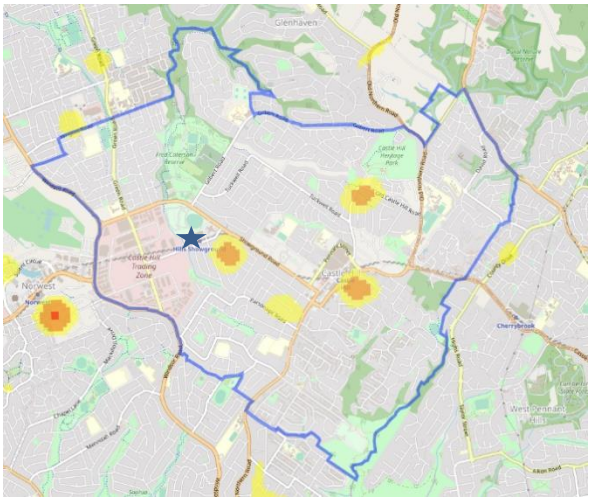

Figure 4:Steal from Dwelling 2020

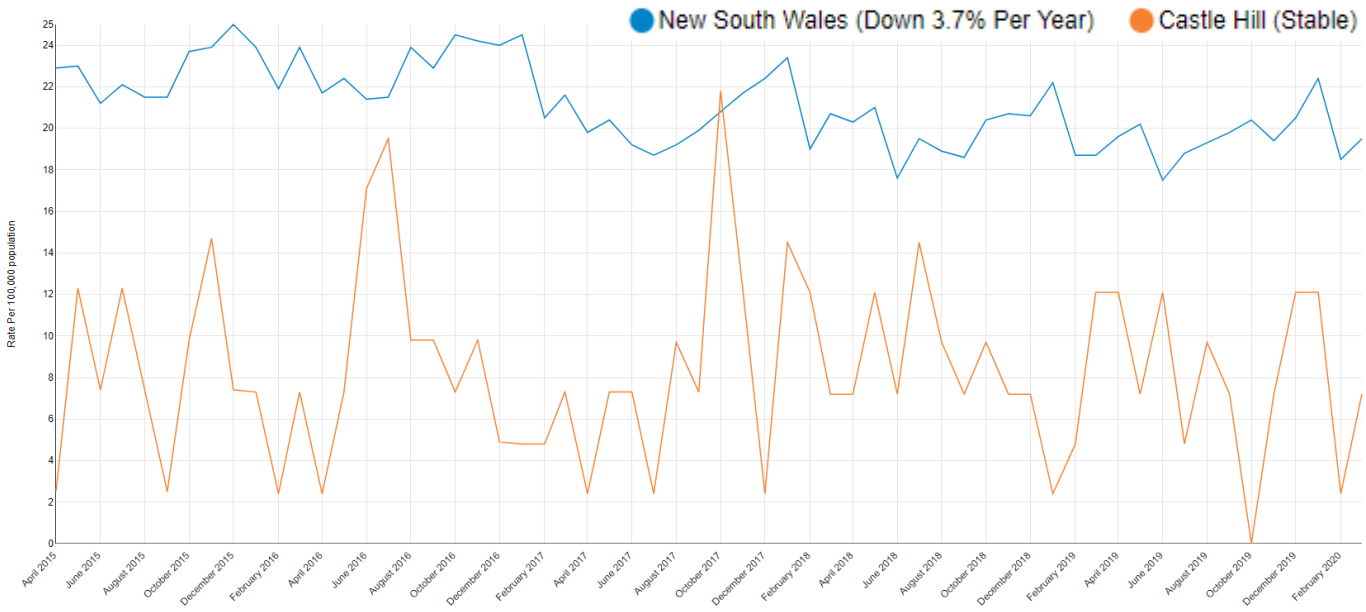

Figure 5: Rates of Steal from Dwelling April 2015 to February 2020

Figures 3 and 4 show changes to the hotspot rates of *Steal from Dwelling* in Castle Hill from 2015 to 2020. It is evident from the figures that the hot spot crime rate to the south east of the subject site has slightly increased although a decrease is evident in localised hotspots throughout the suburb. The site is not located within a low, medium or high hotspot rating for this crime.

Figure 5 represents a graph of the rates of *Steal from Dwelling*, with comparisons between NSW and Castle Hill. The graph indicates that between 2015 and 2020 the rate of this crime in Castle Hill has remained stable, while NSW has decreased by 3.7% per year.

Assault (Non- Domestic)

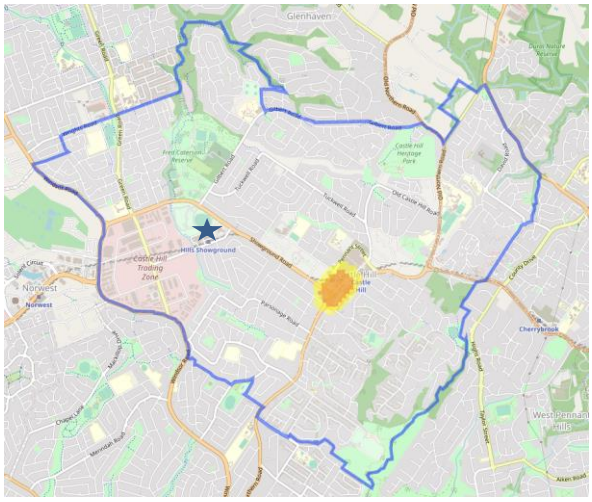

Figure 6: Assault (Non-Domestic) 2015

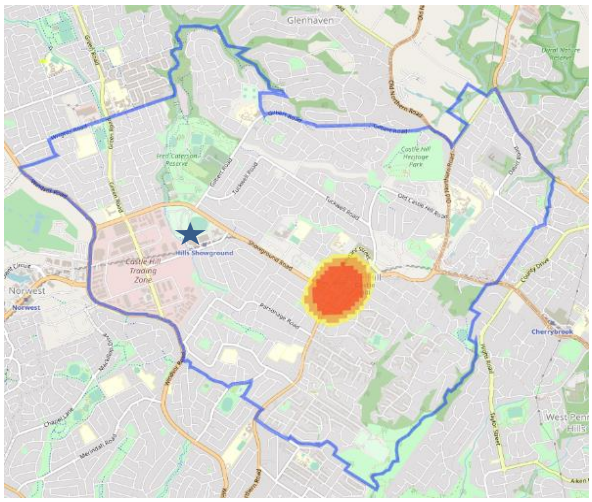

Figure 7: Assault (Non Domestic) 2020

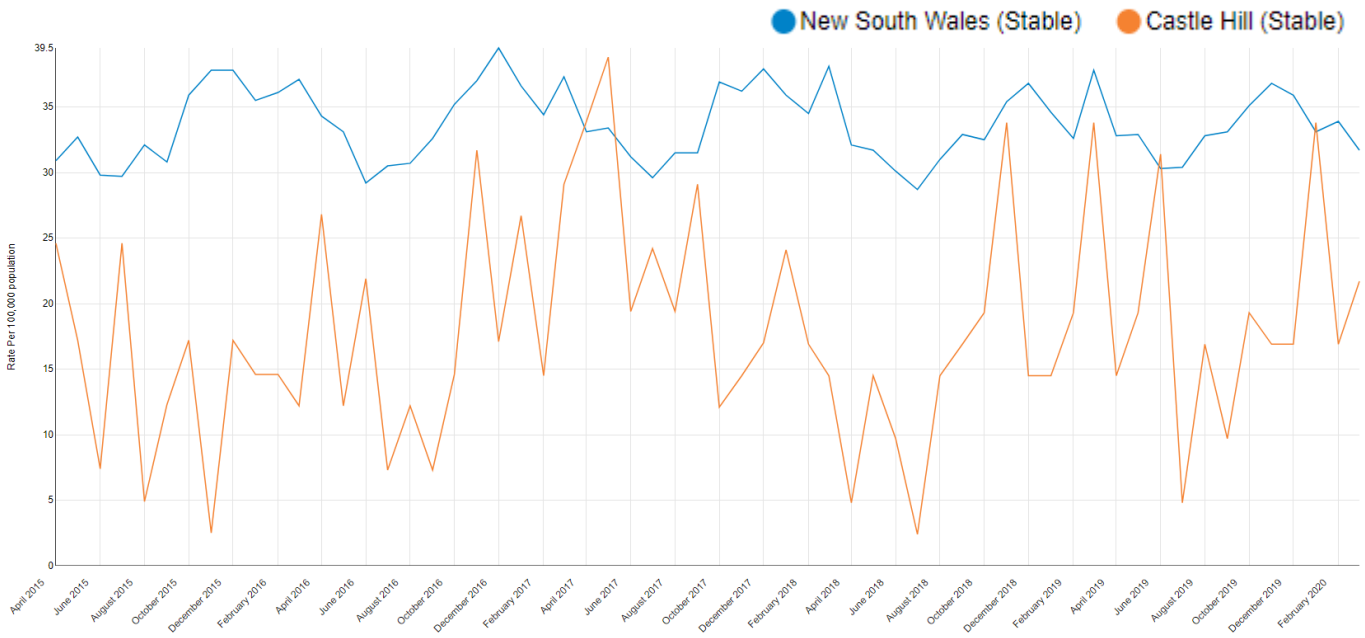

Figure 8: Rates of Assault (Non Domestic) April 2015 to February 2020

Figures 6 and 7 show changes to the hotspot rating of *Assault (Non-Domestic)* in Castle Hill from 2015 to 2020. Hotspot levels of this crime have not increased in the vicinity of the subject site and the site is not located within a low, medium or high hotspot area in 2020.

Figure 8 represents a graph of the rates of *Assault (Non-domestic)*, with comparisons between NSW and Castle Hill. The graph provides statistics between April 2015 and February 2020 where the rate of this crime in Castle Hill and NSW has remained stable.

Malicious Damage to Property

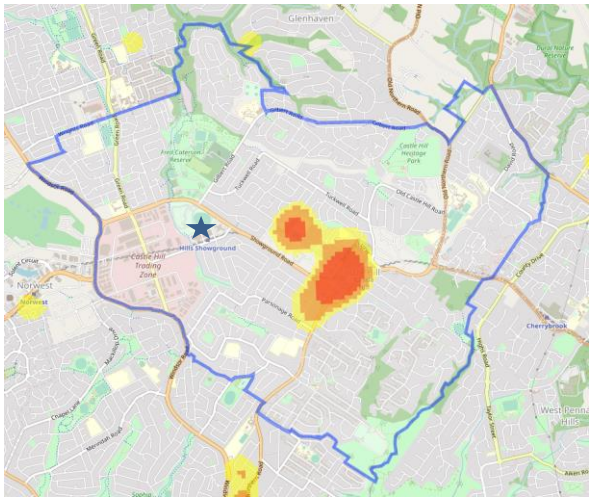

Figure 9: Malicious Damage to Property 2015

Figure 10:Malicious Damage to Property 2020

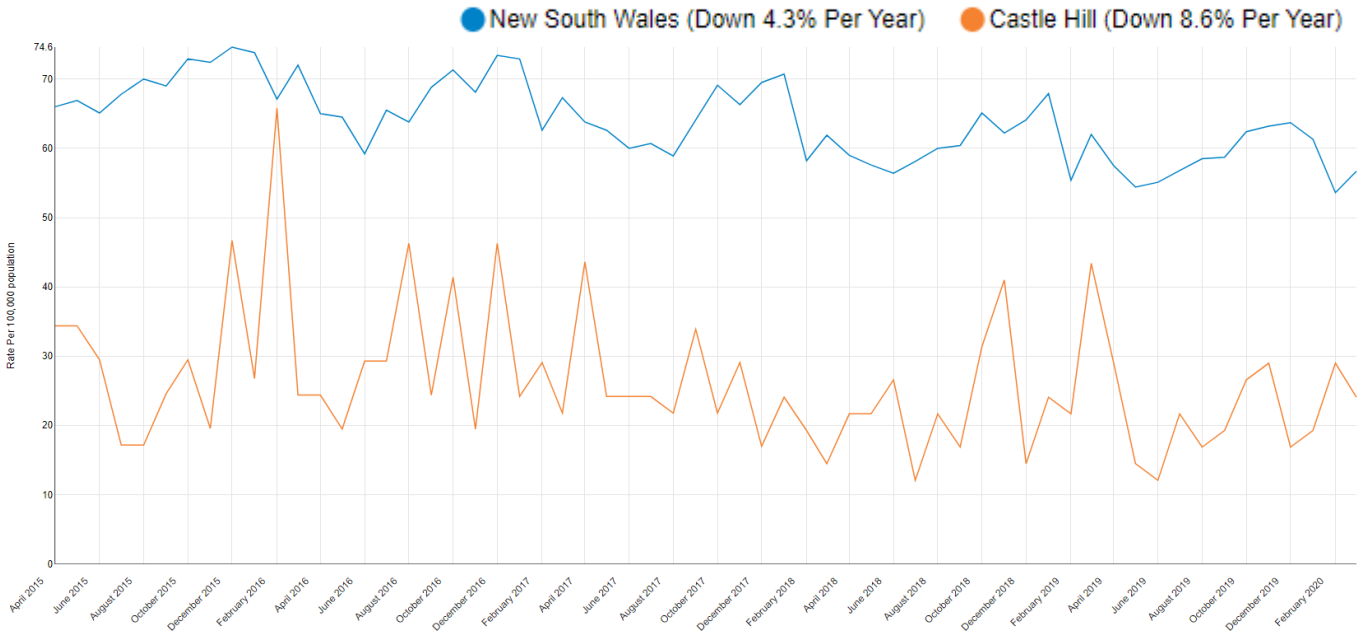

Figure 11: Rates of Malicious Damage to Property April 2015 to February 2020

Figures 9 and 10 show changes to the hotspot rate of Malicious Damage to Property*)* in Castle Hill from 2015 to 2020. These extracts show that hotspot ratings for this crime have generally decreased around the vicinity of the site. The subject lot is not located within a low, medium or high hotspot rating for this crime.

Figure 11 is a graph of the rates of *Malicious Damage to Property,* with comparisons between NSW and Castle Hill. The graph indicates that between 2015 and 2020 the rate of this crime in Castle Hill has decreased by 8.6% per year while NSW has also decreased 4.3% yearly.

1.4 Designing Safer Communities – Safer By Design Guidelines

The former Baulkham Hills Council prepared Safer by Design Guidelines in 2002 which aimed to enhance and improve community safety within the shire. BRS have been requested to review the guidelines and provide an assessment of the proposed development in accordance with this document.

Refer to assessment of the CPTED Checklist derived from the 'Designing Safer Communities' document in Table 2 below which confirms the design is consistent with Council requirements.

It is recommended that the CPTED Report and proposed design be referred to the NSW Police for comment in accordance with Clause 1.5 if the Guidelines.

Table 2: Designing Safer Communities CPTED Checklist

Issue	Comment
Building Design	
Are the entries clearly identifiable?	All commercial, residential and vehicle entries are clearly distinguishable through articulated design elements, landscaping and signage.
Is there appropriate signage?	Appropriate signage has been provided to facilitate wayfinding for retail and residential users of the site. Refer to the Signage Plan submitted with the DA.
Have appropriate lighting and pathways been provided to entrances and car parking?	The development is bound by four roads and existing pedestrian pathways will be maintained. A recommendation has been provided to ensure appropriate lighting is provided in accordance with Australian standards.
Do the habitable rooms face public/ communal space?	The proposed design incorporates internal communal open space on residential levels with suitable orientation of habitable rooms and terraces to support natural surveillance of these areas.
Have windows been located to allow natural surveillance?	Window and elevational design have been refined to provide a high level of natural surveillance over the local road network and vehicle/ pedestrian entry points. Refer to elevations submitted with Architectural Plans
If located on a corner, does the building design address both streets?	The proposed built form appropriately addresses all four street frontages.
Are building materials vandal resistant?	Recommendations have been provided in Section 2.4 of this report to ensure relevant materials are vandal resistant.
Do architectural elements allow access to upper storeys?	The proposed design mitigates unauthorised external access to upper stories through building articulation and glazing. The design avoids inclusion of balconies to lower street facing levels and retail activation of the streetscape will assist with perimeter surveillance to mitigate unauthorised entry to levels above.
Landscaping	
Does the landscaping comply with DCP No. 107 – Landscaping?	The DCP quoted is no longer applicable. Proposed landscaping has been designed in accordance with The Hills DCP 2012 – Part C – Section 3, Landscaping. Refer to the EIS submitted under separate cover for further information on landscape compliance.
Do plantings allow for natural surveillance?	Proposed landscape design has been prepared in accordance with CPTED principles. Additional recommendations are provided in Sections 2.1 and 2.2 to ensure vegetation is maintained at suitable heights to reduce offender concealment.
Are plant species appropriately	Suitable plant species have been proposed in the Landscape

advanced and vandal resistant?	Plans submitted with the DA.
Does landscaping clearly define public and private space?	Proposed landscaping of the ground level park and retail precinct defines the area and ensures users are aware of the public nature of the space. Landscaping and change of pavement adjoining residential lobby entries clearly establishes territorial boundaries between public and semi-private spaces.
Is the fence of an appropriate height and made of a visibly permeable material?	No fencing proposed at ground level. Proposed fencing to residential terraces will be constructed to an appropriate height with semi permeable materials. Refer to Architectural and Landscape Plans submitted with The DA.
If the site is located on a corner, is the fence appropriate to both streets?	No fencing proposed at ground level.
Has adequate lighting been installed?	Lighting will be installed to Australian standards. Refer to recommendation provided in Section 2.1.
Are sight lines clear and have possible places of concealment been addressed?	An assessment of street level sightlines has been undertaken and the development is consistent with CPTED requirements. The retail precinct and built form orientated to the streetscape incorporates suitable landscaped planting to mitigate opportunities for offender concealment.
Car Parking	
Does the car park comply with DCP 102 – Car Parking?	The DCP clause referenced is no longer relevant. The proposed basement carparking has been prepared in accordance with Part C section 1, Parking. Refer to the Traffic Impact Assessment submitted with the DA for compliance information.
Are the entrances and exits satisfactorily integrated into the building and landscape design?	Vehicle entry points have been minimised with a vehicle entry/ exit point provided from De Clambe Drive and a Loading/ Deliveries entry/ exit from Andalusian Way. Entry/ exit points have been suitable integrated into the architectural form and landscaping has been minimised in these areas.
Are elevators, stairwells and pedestrian accesses clearly visible?	The retail precinct and entry points are clearly visible from the streetscape. Similarly, all residential lobby entry points are located in close proximity to and clearly visible from the surrounding road network.
Is there appropriate lighting?	A recommendation has been provided to ensure lighting will be installed in accordance with Australian standards.
Have entry and exit points been kept to a minimum?	Entry and exit points have been reduced where possible to ensure pedestrians and vehicles are channelled into areas that are highly visible. Single vehicle and loading dock entry reduces opportunities for unauthorised entry to premises.
In the case of a multi-level car park, has an appropriately light colour been used to maximise light distribution?	A CPTED recommendation has been included to ensure that car parks will be illuminated to provide for increased visibility, particularly in storage areas or places of potential entrapment.
Facilities	
Have the relevant service authorities been contacted and requirements obtained?	A SEAR's request was submitted and it is understood that the DA has been prepared to address the Secretary's requirements. Formal consultation with relevant service authorities forms part of these requirements.
Have public facilities been located in high activity areas with adequate lighting ?	The publicly accessible park and retail entry points are clearly visible from the streetscape and surrounding development. Lighting will be provided to Australian standards to ensure

	shadowing and opportunities for offender concealment do not occur.
Are facilities located in areas where concealment is not possible?	Design of landscaping and the built form has responded to the streetscape and mitigates opportunities for offender concealment. The unique site location and surrounding local road network ensures that vehicles and foot traffic can provide appropriate natural surveillance of site perimeters.
Signage	
Have entrances, car parking and other significant uses been identified with a suitable sign?	Entrances, car parking and lobbies will be defined by appropriate signage as proposed in the Signage Plan submitted with The DA.
Is street numbering and writing of an appropriate size and colour?	A recommendation has been provided in Section 2.3 to ensure the development utilises appropriate signage and street numbering to facilitate wayfinding.

1.5 Proposed Development

The proposal incorporates a mixed use development comprising residential tower buildings sited above retail facilities, basement car parking and communal open space.

Figure 12 identifies general design of the site and specific elements of the proposal are discussed in more detail below.

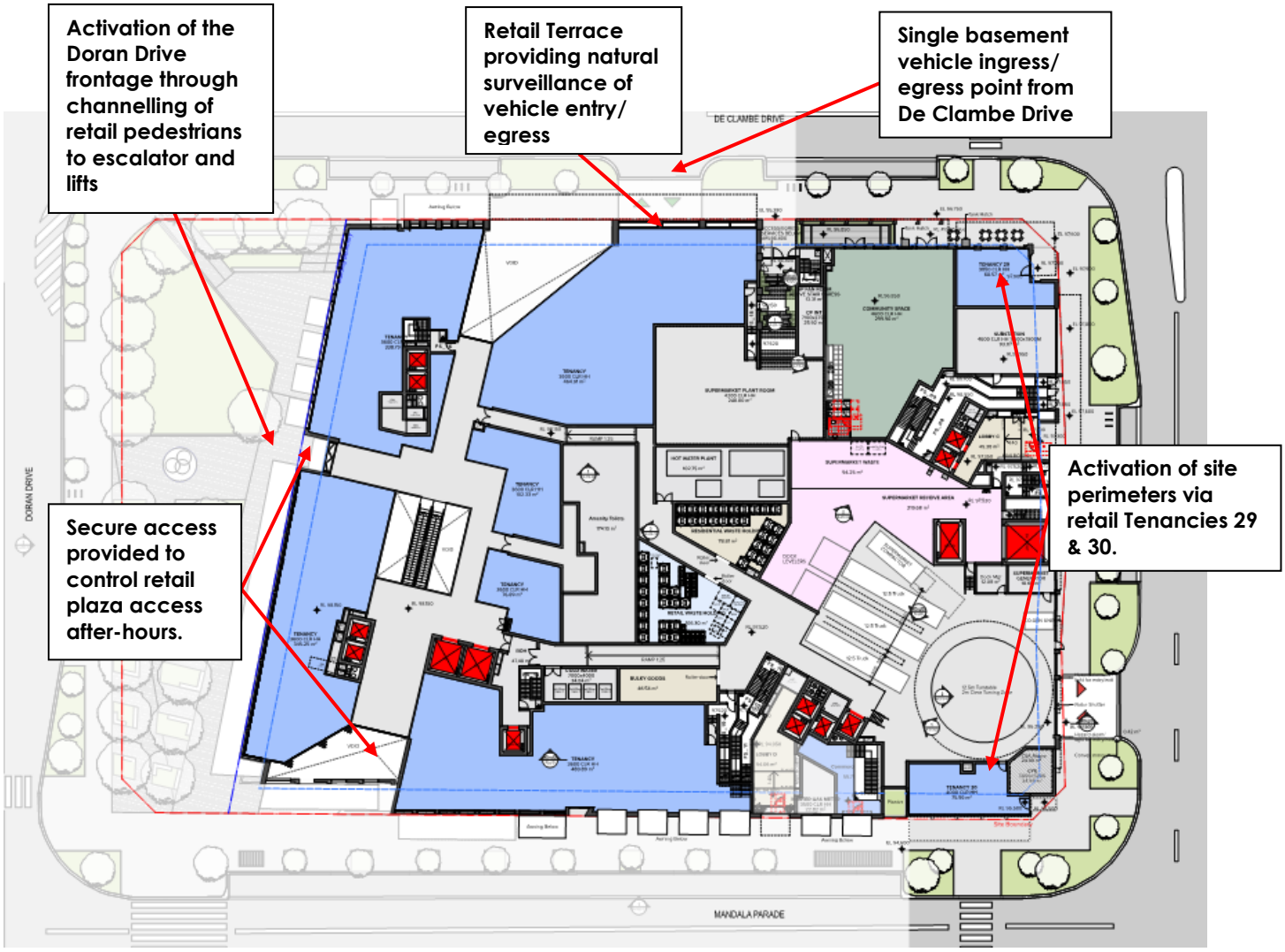

Figure 12: Extract from Level 01 Plans identifying integrated CPTED Measures

Residential Development

The proposed residential development will comprise 431 apartments as follows:

- 77 x 1 bedroom apartments;
- 311 x 2 bedroom apartments; and
- 43 x 3 bedroom apartments.

The residential built form will support 20 levels with promotion of natural surveillance of the site and surrounding development through balconies and glazing within storeys above.

Residential apartments will be accessed from lobby entries A - D with secure entry and lift access to levels above. Basement parking will be provided for all residential apartments with vehicle access from De Clambe Drive.

An extract from the proposed west elevation identifying opportunities for natural surveillance of site perimeters is provided in Figure 13.

Figure 13: Extract from proposed West Elevation

Retail Development

The proposed retail precinct supports a diverse mix of tenancy options to be primarily accessed from the Doran Drive and Mandala Parade frontages. The retail precinct incorporates glazed design elements introduced to activate the site and provide natural surveillance to site perimeters and building entry points.

Retail tenancies orientated to Doran Drive, supermarket and liquor premises will be accessed from Ground Level. Additional retail tenancies will be located at Upper Level and Levels 01 and 02 with access provided from street level or via escalator and lifts.

Tenancy 1 will support a larger commercial tenancy at Level 02 with lift access from Lobby C.

Communal Open Space

Significant provision of communal open space is provided within a podium at Level 02 and additional landscaped provision at residential levels 03, 08 and 16.

The Communal Podium located on Level 02 will include BBQ facilities, a children's play area and a range of informal seating areas designed to promote residential interaction.

Communal areas are secured for access via internal lift facilities. Note should 'Tenancy 1' staff and users of the 'Community Space 2' have access to the communal landscaped podium, secure access control to Tenancy 1 lifts must be maintained to ensure unauthorised persons cannot access residential levels.

Communal open space has been designed to allow the maintenance of sightlines along pedestrian pathways and building entries.

Refer to Figure 14 below for design review of Level 02 Podium landscaping.

Figure 14: Extract from Landscape Plans - Level 02 (Source: Urbis 2021)

Car Parking

Car parking will be provided in six basement levels, identified within Stratum A/B & C/D and includes:

- 431 residential spaces; and
- 341 commercial/ retail spaces (including residential visitors).

Single entry and egress to combined residential and retail basement car park is to be provided from De Clambe Drive.

Residential visitors will utilise Basement 01 commercial car parking with removeable bollards to be installed of an evening to prevent access to lower levels as shown in Figure 15. Visitors will be restricted to an after hours lift which will provide access to the Commercial Lobby orientated to Mandala Parade (refer Figure 16). Visitors will then be required to externally access chosen lobbies with entry provided from residents via intercom.

Note upon exiting respective residential lobbies, visitors will be required to access the Mandala Parade Commercial Lobby and after hours lift to return to Basement 01 visitors parking. Residents will be required to facilitate entry for visitors back into the commercial lobby via intercom.

Figure 15: Extract from proposed Basement 1 Plan identifying bollard locations

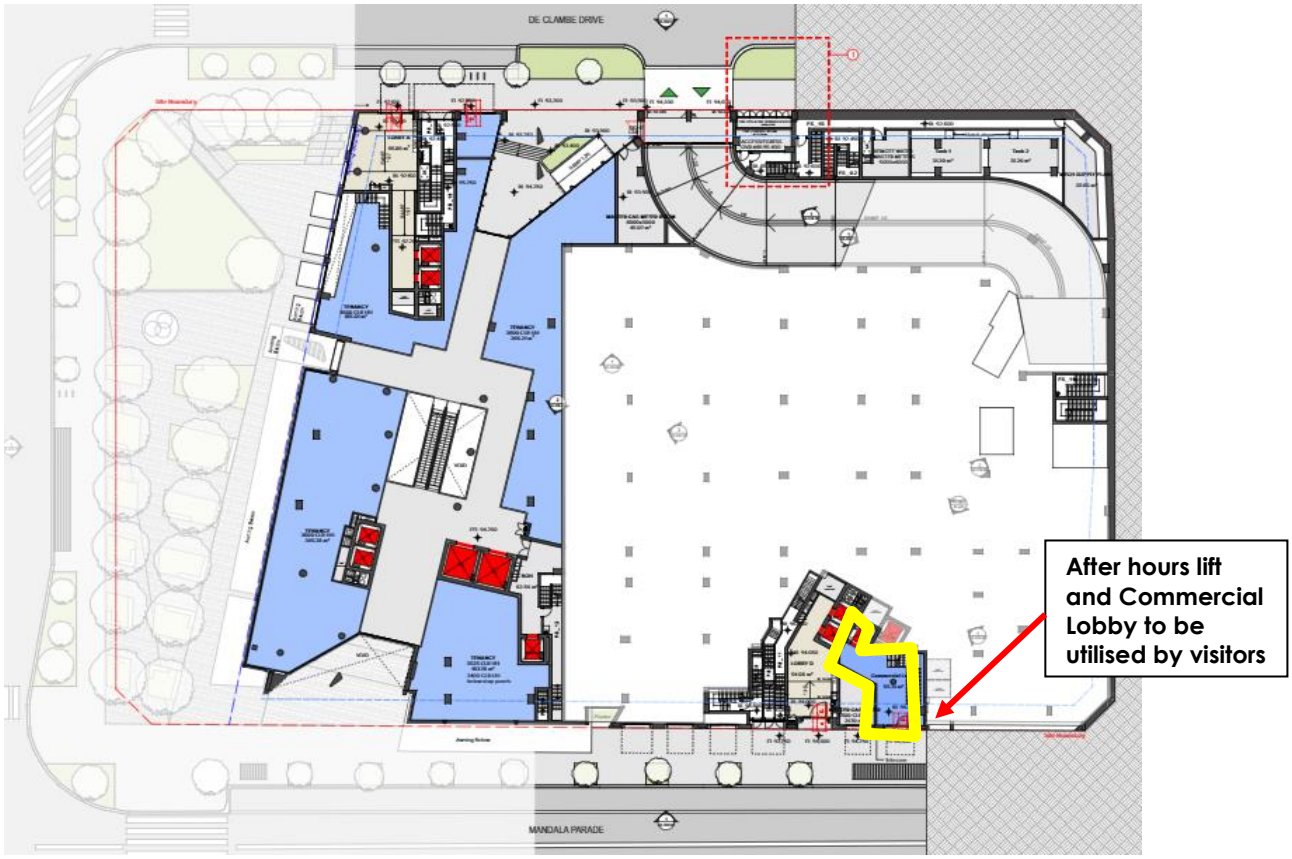

Figure 16: Extract from proposed Upper Level Plan identifying After Hours Lift

Access

Residential buildings will incorporate restricted access controls in the form of key lock, swipe card or intercom entry. Lift access will be restricted in conjunction with access to rooftop and mid building private open space and commercial spaces above ground level.

Secure access is proposed to ensure the Ground Level retail access points are secured after hours.

Access to basement car parking will be restricted with roller shutters or boom gate access control as shown in Architectural Plans. The loading zone to be accessed from Andalusian Way will be secured with roller shutter doors to mitigate opportunities for unauthorised access. Refer to Figure 17 for identification of vehicle access points.

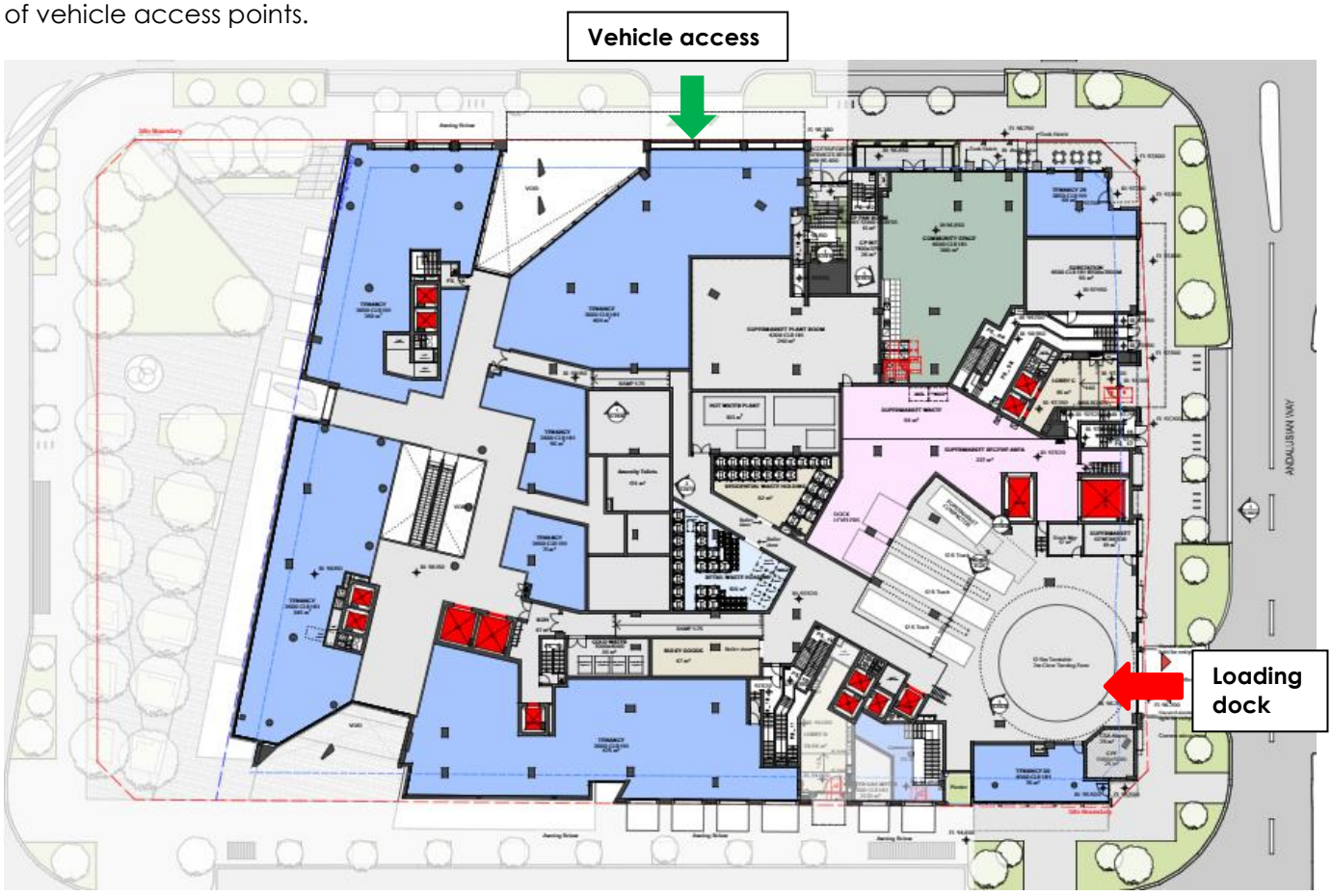

Figure 17: Extract from Architectural Plans identifying vehicle access points

Waste holding areas will be secured with restricted access available for building management and waste collection contractors. Access cards for waste storage rooms will be distributed as required.

Retail and residential entries have been separated to avoid conflict in accordance with CPTED principles as shown in Figure 18. Entry points are clearly visible from the streetscape with suitable landscaping proposed to facilitate adequate sightlines and natural surveillance.

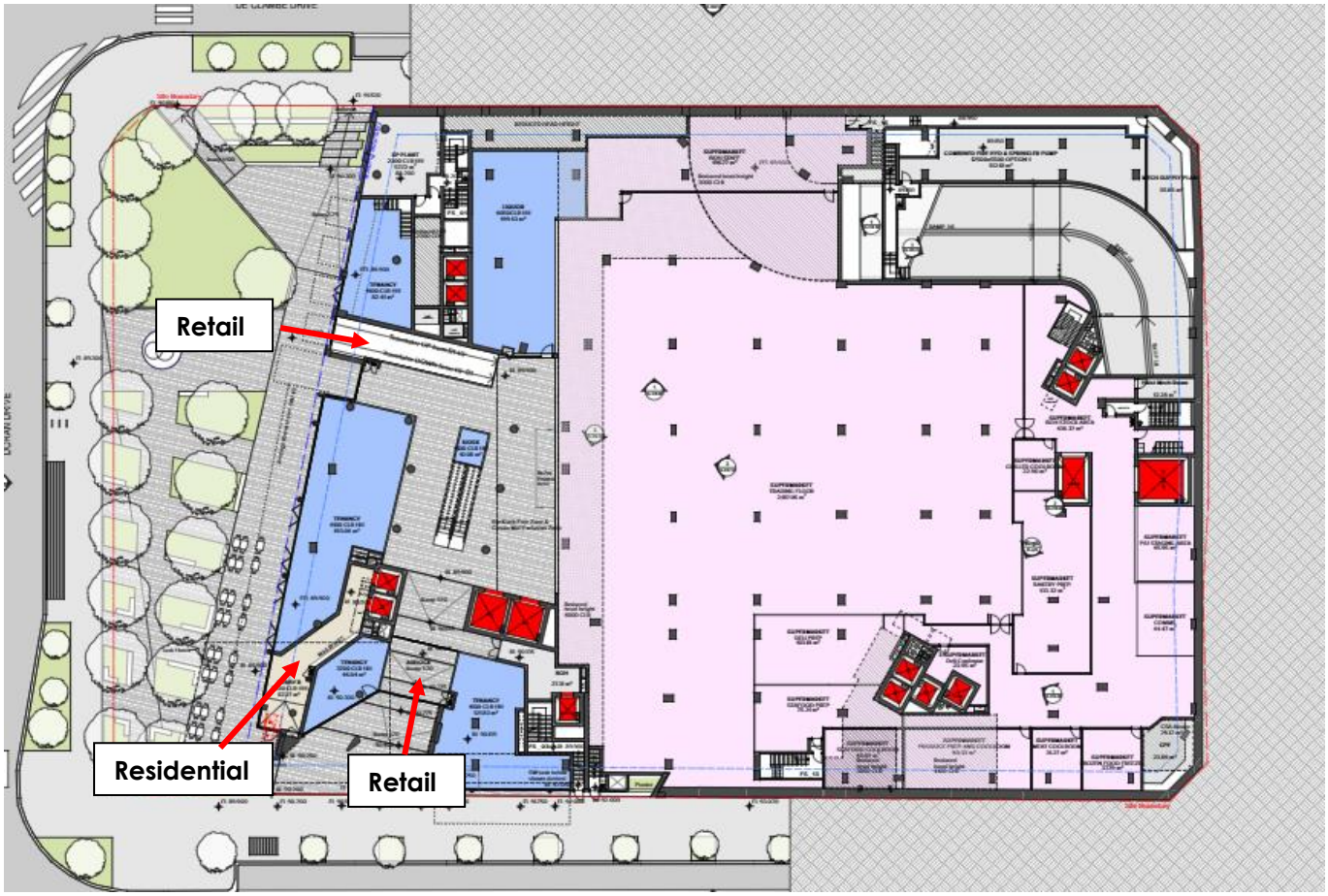

Figure 18: Extract from Ground Level Plan identifying separation of retail and residential entry points

Fire Stairs Egress

Fire stairs providing egress from Level 02 to De Clambe Drive will be adequately secured through installation of an 1800mm fence and security gate at ground level. To limit unauthorised access to levels above, the proposed gate system will facilitate egress only as shown in Figure 19.

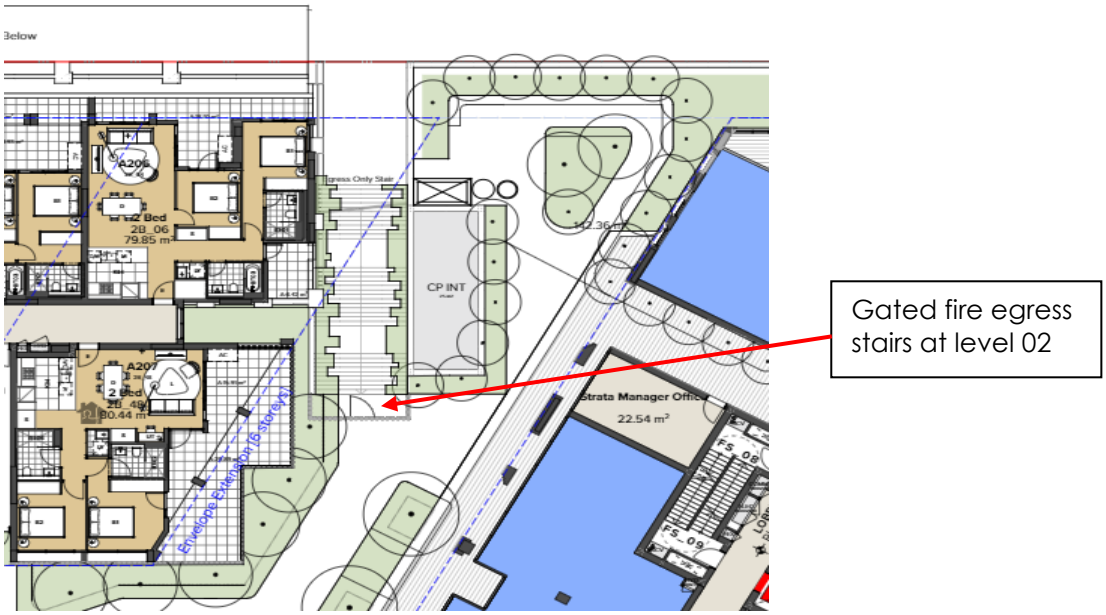

Figure 19: Extract from Level 02 Plan identifying gated fire egress stairs

Landscaping

A Landscape Masterplan has been prepared by Urbis with a Ground Level site extract shown in Figure 20 for reference.

Low level planting has been applied to areas that require maintenance of ground level sightlines and additional surveillance. Provision for larger tree species has been provided within a publicly accessible park on the corner of Doran Drive and De Clambe Drive. Canopy height will facilitate clear ground level sightlines to the main retail entry points from Doran Drive.

Proposed landscaping will facilitate maintenance of a defined green buffer to mitigate the visual impact of the precinct. Vegetation height along site perimeters should be designed to facilitate unimpeded sightlines into the development for pedestrians and vehicles.

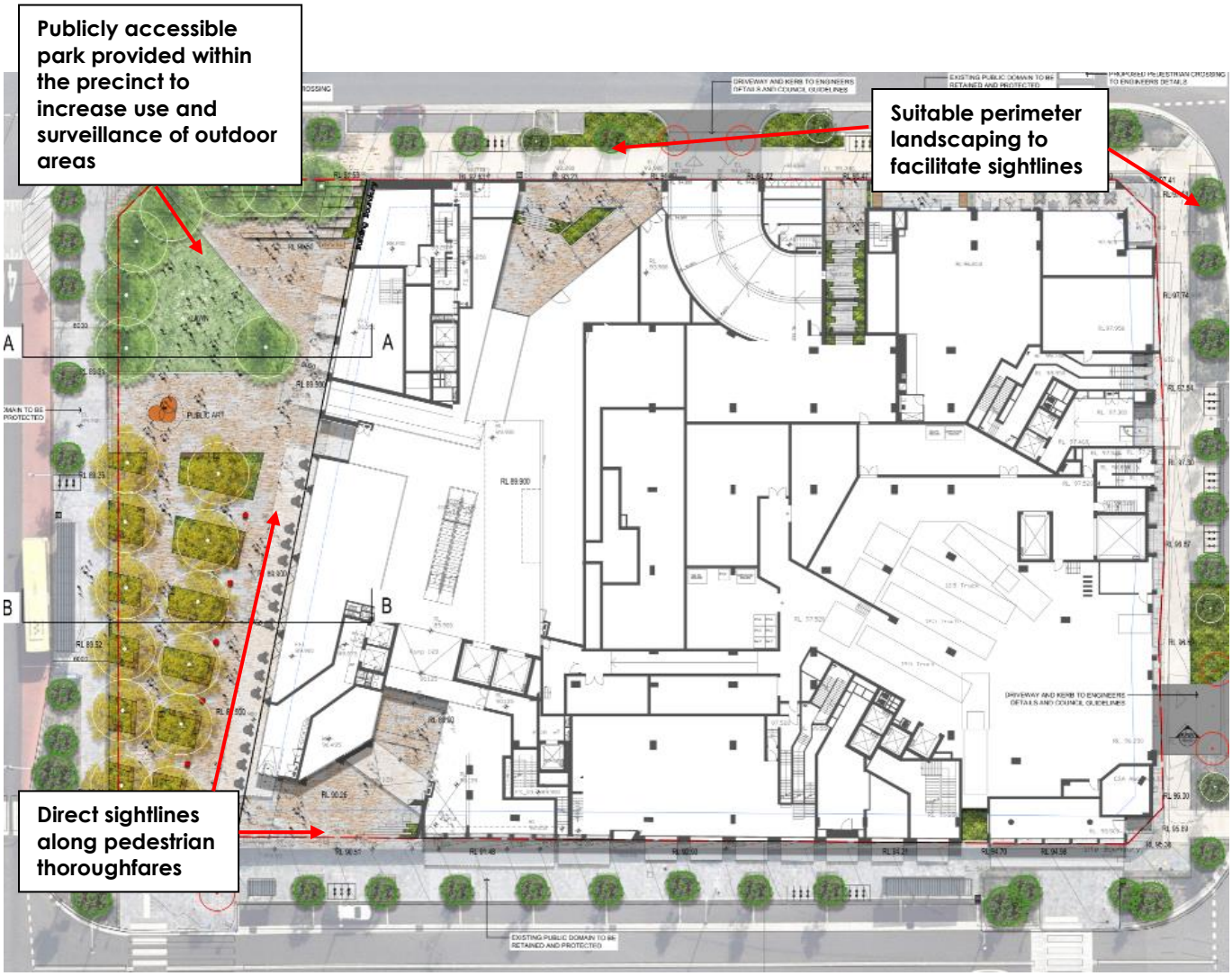

Figure 20: Extract from Landscape Plans - Ground Level Illustrative Plan

Existing landscaping within the public domain will be retained and protected during construction. Figure 21 below identifies existing planting mix with ground cover and canopy heights designed to facilitate sightlines to building entry points from the surrounding road network.

Figure 21: Existing Public Domain Landscaping - Corner of Mandala Parade and Andalusian Way (Source: Google street view 2021)

2 CPTED Principles

2.1 Surveillance

The *Crime Prevention and the Assessment of Development Applications* states that *'the attractiveness of crime targets can be reduced by providing opportunities for effective surveillance, both natural and technical'*.

From a design perspective, 'deterrence' can be achieved by:

- clear sightlines between public and private places;
- effective lighting of public places; and
- landscaping that makes places attractive, but does not provide offenders with a place to hide or entrap victims.

Positive surveillance features of the development include:

- Opportunities for passive surveillance of site perimeters, internal access driveway and communal areas from balconies, windows and raised open space;
- Clear sightlines facilitated by suitable canopy height along Mandala Parade, Doran Drive, De Clambe Drive and Andalusian Way frontages; and
- Residential lobby A - D entries clearly visible from the surrounding road network.

Table 3 lists potential 'surveillance' issues and recommended strategies to minimise crime risk.

Table 3: Surveillance issues and recommendations

Surveillance Issues	Recommendation
Perimeter	• Perimeters and vehicle driveway should be well lit at night. • Perimeter landscaping should be well maintained to ensure appropriate natural and CCTV surveillance can occur. • Regular surveillance checks of open space plaza areas should occur and perimeter landscaping should allow appropriate sightlines for this to be achieved.
Entrances	• All entrances should be well lit at night especially in alcoves and corners. • Entrances should be well defined and clearly sign posted. • Consideration should be given to the use of sensor lights in areas that do not require constant illumination. • Glazing should facilitate natural surveillance of perimeter areas from within ground level commercial/ retail spaces.
Car Parking	• Minimise density of planting surrounding car park entries to maintain clear sightlines to commercial and residential parking areas. • The car park should be well lit at night and located away from potential entrapment areas. • Ensure the residential/ retail car parking is secured by remote access garage doors or boom gates to reduce the need for permanent surveillance. • Consideration should be given to the installation of Closed Circuit TV (CCTV) within entry points to all basement car park levels and lifts to mitigate vehicle theft.

Surveillance Issues	Recommendation
Positioning of CCTV cameras	• Consideration should be given to the installation of CCTV within street level plaza areas, residential and retail lobby's, pedestrian pathways and landscaped areas. • Loading zones should be monitored through CCTV, particularly where external contractors will be accessing the site regularly. • CCTV should be provided to monitor services accessed from the Andalusian Way frontage. • Position CCTV at places where the offender/s is most likely to have to pass or want to access, such as building entry/exit points or pedestrian access along site perimeters, internal vehicle access point or internal plaza areas. o CCTV should be: · Clearly visible to deter potential offenders; · Placed at a height that captures a full view of the offender's face whilst not being obscured by other interferences; and · In areas where image capture will not be compromised by insufficient lighting
Landscaping	• The planting proposed in the Landscape Plan should not obstruct surveillance along road frontages and site perimeters. • Landscaping should be free from obstructions and allow clear sightlines along designated pedestrian paths. • Clear sightlines should be maintained within areas of mature tree planting. • Vegetation should be low (below 700mm) in areas where offenders could easily hide. • Landscaping should not impede opportunities of natural surveillance of lobby and building entries. • Foliage density should be effectively maintained to promote active surveillance from residents. • Any vegetation or debris on pathways must be removed to maintain the sightlines required for crime preventing surveillance.
Lighting	• Lighting should be vandal resistant. • Lighting should satisfy the relevant Australian standard. • Effective illumination at ground level should reduce any opportunity for shadowing along pedestrian access points. • Car parks should be illuminated to provide for increased visibility, particularly in storage areas or places of potential entrapment. • Street numbers on buildings should be illuminated to promote site identification.
General Recommendations	• Signs should be erected in areas which are restricted, prohibited or under surveillance to discourage criminal or anti-social activity. • Consider contracting a local security firm for regular inspections of the site. • Prune all trees and shrubs around buildings to enable clear visibility. • ATM's should be located in central areas that are afforded direct sightlines from retail shopfronts or pedestrian thoroughfares.

2.2 Access Control

Access Control can be defined as physical and symbolic barriers that are used to *'attract, channel or restrict the movement of people'*.

Effective access control can be achieved by creating:

- landscapes and physical locations that channel and group pedestrians into target areas;
- public spaces which attract, rather than discourage people from gathering; and
- restricted access to internal areas or high-risk areas (like car parks or other visited areas). This is often achieved through the use of physical barriers.

Positive access control aspects of the design include:

- Basement car park limited to one entry/ egress point from De Clambe Drive;
- Mailboxes sited internal to lobby's to reduce opportunities for mail theft;
- Separate commercial lobby to service Tenancy 1 and Community Space 2 at Level 02;
- Secured residential lobby entries with swipe card/ keylock access control;
- Residential apartments located from Level 2 and above which will assist with mitigation of street level residential break and enter;
- Provision of removeable bollards to limit residential visitor access to lower basement parking levels and
- Secure roller door access control to back of house and retail loading dock.

Table 4 lists potential 'access control' issues and recommended strategies to minimise crime risk.

Table 4: Access control issues and recommendations

Access Control Issues	Recommendations
Landscaping	• Avoid planting large trees adjacent to buildings to prevent use of ''natural ladders'' for access to roofs or balconies. • Landscaping should not inhibit entry to access gates, paths or building entries. • Fenced areas should define private spaces. • Explore options for integration of landscape bollards at Ground level to mitigate vehicle access to the plaza.
Entrances	• Private building entrances should be secured and controlled via electronic cards and intercom. • Elevator access to levels should only be available via an electronic swipe card or intercom system. • Regular maintenance to lobby's, car park and building entrances is essential for effective access control. • Ensure emergency exits incorporate self-closing door hardware.
Fire Egress	• Fire stairs providing emergency providing emergency access from Level 02 to De Clambe Drive should be fenced and gated. Security gate should be installed to ensure provision for egress only.
Level 02 Commercial Spaces	• Careful consideration of access control to Tenancy 1 and Community Space 2 should be undertaken to ensure unauthorised persons cannot access podium level open space areas and residential apartments.
Residential Communal Open Space Areas (Levels 3, 8 & 16)	• Access to communal open space areas at upper levels should be restricted through swipe card lift access. • Signage should be present identifying nominated hours for use for common areas and management should consider locking

Access Control Issues	Recommendations
	these spaces outside these times.
Car Park	• Access to the basement car park should be controlled by an electronic access door and secured by swipe card or intercom system to limit unauthorised access. • Consideration should be given to implementation of a boom gate to limit retail customers accessing residential parking within basement levels below. • CCTV should be used to monitor combined residential and retail basement parking facilities. • Signage should be provided to ensure after hours lifts are clearly delineated identified.
General Matters for Consideration	• Fully secure all external doors and windows with good quality locking devices. Make sure they are regularly maintained. All doors should be of solid construction and well fitted. • Make use of signage and stickers promoting security measures such as: security alarms, video surveillance and security contractors. • Install signage to clearly demarcate residential areas from commercial areas and public areas from service areas.

2.3 Territorial Reinforcement

Territorial reinforcement can be achieved by enhancing 'community ownership of public space' as it sends positive signals and reduces opportunities for crime.

Effective territorial reinforcement and community ownership can be achieved by creating:

- design that encourages people to gather in public space and to feel some responsibility for its use and condition;
- design with clear transitions and boundaries between public and private space; and
- clear design cues on who is to use space and what it is to be used for.

Care is needed to ensure that territorial reinforcement is not achieved by making public spaces private spaces, through gates and enclosures.

Positive territorial reinforcement aspects of the proposal include:

- High quality communal areas that will promote residential interaction;
- Entrance design to residential lobby areas provide a clear demarcation between public and semi-private space; and
- Roller shutters and signage provided to retail plaza entry points to clearly define hours of operation within semi private areas.

Table 5 lists potential 'territorial reinforcement' issues and recommended strategies to minimise crime risk.

Table 5: Territorial reinforcement issues and recommendations

Territorial Reinforcement Issues	Recommendations
Creating a sense of place/ownership	• Communal open space areas should allow resident maintenance and inclusion, in conjunction with a designated environmental contractor maintenance plan. • Clear distinction should be provided in landscaping and

Territorial Reinforcement Issues	Recommendations
	paving to identify separation between public and private spaces. • Signage should clearly identify private areas (particularly open space) so as to minimise conflict between residents and the general public and unintentional access.
Way Finding	• Provide clear signage for pedestrians utilising pedestrian pathways and through site links, particularly within the park at the north east corner of the site. • Provide clear signage for motorists throughout basement parking to reduce vehicle - pedestrian conflict. • Explore opportunities for the introduction of a public address system to assist with security and management of emergencies.
Publicly Accessible Park	• The publicly accessible park areas should be well maintained to allow the space to be used by the public, residents and visitors. • These areas should encourage social interaction between the community which will in turn increase natural surveillance and ownership of these spaces.
General Matters for Consideration	• Consider installation of a monitored security alarm system. • Prominently display any signs indicating the presence of a security system, the continual surveillance of the premises and any other security measures present. • Explore opportunities for implementation of a Plan of Management that details site security, access control and hours of operation.

2.4 Space Management

Space management 'ensures that space is appropriately utilised and well cared for'. Strategies include activity coordination, site cleanliness, rapid repair of vandalism and graffiti and the replacement of decayed physical elements.

Table 6 lists potential 'space management' issues and recommended strategies to minimise crime risk.

Table 6: Space management issues and recommendations

Space Management Issues	Recommendations
Waste storage	• Garbage bins and waste storage receptacles should be regularly emptied to prevent overflowing rubbish. • The designated waste storage areas should be secured for authorised access only.
Vandalism	• Remove graffiti as quickly as possible to minimise potential for cumulative graffiti and vandalism actions. • Install vandal resistant lighting where applicable.
Toilets	• Toilets should be regularly maintained and kept clean at all times. • Lighting should be consistent and even to maximise visibility. • Consider installing vandal proof mirrors.

Space Management Issues	Recommendations
Lighting Repair	• The management regime should ensure that lighting is repaired as soon as possible after any lighting failure or damage.
Cleanliness and Maintenance	• Implement a Landscape Management Plan to ensure sightlines are maintained to key access points. Visual audits should be conducted to ensure landscaping is being maintained in accordance with CPTED principles. • The management regime shall ensure that the site is kept clean and tidy at all times. • Clear all building perimeters including fences of rubbish and potential climbing aids. • Maintain well-built and adequately secured boundary gates and fences.

3 Conclusion

Our assessment of the proposal in accordance with the CPTED principles confirms that the development can be managed to minimise the potential risk of crime and a re-design of the proposal is not required.

The key recommended strategies are summarised as follows:

Surveillance

- *Lighting*: Entrances, communal open spaces, private open spaces including podiums, car parks and perimeters should be well lit at night;
- *Natural Surveillance*: Promote natural surveillance via balconies overlooking the streets, lobby areas, vehicle driveways and the publicly accessible park at ground level;
- *Landscaping*: Maintain sight lines wherever possible via effective landscaping techniques using CPTED principles;
- *Concealment*: Reduce the opportunity for hiding in bushes and landscaping in secluded areas via low planting or taller trees and canopies;
- *CCTV*: Explore options for installation of CCTV at building entry points and site perimeters, particularly Andalusian Way which contains the majority of services; and
- *Formal Surveillance*: Potential contracting of a formal surveillance team to perform regular security assessments of the premises.

Access Control

- *Designated Key Card Access*: Key/ swipe card access should enforce restricted access to the residential and commercial lifts, waste rooms, basement car parking and podium level open space;
- *Landscaping*: Large trees should not be planted immediately adjacent to balconies or glazing to prevent vegetation being used as a "ladder";
- *Internal Communal Areas:* These areas should be clearly designated, and access control should be maintained via key/swipe card access or intercom system;
- *Signage:* Provide signage identifying restricted and monitored areas, including the car park and private open space areas; and
- *Security:* Ensure use of high quality locking systems, reinforced glass, clear signage and stickers.

Territorial Reinforcement

- *Landscaping:* Engage a landscape contractor to maintain perimeter and communal areas.
- *Fencing:* Ensure fencing identifies a clear distinction of areas within ground floor terraces;
- *Car Park:* Clearly delineate spaces through signage, boom gates, physical separation and other security measures, particularly within the interface of commercial, residential and visitor parking;
- *Alarm:* Consideration should be given to the installation of an alarm and dedicated CCTV system*; and*
- *Signage:* Provide signage to any visitors to the site which outline access control measures, emergency evacuation measures and procedures.

Space Management

- Implementation of an on-going maintenance plan for waste, vandalism, toilets, community facilities, landscaping, fencing and lighting.

This report can be relied on as guide for security management across the site.