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Crime Risk and Crime Prevention Through Environmental Design (CPTED) Consultancy

Final Report

in relation to the

TripleTwoNine Business Park
Mixed Use Development
13 Endeavour Road, Caringbah NSW

for

Aliro

16th October 2024

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Crime Prevention Through Environmental Design (CPTED) Consultancy in relation to the TripleTwoNine Business Park Mixed Use Development 13 Endeavour Road Caringbah NSW

EXECUTIVE SUMMARY

(extracted from the report)

ES1 Engagement and Development Overview

In February 2023 Harris Crime Prevention Services (Harris) provided an interim 'high level' Crime Risk and Crime Prevention Through Environmental Design (CPTED report in relation to the TripleTwoNine Business Park development's masterplan for the site (the development), located at 13 Endeavour Road (Endeavour Road and Captain Cook Drive), Caringbah NSW.

This report to Aliro relates to Aliro's Business Park Mixed Use Development (the development) Application (DA). It assesses, concludes and recommends the CPTED elements aimed at providing 'welcoming-and-safe-place' outcomes for the entire site, its built form and public open) spaces.

Addressing the design from a CPTED perspective also aligns the architecture with Aliro's Green Star objectives for the development. Our report specifically addresses Section 15 of the Green Star Communities Submission (GSCS) Guidelines in relation to 'safety and security', Guideline V1.1.

ES2 CPTED Aim and Principles

2.1 CPTED Consultancy Aim

The overarching CPTED aim is for the development to become a 'welcoming-and-safe-place' for all stakeholders.

Designing out crime through the application of CPTED principles is an acknowledged crime prevention platform. Harris defines CPTED as '*applying aspects of architecture, engineering and technology to all urban development proposals (projects) as an intentional environmental crime prevention strategy'.*

2.2 CPTED Principles

Our report's analyses, conclusions and recommendations are based on five acknowledged CPTED principles, adapted by Harris from the Moffatt (1983) CPTED framework as:

Principle 1 Territorial definition – clarity about spatial identify, separation, boundaries and purposes,
Principle 2 Natural surveillance – architecture facilitating strong sightlines for ground plane, basement and/or upper-level observation and surveillance,
Principle 3 Access control – access-egress definitions - who goes where, when and why,
Principle 4 Activity support – the influences of (external) lighting, landscaping and signage,
Principle 5 Target hardening – adding specific and robust architecture and technology.

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ES3 Assessed Potential Crime Risks Impacting the Development

Our assessment is based on risk-to-incident likelihood for all categories: 'low' (**L**), 'moderate' (**M**), 'high' (**H**) and 'extreme' (**E**). (Appendix 2 provides an illustrative crime incident matrix, adapted from Standard ISO 31000:2018, *Risk Management Guidelines*).

Risks and likelihood of categories (i) to (v) occurring are assessed by Harris as:

(i) intimidating and/or anti-social behaviour targeting patrons, casual visitors, tenancy staff, clients, and contractors accessing the development's footprint. (**L**),
(ii) physical and/or sexual assaults against 'targets' in (i), especially at night, (**L** - **M**),
(iii) unauthorised access to all buildings and theft of property, (**L – M**),
(iv) damage to structural built form, facades, vehicles, infrastructure, lighting, landscaping, signs, (outdoor) ground and balcony furniture, fixtures and fittings, (**L** - **M**),
(v) contextual or site-based drug possession, and drug dealing. (**M**)

There are two other potential crime risks and levels. They are not likely to occur in this context but have significant consequences if they do. The consequences are 'high' (**H**) and 'extreme' (**E**). They are risk-assessed as:

(vi) arson or explosion(s), (**L**)
(vii) injury or death to persons, damage to, or destruction of, property, from targeted and potentially, gang or terror-style attacks, (**L**).

ES4 CPTED Application to Ensure 'Welcoming-and-Safe-Place' Outcomes

CPTED Principle 1 Territorial Definitions Conclusions and/or Recommendations

In terms of this foundational principle, drawings denote attention to territorial integrity; built form, open and gathering spaces. spatial identity. Drawings display definitional spatial separation design clarity for all user-occupiers of the development site.

In CPTED and definitional terms, there are no ambiguously allocated spaces or confusing spatial purposes. Internal location and separation of buildings provides safe wayfinding confidence.

Boundary (perimeter) fencing should consider appropriate options which reflect the client's intended suburban street profile while deterring unauthorised access. This includes a review of the foreshore and Solander Fields boundaries.

Bulk and general waste will be secured within the tenancies and procedures strictly followed by tenants as to (waste) storage and collection. Utilities infrastructure should also be secured to avoid tampering and/or damage opportunities with meter taps, pipes and valves.

The broad whole-of-site definitional clarity provides a foundation design statement, upon which to overlay Principles 2 to 5, as part of an integrated 'welcoming-and-safe-place' outcome.

Design Development (DD) drawings will reinforce this safe circulation and activation of pedestrians and vehicles throughout the development site.

The (combined) definitional elements present a coordinated and integrated 'whole', supporting the development's marketing and crime prevention (security) objectives. In turn, these objectives should mean an overall 'safe place' reputation – one which will be sustained, in part, by the commitment of Aliro to on-going crime prevention stewardship.

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CPTED Principle 2 Natural Surveillance Conclusions and/or Recommendations

The development's overall design elements promote multi-angle proximate and distant sightlines throughout and around the existing and (new) development footprints. This includes the perimeters and streetscapes, pedestrian and vehicle entrances. The surveillance of access points to the foreshore share-way and Solander Fields requires review.

Design development architecture should affirm the above assessments, detailing specific opportunities at, in and/or around all pedestrian and vehicle movement and through-site connectivity to existing Buildings 1 and 2 and new Buildings 3 to 8. thereby ensuring optimum day-night 'eyes and ears' awareness of usual and unusual external activity.

Intra-site, multi-angle, proximate-distant sightline opportunities, should significantly enhance crime risk mitigation, including deterring unauthorised pedestrian or vehicle access to and through the site's gateways.

Loading, waste storage, collection and utilities infrastructure will require technical surveillance augmentation from an IP based video surveillance system, selected, designed and maintained to meet the environmental context. (**Refer 7.5.1**)

We conclude that current drawings meet natural surveillance objectives; that is, to generate whole-of-site surveillance opportunities to deter and/or prevent damage to property, and/or harm to all stakeholders occupying the site.

CPTED Principle 3 Access Control Conclusions and/or Recommendations

Throughout the site, access control technology will be determined by each tenancy, including the technology admitting visitors, clients, staff and maintenance contractors to all ground plane and upper-level buildings. Ensuring these access restrictions will ensure the development's 'welcoming-and-safe-place' reputation, deterring and/or preventing unauthorised access.

It is essential that all physical and electronic access control systems be monitored and maintained to ensure performance capability.

It is also essential that access restrictions be fully understood and complied with by all tenancies.

Access to plant and associated infrastructure, bulk, special and general waste storage and collection points be strictly controlled.

Maintenance and general contractors accessing sensitive and vulnerable on-site zones should have to produce some form of identification prior to granting access.

CPTED Principle 4 Activity Support Conclusions and/or Recommendations

External lighting will provide invitational and safe circulation throughout the site's building and public space footprints, providing complementary intra-site wayfinding solutions.

CPTED lighting treatments should be specified as

(i) recessed pole-mounted luminaires,
(ii) recessed under-eave down luminaires, and/or
(iii) recessed high-wall luminaires.

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This recommended lighting coverage is achievable if:

(i) the lighting brief observes whole-of-site 'no gaps' principle,
(ii) all external luminaires follow a 4000 Kelvin (colour) consistency,
(iii) bollard lights are excluded.

We recommend and assume LED luminaires. Wayfinding luminaires should be sufficiently beam-angled to achieve throw, spill and (where appropriate) wash, eliminating, shadowing and dark gaps.

Bollards should not be a lighting feature due to low level glare and the potential for damage.

CPTED landscaping solutions should:

(i) eliminate possible concealment or entrapment within or around plantings,
(ii) ensure perimeter and site-wide sightline continuity,

Signage should consider first-time visitors, clients, maintenance contractors and emergency responders to the site. All signs should be disability inclusive and where practical back-lit. Pictorial signs should be considered.

Inter-disciplinary coordination of these three 'support elements' is essential to enhance the overall safety (security) of the development. Design development should detail inter-disciplinary solutions.

CPTED Principle 5 Target Hardening Conclusions and/or Recommendations

We recommend investigating installation of a coordinated video surveillance system covering the existing and proposed development footprints. As mentioned above (7.5.1), the surveillance locations should include:

(i) at each perimeter fence corner, with capability to 'sight' along fence lines, including the cycleway and Solander Fields perimeters,
(ii) along the fence lines abutting the foreshore easement,
(iii) at each security gate,
(iv) at the main pedestrian and vehicle entrances off Captain Cook Drive and Endeavour Road,
(v) for all carparks,
(vi) at key infrastructure installations - sub-station and utilities,
(vii) at the entrance to each building, and
(viii) emergency alarm point locations.

The system should be capable of facial recognition and/or vehicle number plate identification to direct a response at selected locations. It should be capable of viewing video images by designated staff across the site with the use of portable receiving devices, for example smart phones or tablets.

A review of all security alarm technology is recommended to provide a site-wide integrated system.

Anti-graffiti coatings are recommended for all ground plane masonry finishes.

From a crime prevention perspective, the above treatments are not 'invasive'. We believe that design development drawings can specify combination solutions without creating a sense of fortressing.

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ES5 Compliance with Government Planning Instruments

Instrument Compliance Conclusions and/or Recommendations

Harris Crime Prevention Services' consultants conclude that reviewed and assessed drawings of the proposed business park mixed use development by Aliro at 13 Endeavour Road Caringbah NSW, are consistent with CPTED principles and their application as required by:

(i) legislation and/or regulations and crime prevention guidelines derived from Section 4.15 of the NSW Environment Planning and Assessment Act, 1979, as amended,

(ii) the Crime Prevention Plan (2018 – 2021) of Sutherland Shire Council,

(iii) Sutherland Shire Development Control Plan 2015 Chapter 41: Social Impact,

(iv) the NSW Police Crime Prevention (Safer-By-Design) Checklist – Revision 2020.

We conclude that, subject to intentional application of CPTED measures throughout design development-detail documentation, the reviewed and assessed drawings support consent by Sutherland Shire Council, as that consent relates to considering or fulfilling CPTED conditions.

We also acknowledge that Section 15 of the Green Star Communities Submission (GSCS) Guidelines in relation to 'safety and security', Guideline V1.1, have been met, in so far as those Guidelines require compliance in the development's 'green star' rating application.

ES6 Overall CPTED Assessment Summary

OVERALL CPTED ASSESSMENT SUMMARY

Application of CPTED Principles

In our professional opinion, the assessed drawings and associated documentation for the proposed business park mixed use development at 13 Endeavour Road Caringbah NSW, has considered, or will consider, CPTED principles and their application throughout the design development and design detail processes.

We have noted (8.5) that the development's incorporation of CPTED principles complies with the State Government's 'social impact' and 'public interest' requirements, under Section 4.15 of the NSW Environmental Planning and Assessment Act, 1979, as amended, and with the Act's regulatory guidelines. It also complies with Sutherland Shire Council's development application requirements.

The development also complies with requirements of the Green Star Communities Submission (GSCS) 'safety and security' Guidelines.

Harris Crime Prevention Services is also of the view that the proposed development should make a positive crime prevention contribution to the Council's broader 'community safety' (crime prevention) objectives.

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Crime Prevention Through Environmental Design (CPTED) Consultancy in relation to the TripleTwoNine Business Park Mixed Use Development 13 Endeavour Road Caringbah NSW

THE REPORT

1 Engagement and Development Overview

In February 2023 Harris Crime Prevention Services (Harris) provided an interim 'high level' Crime Risk and Crime Prevention Through Environmental Design (CPTED report in relation to the TripleTwoNine Business Park development's masterplan for the site (the development), located at 13 Endeavour Road (Endeavour Road and Captain Cook Drive), Caringbah NSW.

This report to Aliro relates to Aliro's Business Park Mixed Use Development (the development) Application (DA). It assesses, concludes and recommends the CPTED elements aimed at providing 'welcoming-and-safe-place' outcomes for the entire site, its built form and public open) spaces.

The DA seeks approval for a mixed use warehouse and distribution, light industrial, commercial, child care and café development known as TripleTwoNine, 13 Endeavour Road, Caringbah, operating 24 hours 7 days a week. The works involve demolition of some existing buildings and propose construction of eight new buildings in a staged manner. Specifically, this development proposes the following:

(i) Retention of existing Buildings 1 and 2 at the northern portion of the site.

(ii) Staged early works for each proposed new building, including:

- Demolition of existing structures, buildings, and hardstand including removal of trees
- Site establishment and preparation including earthworks, construction of stormwater and services infrastructure, and augmentation of utilities as required.

(iii) Staged construction and occupation of 8 new buildings for warehouse and distribution and light industrial uses, with ancillary supporting office, 68-place childcare centre and food and drink premises.

(iv) Provision of car parking.

(v) Operation of the site 24 hours per day, 7 days a week.

(vi) Landscaping works and estate domain works including estate roads and footpaths.

(vii) Estate wayfinding signage.

(viii) Dedication of land relating to the Captain Cook Drive roundabout, and a right of way for the access road linking the Solander Fields Car Park to Captain Cook Drive.

Addressing the design from a CPTED perspective also aligns the architecture with Aliro's Green Star objectives for the development.

Our report specifically addresses Section 15 of the Green Star Communities Submission (GSCS) Guidelines in relation to 'safety and security', Guideline V1.1.

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Relevant criteria from the GSCS Guidelines are:

Credit Number	Credit Criteria	Documentation Required
15.1	Design for Safety	A commitment from the project applicant to design the project site in accordance with the adopted designing-out-crime principles identified through a crime risk assessment process as outlined in the Compliance Requirements, OR A summary of the crime risk assessment and the adopted design strategy for designing-out-crime. This is to be performed prior to the commencement of construction.
15.1	Design for Safety	Documentation to demonstrate that the adopted design strategy for designing-out-crime has been applied to the masterplan for the project site. This is to be performed prior to commencement of construction.

In summary, the consultancy was required to:

(i) identify and assess the potential and actual crime risks to the development,
(ii) analyse and recommend the application of CPTED principles to mitigate those risks,
(iii) ensure (CPTED) compliance with State and/or Council planning instruments,
(iv) assess the Aliro proposal in relation to the GSCS Guidelines (above).

2 Report Structure

The report is structured as:

Section 1 engagement and development overview, CPTED aim and objectives,
Section 2 report structure,
Section 3 CPTED aim, principles and the Harris approach,
Section 4 scope, stakeholders and informing instruments,
Section 5 local crime risk context, police information and crime data,
Section 6 assessed crime risks to the development,
Section 7 CPTED-applied principles for the development's risk mitigation outcomes,
Section 8 compliance with legislation, regulation, planning and/or policy instruments,
Section 9 overall consultancy summary,
Section 10 references, and,
Section 11 supporting Appendices 1 and 2.

3 CPTED – Aim, Definitions and Principles

3.1 CPTED Consultancy Aim and Definitions

The overarching CPTED aim is for the development to become a 'welcoming-and-safe-place' for all stakeholders.

Harris defines 'welcoming and safe place' as: '*built form and public space environments where crime prevention has been a consideration of concept, master-planning, design development and construction processes to ensure a development's overall (safe and secure) reputation'.*

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We define CPTED as: '*applying aspects of architecture, engineering and technology to all urban development proposals (projects) as an intentional environmental, welcoming-and-safe-place, crime prevention strategy.*

3.2 CPTED Principles

Designing-out crime through the application of CPTED principles is an acknowledged crime prevention platform. Our report's analyses, conclusions and recommendations are based on five acknowledged CPTED principles, adapted by Harris from the Moffatt (1983) CPTED framework as:

Principle 1 Territorial definition – clarity about spatial identify, separation, boundaries and purposes,
Principle 2 Natural surveillance – architecture facilitating strong sightlines for ground plane, basement and/or upper-level observation and surveillance,
Principle 3 Access control – access-egress definitions - who goes where, when and why,
Principle 4 Activity support – the influences of (external) lighting, landscaping and signage,
Principle 5 Target hardening – adding specific and robust architecture and technology.

3.3 The Harris Approach

The Harris approach to crime prevention design incorporates aspects of architecture, engineering and technology which underpins a 'welcoming-and-safe-place' objective.

Harris defines 'welcoming and safe place' as: '*built form and public space environments where crime prevention has been a consideration of concept, master-planning, design development and construction processes and where safe place outcomes enhance a community's overall reputation'.*

4 Scope, Outcomes, Stakeholders and Informing Instruments

4.1 Consultancy Scope

The scope has addressed crime risk and crime prevention (CPTED) solutions to assist the development's design team in creating a site-wide 'welcoming-and-safe-place' for all stakeholders. CPTED solutions will, in part, be assessed against contextual site and neighbourhood (crime) risks. Our consultants have:

(i) clarified with the architect/client CPTED related elements of the master plan,
(ii) identified CPTED applications regarding safe day-night interconnectivity between each building and other architectural elements, e.g., car parking, landscaping, lighting and signage that may 'encourage' the reduction and/or prevention of crime,
(iii) affirmed and/or recommend other design modifications based on CPTED principles including spatial definition, natural and technical (CCTV) surveillance, access control and target hardening,
(iv) undertaken site and neighbourhood visits to better understand the crime risks and interface between this development to its current surroundings, e.g., bicycle way, Solander Fields and neighbouring properties,
(v) reviewed architectural drawings to assess their compliance with the GSCS Guidelines,
(vi) obtained and assessed the latest relevant crime statistics and input from local police,
(vii) considered the impact of weather, climate variations and day/night comparisons on 'safe place' form and function, and
(viii) provided a CPTED report incorporating the scope elements.

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4.2 Expected Outcomes

Harris believes that the development should provide a welcoming-and-safe-place reputation by:

(i) enhancing the architectural integrity and client objectives of the development as they apply to GSCS Guidelines,
(ii) holistically protecting all assets – people, property, systems and infrastructure,
(iii) complying with the requirements of the EPA Act, with the security (crime prevention) obligations of Sutherland Shire Council's Development Control Plan (DCP), its Crime Prevention Plan (CPP) and NSW Police,
(iv) meeting the expectations of secondary stakeholders, e.g. insurers, auditors,

4.3 Key Stakeholders

Key stakeholder groups are:

(i) Aliro,
(ii) Sutherland Shire Council,
(iii) Green Star Communities,
(iv) Watson Young (Architects),
(v) all stakeholder-users of the Development's footprint and its immediate context,
(vi) NSW Police,
(vii) adjacent neighbours and broader (Caringbah) community.

While each stakeholder will have different community safety expectations, their broad expectations are similar in that personal and property safety is a 'given' of the designing-out-crime objectives.

4.4 Informing Instruments

Our analyses, conclusions and recommendations are informed and/or underpinned by:

(i) the NSW Environmental Planning and Assessment Act, 1979, as amended,
(ii) Sutherland Shire Council's DCP 2015, Social Impact Chapter 41,
(iii) Sutherland Shire Council's CPP 2018 – 2021 +,
(iv) Green Star Communities Submission (GSCS) Guidelines,
(v) NSW Police CPTED 'Check List',
(vi) data from the NSW Bureau of Crime Statistics and Research (BOCSAR).

The development's compliance with, or reference to, these instruments is covered in **Section 8**.

4.5 Supporting Documents

Our analysis and report is also underpinned by two International Standards:

(i) AS/ISO 31000:2018, *Risk Management Guidelines*, which provides a helpful framework to identify and manage any organisational risks, include crime risks,
(ii) ISO 22341:2021 *Security and Resilience – Protective Security – Guidelines for Crime Prevention Through Environmental Design*, which provides an acknowledged international CPTED framework.

The report has two (supporting) appendices:

Appendix 1 NSW Bureau of Crime Statistics and Research (BOCSAR) - reported crime statistics for Caringbah over five years, April 2018 to March 2023,
Appendix 2 The Risk Management Standard AS/ISO 31000:2018 (the Standard), its relevance to the development.

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4.6 Notes and Disclaimer

Note 1 Harris' consultancy services are provided independently; i.e. we are *not* affiliated with, nor receive benefits from, any organisation that supplies security hardware, installs security systems, monitors alarm systems or provides guarding/patrol services. This independence is critical to the way we approach security solution options and recommendations.

Note 2 The scope excluded the development/provision of a technical security brief, security systems design and specifications or lighting brief and specifications.

Note 3 The commentary, assessment, conclusions and recommendations outlined in the report are based on information provided to Harris Crime Prevention Services at the time of this assignment.

Disclaimer: While our research and experience suggest CPTED can be adopted to reduce opportunities for crime, it is not possible to guarantee that actual crime will be reduced or eliminated if these suggestions and/or recommendations are implemented.

5 Local Crime Risk Context, Police Information and Crime Data

5.1 The Crime Risk Context

The Crime Prevention Officer (CPO) at the Sutherland Shire Police Area Command is familiar with the development's location and neighbourhood.

The CPO confirms that the locality is mostly residential including a nearby retirement complex. Adjacent to the site are the Solander Playing Fields and a foreshore cycle path (share-way). Within the residential localities are well- cared-for streetscapes and front-of-house stewardship.

The goal of the development is to contribute to the neighbourhood stewardship in cooperation with local police and Council to reduce crime (security) risks.

The CPO agrees that the proposed development's design should do everything possible through CPTED to minimise potential crime risks within the site to advance this stewardship contribution.

Graffiti, other property damage, vehicle and general theft are high police priorities throughout the Shire. Graffiti offenders often 'test the new' to see what opportunities exist for tagging vulnerable built form with a view to causing additional damage if they see no attempt to prevent 'reign in' such behaviour. It is important that graffiti 'target-hardening' be a design feature (**Refer 7.5.2**)

There are crime risks around the foreshore cycle path, often a characteristic risk with urban community cycle or share ways. Risks typically involve harassment, assaults and theft. There are no definitive anti-social or crime trends available in relation to this cycleway.

However, we are aware that there is regular engagement with police and community groups, agencies, businesses, resident groups and schools throughout the Shire to ensure community and Council crime prevention objectives are well understood, with a view to seeking wider community participation in those objectives.

5.2 NSW Bureau of Crime Statistics and Research (BOCSAR) Data

The BOCSAR data of reported crime for Caringbah suburb backs police information and our own contextual assessment. The data is published to indicate trends in various offence categories over a 5-year (year-on-year) period. **Appendix 1** details the latest data.

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There are offence categories of concern – domestic and non-domestic violence, disorderly conduct, steal from retail store, steal from motor vehicle, drug offences and malicious damage to property. While the 'raw numbers' are relatively high, there have been reductions in some categories of between 10 and 16% per year.

In summary, Caringbah is an urban mix of educational, educational, recreational, commercial and residential precincts. Especially throughout the residential and recreational areas, individual and community, stewardship is evident.

6 Assessed Potential Crime Risks Impacting the Development

6.1 Important Factors in Assessing Crime Risks

Predicting when, where, what, how and why risks can become threats and incidents targeting the development footprint, may be influenced by factors such as:

(i) the surrounding context's potential to 'attract' opportunities for anti-social or criminal behaviour,
(ii) time of day or night and weather conditions for such opportunities,
(iii) the emotional 'state' and motive of a person intending to commit an offence,
(iv) the intended targets – people and/or property, and
(v) how easy or difficult it is to unlawfully gain access to targets.

6.2 The Harris-Assessed Contextual Crime Risk Summary

The assessed crime risks listed below should not be underestimated. This is not to alarm but to caution against mitigation complacency and to direct mitigation opportunities in the first instance towards CPTED solutions. Even the most minor offence occurring within or near buildings, communal or public spaces and on surrounding streetscapes can have major consequences.

Assessment is based on four risk categories: 'low' (**L**), 'moderate' (**M**), 'high' (**H**) and 'extreme' (**E**). We have assessed the (crime) risks as 'low' to 'moderate' for the development and its context.

Anecdotal understanding, site knowledge, local police information and BOCSAR data confirm common (and mostly predictable) crime categories likely to 'target' the development.

Risks and likelihood of categories (i) to (v) occurring are assessed by Harris as:

(i) intimidating and/or anti-social behaviour targeting patrons, casual visitors, tenancy staff, clients, and contractors accessing the development's footprint. (**L**),
(ii) physical and/or sexual assaults against 'targets' in (i), especially at night, (**L** - **M**),
(iii) unauthorised access to all buildings and theft of property, (**L – M**),
(iv) damage to structural built form, facades, vehicles, infrastructure, lighting, landscaping, signs, (outdoor) ground and balcony furniture, fixtures and fittings, (**M**),
(v) contextual or site-based drug possession, and drug dealing. (**M**).

There are two other potential crime risks and levels. They are not likely to occur in this context but have significant consequences if they do. The consequences are 'high' (**H**) and 'extreme' (**E**). They are risk-assessed as:

(vi) arson or explosion(s), (**L**)
(vii) injury or death to persons, damage to, or destruction of, property, from targeted and potentially, gang or terror-style attacks, (**L**)

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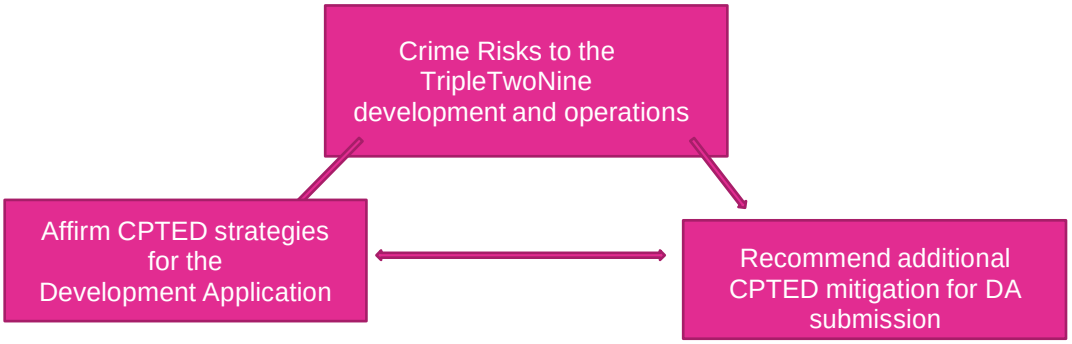

7 CPTED Applications to Ensure 'Welcoming and Safe Place' Outcomes

7.1 CPTED Principle 1 Territorial Integrity - definitional clarity about spatial identity, separation, boundaries and purposes

General Explanation

Defining territorial boundaries, spatial separation and purposes are the elements of this first CPTED principle. The aim is to maximise built form and public domain 'knowledge certainty' for all who have day-night access to a site.

Stakeholder, occupant, visitor, emergency response or contractor knowledge (identification) of territorial sub-spaces increases destination and circulation confidence; (for example, design of mixed-use spaces including, building entrances, public, communal, sporting, retail, commercial, residential, industrial, social gathering, wayfinding and vehicle access spaces).

When spaces become clearly defined collective 'places', form and function are easily identified. This removes confusion of purpose, enhances safe circulation and ensures alertness to any surrounding risks or threats.

7.1.1 Application – New Building Definitions, Purposes and Spatial Separation

From a CPTED perspective, the overall development site outlining the 8 buildings (2 existing and 6 proposed) and their elements are clearly defined in the reviewed drawings. This is critical to further defining the internal built form, associated structures, pedestrian and vehicle circulation; their purposes and safe wayfinding to each.

Drawings indicate appropriate spatial separation of buildings, parking, pathways and associated landscaped (open) spaces. Intra-site connections to and from each building are easily 'negotiable' in terms of pathway and driveway wayfinding.

Throughout the site, there is no spatial confusion. 'Hidden' 'spaces and blind corners, likely to conceal or entrap, are significantly reduced within the development's footprint. Lighting, general landscaping and signage are key elements to ensuring consistent and safe day-night site identification and (safe) intra-site movement-to-destinations. (**Refer Section 7.4.1**).

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The interconnected (integrated) nature of the development ensures whole-of-site clarity of purpose through well-defined spatial separation, overall legibility and wayfinding certainty. CPTED 'looks for' this certainty.

Image 1 site plan showing existing and proposed buildings adjacent to Solander Fields – Watson Young

7.1.2 Application – Entries, Perimeters and Intra-site Definitions

The main entrance to the development off Captain Cook Drive is clearly defined. The main pathway and internal road gives directional certainty to buildings, including outdoor spaces and parking zones.

Some perimeter fencing exists along the north-eastern (foreshore) boundary, as Palisade style tubular steel installations. Fencing along the Solander Fields boundary is also proposed and the Captain Cook Drive boundary and entry fencing proposes a combination of Palisade and low profile design.

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A review of proposed pedestrian access to the foreshore share-way and Solander Fields is recommended, not from a definitional perspective, but from user vulnerability, especially at night.

The separation between each building's footprint clearly defines perimeters and between-building spaces, for example the distance between Buildings 3 and 4. This separation promotes natural surveillance (Principle 2),'through' and around each footprint. The appropriate separation of Building's 3 to 8 also reduces the likelihood of concealment or entrapment.

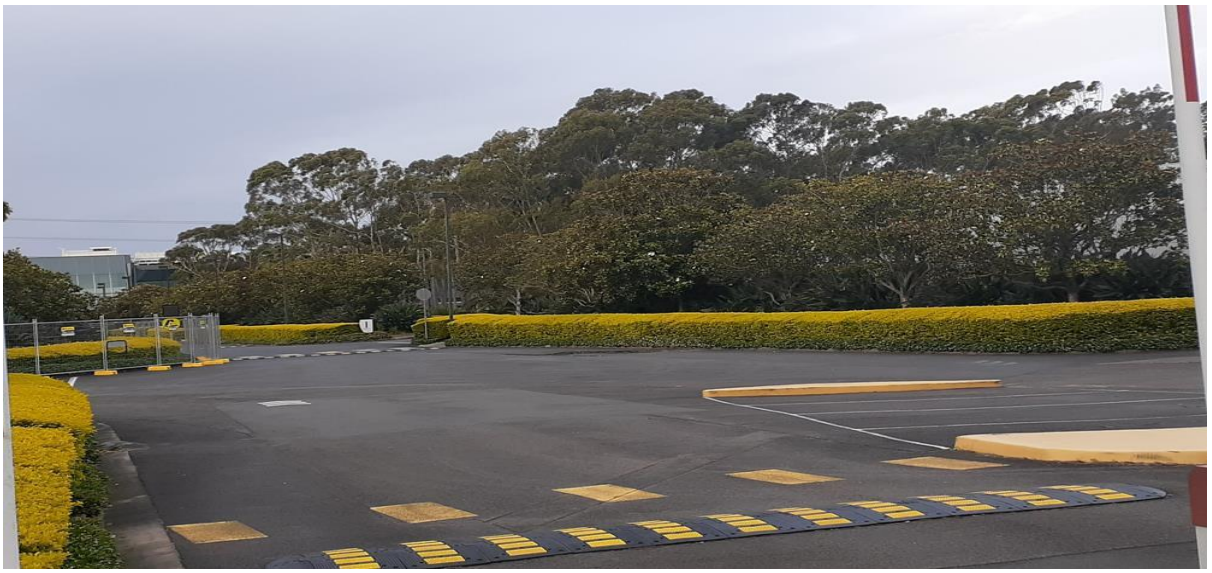

Image 2 entry to the development, to be retained as well-defined 'welcome' space – Harris

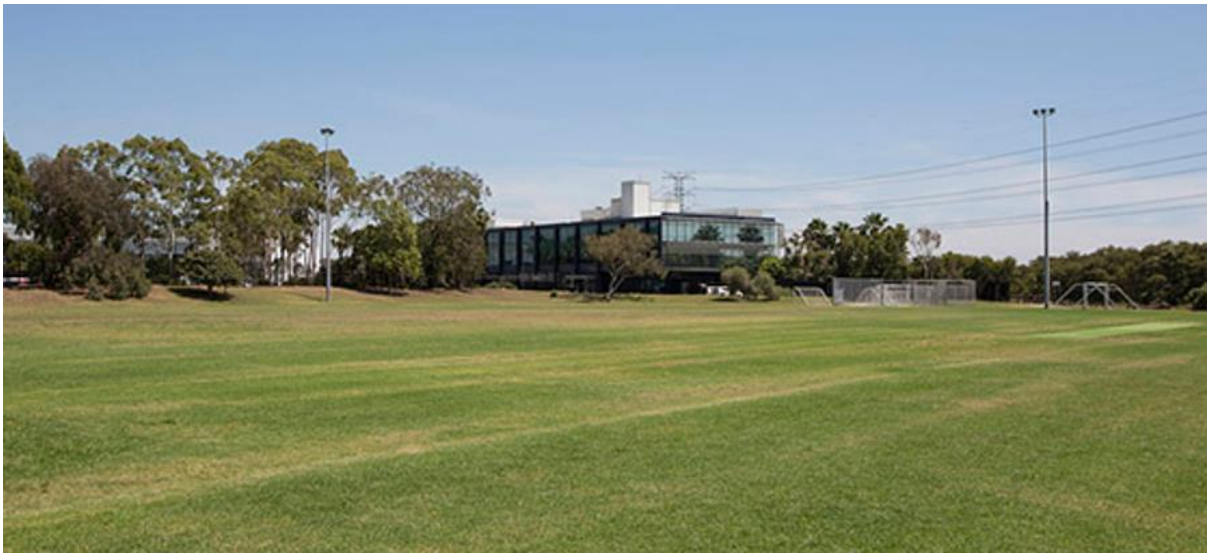

Image 3 Solander Fields – site boundary to be fenced with 'gated' inter-site pedestrian access - Harris

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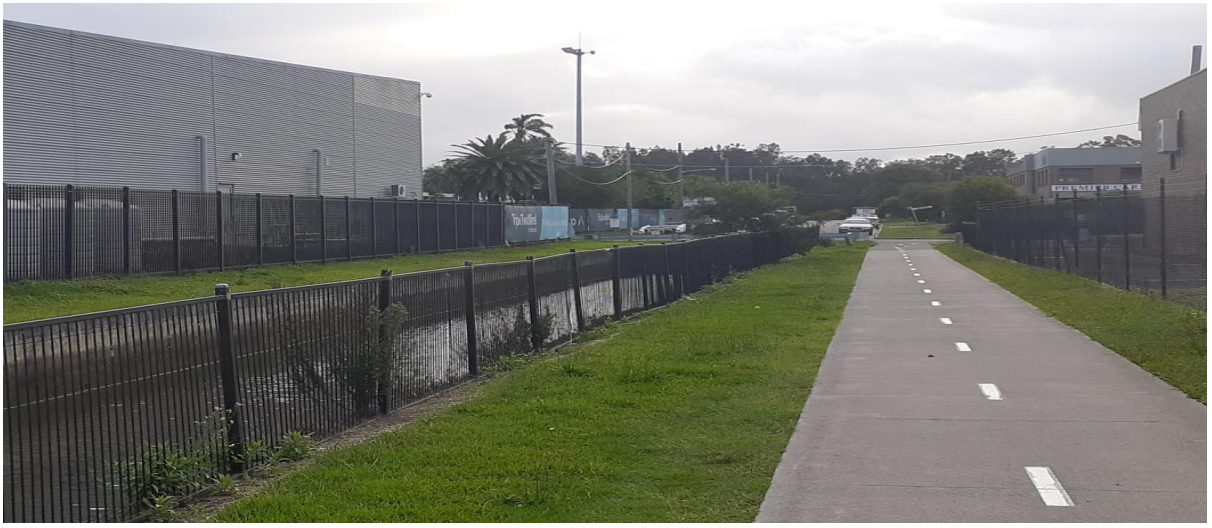

Image 4 existing access to the foreshore share-way, adjacent to the northern site boundary – 2 other intra-site access points are proposed - Harris

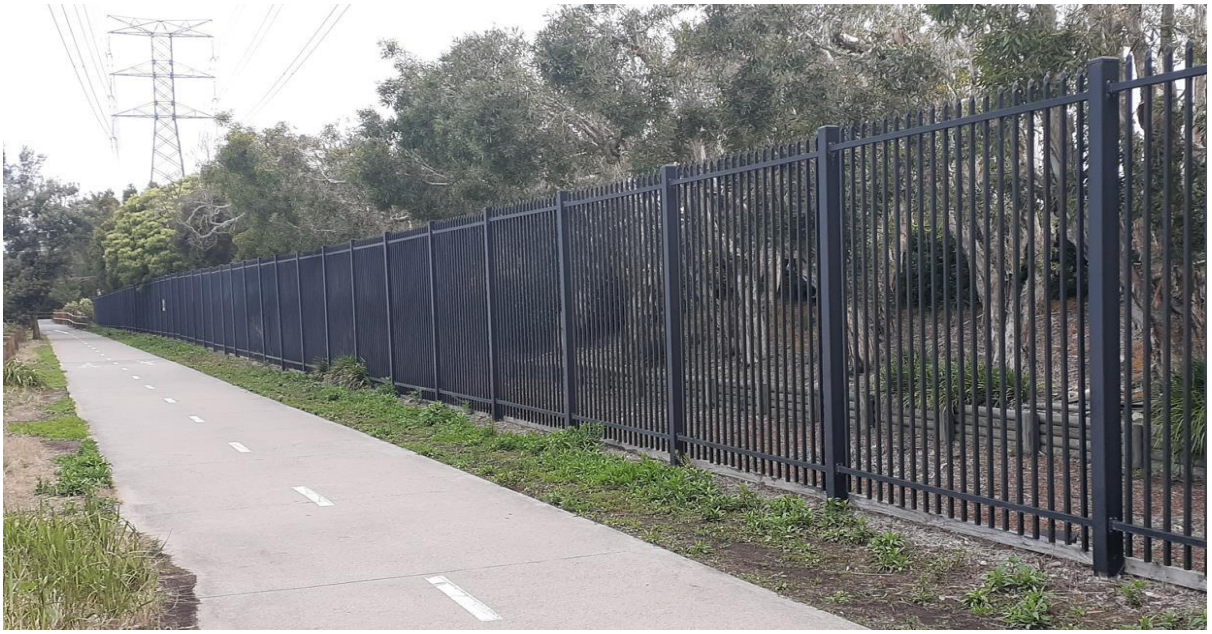

Image 5 north eastern easement boundary fence along the share-way - a vulnerable space - Harris

In definitional terms, the intra-site building connectivity is appropriate, with design development-detail to further define safe wayfinding through landscaping, signage and lighting. Drawings indicate seamless but secure connectivity between Buildings 3 to 8, while maintaining appropriate definitional separation distance from Buildings 1 and 2.

Safe wayfinding should ensure there are no obvious entrapment or concealment points towards, along, around, or in the vicinity of, each building. Landscaping spaces and pathways are the key to safe intra-site building connectivity.

The location and definitional design of unit and building mailboxes is critical. Local police advise that there are increasing instances of mail theft, specifically as identity theft, where there is little structural security able to resist (unauthorised) access. Ideally, all mailboxes should be securely located internally, that is within foyer areas, Otherwise, design should back on to external building walls.

7.1.3 Application – Vehicle Entry. Ground Plane and Level 1 Parking

We note the following from the Aliro development brief. "*The primary vehicular entry for the site will be from Captain Cook Drive. Vehicular access will also continue to be provided from two crossover points*

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along Endeavour Road. Vehicular access for the site has been arranged to utilise both these access points for different purposes.

The Captain Cook Drive entry is proposed to be primarily for light vehicles. The southern vehicle entry on Endeavour Road is also proposed for light vehicles.

The Endeavour Road vehicle entry is proposed for heavy vehicles. Heavy vehicles will use the northern Access Road provides access to the hardstand and loading areas of each building."

These approach and location proposals are appropriate in defining vehicle circulation and parking. Definitions of Level 1 parking are also clearly defined.

7.1.4 Application – General Storage, Waste Storage and Collection

Bulk and general waste will be secured within, and be the responsibility of, each tenant.

Operationally, all waste storage and collection will require 'procedural' access which should be followed by each tenant. The location of all waste bins should demonstrate location clarity, be secured and requiring strict procedures as to storage and collection.

7.1.5 Application – Utilities Infrastructure and Other Plant

Protecting all external utilities infrastructure is critical. Defining and securing the electricity kiosk, hydrant booster pumps, gas and water meters is essential to prevent unlawful tampering. Internal (basement located) plant is secure. External plant, meters booster and hydrant systems should be enclosed or 'caged' to deter unauthorised access, tampering with, or damage to, valves and pipes.

CPTED Principle 1 Territorial Definitions Conclusions and/or Recommendations

In terms of this foundational principle, drawings denote attention to territorial integrity; built form, open and gathering spaces. spatial identity. Drawings display definitional spatial separation design clarity for all user-occupiers of the development site.

In CPTED and definitional terms, there are no ambiguously allocated spaces or confusing spatial purposes. Internal location and separation of buildings provides safe wayfinding confidence.

Boundary (perimeter) fencing should consider appropriate options which reflect the client's intended suburban street profile while deterring unauthorised access. This includes a review of the foreshore and Solander Fields boundaries.

Bulk and general waste will be secured within the tenancies and procedures strictly followed by tenants as to (waste) storage and collection. Utilities infrastructure should also be secured to avoid tampering and/or damage opportunities with meter taps, pipes and valves.

The broad whole-of-site definitional clarity provides a foundation design statement, upon which to overlay Principles 2 to 5, as part of an integrated 'welcoming-and-safe-place' outcome.

Design Development (DD) drawings will reinforce this safe circulation and activation of pedestrians and vehicles throughout the development site.

The (combined) definitional elements present a coordinated and integrated 'whole', supporting the development's marketing and crime prevention (security) objectives. In turn, these objectives should mean an overall 'safe place' reputation – one which will be sustained, in part, by the commitment of Aliro to on-going crime prevention stewardship.

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7.2 CPTED Principle 2 Natural Surveillance: architecture facilitating informal observation

General Explanation

The principle of natural (aka informal or casual) surveillance encourages (i) the observation of built form and public domain spaces and purposes by user/stakeholders and (ii) the observation and notation within or around spaces of usual or unusual activity and behaviour, potentially (or actually) leading to anti-social or criminal threats and incidents.

Natural surveillance is purposeful observation. Maximum surveillance impact requires sightline certainty, facilitated by clear proximate-distant and longitudinal-latitudinal fields. The aim is to know who or what is within a surveillance field and to observe specific unlawful action or intent.

Legible and permeable architecture should ordinarily promote natural surveillance in and around clear reference fields. CPTED surveillance-focused architecture adds a crime prevention 'layer' to legible and permeable circulation and activation creativity.

7.2.1 Application – Perimeter and Whole-of-Site Surveillance

There are legible, multi-axes and interconnected ground plane sightlines around the development's perimeters, with the exception of the north-eastern foreshore easement. Surveillance of this easement corridor will require coordinated lighting and video surveillance technology.

Visual certainty comes from each new building's designated footprint, within surrounding and between-building gaps to provide proximate and distant sightlines and therefore surveillance certainty.

With the 'caution' of limited sightline continuity due to the easement, there are no other perimeter sightline interruptions or impediments likely to cause contextual or on-site disengagement or reduction of natural surveillance opportunities.

7.2.2 Application – Ground Plane and Building Surveillance

Each building's footprint engages with its immediate surroundings to ensure strong sightlines. The landscaping between and surrounding the buildings strengthens those sightlines.

The between-buildings surveillance opportunities are 'promoted' by simple driveway and pathway networks, encouraging safe circulation through proximate and distant sightlines.

Specifically, each building has design elements that provide those surveillance opportunities. Building 3 and 4 have good ground plane sightlines. Level 1 (Building 4) creates sightlines from the car parking zone. Building 5 offers strong front-of-house ground plane surveillance. Buildings 6,7 and 8 offer natural surveillance opportunities from front-of-house, rear building and car park zones.

In our view, there are no obvious recesses or blind corners on approaches to, or away from, the new builds or within the variety of landscape spaces.

Given the definitional certainly of the site's ground plane (**Principle 1**), surveillance objectives along, and at, intersecting circulation-activation axes will be achieved. Definition + strong sightlines facilitate the day-night 'eyes and ears' observation of the usual and unusual.

7.2.3 Application – Surveillance from Upper-Levels

Natural surveillance from upper building levels is possible from windows. However, there is sufficient experiential evidence to show that upper-level surveillance of ground plane activity is limited in that there is no immediate connection to any undue (ground plane) noise or disturbance.

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[**General Note on Ground Plane and Upper-Level Surveillance**: In our experience, and from scholarly research, legible and permeable ground plane surveillance has advantages over upper-level surveillance opportunities.

(i) Sightlines are at eye level facilitating proximate and distant surveillance.
(ii) The hearing range is closer meaning incidents are more likely to be sight-sound identified, even when there are contextual distractions.
(iii) There is a sense of context – the observer and/or hearer is usually within or near the same space and is 'drawn' to any unusual or disturbing behaviour.
(iv) Contextual eyes-and-ears surveillance may cause a 'no response' and/or withdrawal from involvement, while still retaining memory of what was seen or heard.
(v) Night-time on-street person and property surveillance is still effective due to retaining same-plane visual and aural (audible) cues.]

7.2.4 Application – Plant and Utilities Infrastructure Surveillance

Externally (non-recessed) utilities infrastructure, including electricity kiosk-substations, meters and booster pumps or hydrants should be (proximately) observable. Any surrounding landscaping should not, at maturity, obscure observation (surveillance) clarity. Natural surveillance of external booster systems, or meters, would identify whether tamper-evident seals had been (security) breached.

7.2.5 Application – Waste Storage and Collection Surveillance

It is imperative that all waste locations – general, bulk and 'special' – can be seen from vehicle and pedestrian circulation, either as enclosed or 'open' (unroofed) spaces. In both cases, waste collection points should be secured.

There are likely to be smaller (individual unit) bulk or general waste part-storage/collection points where waste is temporarily kept in spaces. These too should be secured, with appropriate signage and observable from their immediate surrounds.

CPTED Principle 2 Natural Surveillance Conclusions and/or Recommendations

The development's overall design elements promote multi-angle proximate and distant sightlines throughout and around the existing and (new) development footprints. This includes the perimeters and streetscapes, pedestrian and vehicle entrances. The surveillance of access points to the foreshore share-way and Solander Fields requires review.

Design development architecture should affirm the above assessments, detailing specific opportunities at, in and/or around all pedestrian and vehicle movement and through-site connectivity to existing Buildings 1 and 2 and new Buildings 3 to 8. thereby ensuring optimum day-night 'eyes and ears' awareness of usual and unusual external activity.

Intra-site, multi-angle, proximate-distant sightline opportunities, should significantly enhance crime risk mitigation, including deterring unauthorised pedestrian or vehicle access to and through the site's gateways.

Loading, waste storage, collection and utilities infrastructurewill require technical surveillance augmentation from an IP based video surveillance system, selected, designed and maintained to meet the environmental context. (**Refer 7.5.1**)

We conclude that current drawings meet natural surveillance objectives; that is, to generate whole-of-site surveillance opportunities to deter and/or prevent damage to property, and/or harm to all stakeholders occupying the site.

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7.3 CPTED Principle 3 Access Control: who goes where, when and why

General Explanation

Access control is a consequential extension of defining territory (Principle 1) and natural surveillance (Principle 2). Open and/or restricted access must be: (a) readily identified through the appropriate built form (approach) architecture, (b) supported by electronic access control systems (eacs) and (c) able to prevent and/or identify unauthorised access.

7.3.1 Application – Pedestrian and Vehicle Access to the Site

The gate house, main vehicle entrance and pedestrian pathway, 'directs' access, via appropriate signage, to each building, to parking spaces and building entrances indicate 'directional' vehicle and pedestrian access to and through the site.

The secure Solander Fields, foreshore easement and cycleway perimeters, define access restrictions (limitations) to staff, maintenance contractors and emergency personnel. It is important to 'gate' the cycleway and Fields connectors to prevent site access after-hours.

Access to each building and parking zones will be the responsibility of, and controlled by, each tenant who will determine the best-fit access technology to suite their security and operational hours. Camera and intercom (identification) technology for some more sensitive building operations is recommended, for example the Level 1 childcare facility in Building 5.

7.3.2 Application – Access to the Ground Plane and Level 1 Carparks

A total of 571 car parking spaces are proposed for the entire site, including those for Buildings 1 and 2.

The zones are 'scattered' and present a challenge to prevent theft of, or theft from, vehicles. Parking restrictions should be designated to each building's tenancies, including the upper-level or between-building allocations. Targeted external lighting and camera technology will support day and night-time surveillance of these zones.

7.3.3 Application – Storage, Plant, Waste, Loading and Utilities Infrastructure Access

General, bulk and 'specialist' waste access will be controlled by tenancies. Zones must be secured and located to minimise unauthorised access and/or tempering risks, including the likelihood and consequences spontaneous combustion or arson. These locations should be free of clutter.

Aliro will be responsible for controlled access to utilities infrastructure.

Controlled access to all these locations (zones) must be restricted to authorised staff, contractors and emergency service personnel.

CPTED Principle 3 Access Control Conclusions and/or Recommendations

Throughout the site, access control technology will be determined by each tenancy, including the technology admitting visitors, clients, staff and maintenance contractors to all ground plane and upper-level buildings. Ensuring these access restrictions will ensure the development's 'welcoming-and-safe-place' reputation, deterring and/or preventing unauthorised access.

It is essential that all physical and electronic access control systems be monitored and maintained to ensure performance capability.

It is also essential that access restrictions be fully understood and complied with by all tenancies.

Access to plant and associated infrastructure, bulk, special and general waste storage and collection points be strictly controlled.

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Maintenance and general contractors accessing sensitive and vulnerable on-site zones should have to produce some form of identification prior to granting access.

7.4 CPTED Principle 4 Activity Support: influences of (mainly external) lighting, landscaping and signage

General Explanation

Activity support applies (external) lighting, landscaping and signage architecture to a footprint's form and function design, 'supporting' definitional clarity, passive and technical surveillance and access control (Principles 1 to 3).

External (and where appropriate internal) lighting should reflect 'purpose' consistency: wayfinding, destination, social gathering and decorative-aesthetic.

Each requires differing luminaire styles, lighting types, spread, throw, spill, wash and lux levels, to accord with lighting Standards and architectural briefs.
CPTED lighting applications can (should) often exceed those Standards and briefs so as to highlight spaces and circulation - activation 'corridors'.

Differential lighting should avoid cross-over colour (temperature) clashes to enhance surveillance identification of property and people. All external lighting should optimise sightline legibility, to facilitate proximate-distant wayfinding and destination confidence.

Landscaping should combine aesthetics and purpose with an intent to prevent concealment or entrapment.

Signage supports wayfinding and destination certainty, access limiting (controlling), warning and emergency awareness. It should have day-night visual impact.

7.4.1 Application – External Lighting Locations, Consistency, Colour and 'Corridors'

External lighting is a critical 'support' for the 'welcoming-and-safe-place' objectives; an integral part of ensuring all users of Buildings 3 to 8 have safe night-time circulation and deterring potential offences from targeting built form and open space assets.

The (gated) entry, main internal road, main and secondary (connector) pedestrian pathways, ground and upper-level parking zones will require consistently applied illumination and complementary internal (spill) lighting.

Overhead lighting to the three pedestrian connectors to the cycleway and to Solander Fields is essential. Buildings 3, 4, 6,7 and 8 are recommended for wall-washed under-eave down lighting to illuminate boundary areas against the Fields and foreshore powerline easement.

This 'brief' should be specified as:

(i) recessed pole-mounted luminaires,
(ii) recessed under-eave down luminaires, and/or
(iii) recessed high-wall luminaires.

The concept is to create lighting 'corridors', maximising wayfinding certainty, illuminating landscaped areas and ensuring that all vehicle parking zones are 'spread' lit. This consistency should eliminate shadows or gaps, ensuring strong beam angles, throw spill and wash. Ideally, all ground level building facades could be 'washed' to highlight walls and building surrounds.

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All lighting should eliminate glare and should promote 'no dark gaps' throughout. Hence the recommendation for high overhead or down light illumination. It is not a floodlighting approach, but a targeted outcome. It is assumed that the overall lighting brief will not cause any unacceptable lighting impacts.

This recommended lighting coverage is achievable if:

(i) the lighting brief observes whole-of-site 'no gaps' principle,
(ii) all external luminaires follow a 4000 Kelvin (colour) consistency,
(iii) bollard lights are excluded.

From a CPTED perspective it is essential to present consistent lighting colour characteristics for all wayfinding. LED lighting is assumed, and we have recommended 4000 Kelvin, as the most appropriate colour temperature to achieve safe proximate and distant wayfinding, surveillance and, where necessary, object, location or person identification.

(The white-natural light spectrum at 4000 Kelvin has advantages over blue, orange or yellow colour output. Yellow, orange and blue renditions distort natural colour profiles and features. White light installations strengthen contrasting colours and identify individual (personal) features more distinctly. Complementary street lighting should match this temperature.)

Bollard lighting is not recommended as it creates glare and tends to interrupt sightline or way-finding certainty, Bollards are also prone to damage can become hazards and can often be 'buried' by mid height landscaping.

If wall lighting is appropriate, for example at building entrances, fittings should be under-eave as down-beam luminaires, ideally to 'wash' facades, angling 'spare' throw and spill to highlight pathways and approaches. Similarly, 4000K should be specified.

Decorative concept lighting for proposed open 'pause' or social gathering spaces should play a complementary safe-place role, especially if external seating and 'gathering' is proposed during seasonally appropriate evenings.

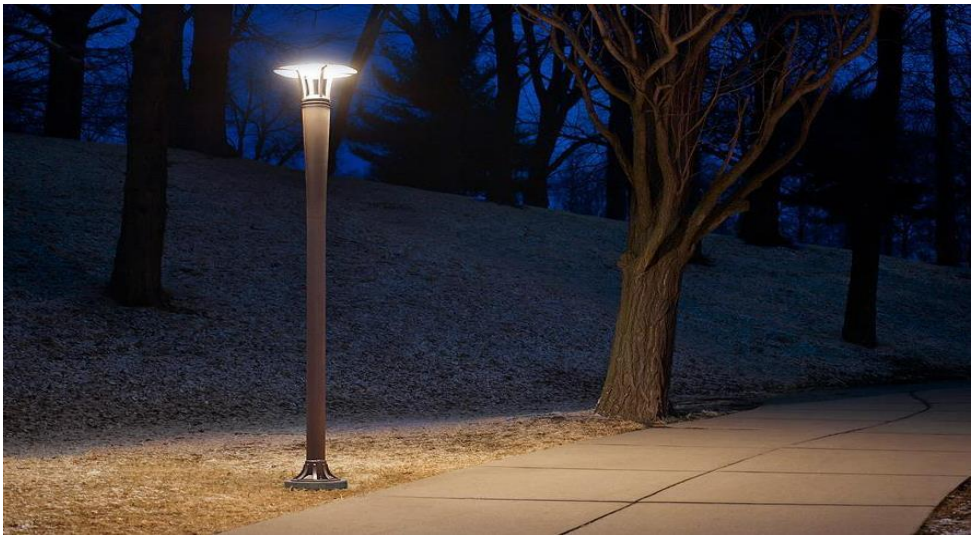

Image 6 typical overhead non-glare recessed wayfinding light - Stock

Spill lighting from Solander Fields, when operational, will assist in illuminating the development's southern boundary and will also benefit natural or technical surveillance of that boundary. However, the development's lighting brief will be independent of any Fields 'assistance'.

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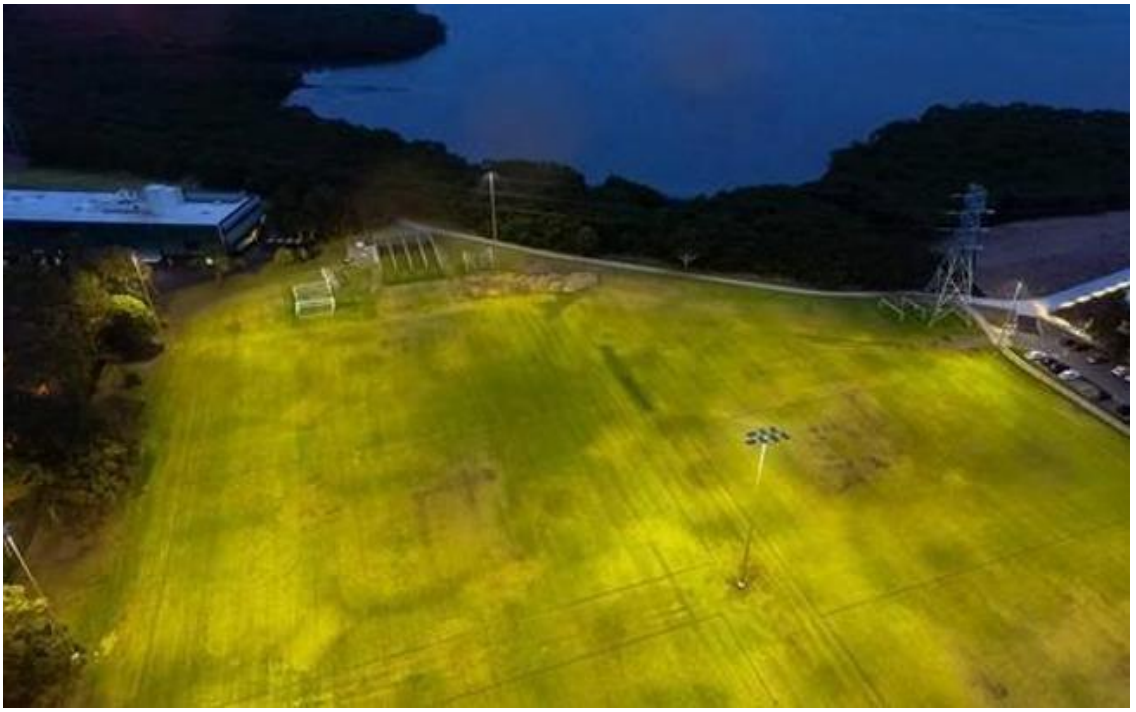

Image 7 Solander Fields lighting could support the southern new development boundary - Google

7.4.2 Application – Landscaping

Proposed landscaping will add a safe circulation element to the new development and whole-of-site footprint. It will 'support' wayfinding pathways and 'invite' participation in open spaces.

From a CPTED perspective, landscaping should 'signal' to clients, customers, visitors, contractors and staff, safe and soft 'welcoming' to all parts of the site (estate).

There are five points to consider in securing those spaces and to counter any unauthorised entry, entrapment or concealment.

(i) No trees or high shrubs should obstruct, or be located at, building facades, entrances, or terraces. Mature plantings around these spaces could conceal or entrap.

(ii) Ground plane carparking should, where possible, feature grasses and low shrubs at and around parking bays to enable clear vehicle identification.

(iii) Perimeter landscaping should provide opportunity for fence-length (internal) observation to deter over-fence unauthorised access and to facilitate recommended camera surveillance along perimeter axes and at off-street entrance gates.

(iv) Proposed deep soil tree plantings should consider strong under-canopy sightlines at strategic circulation and activation spaces.

(v) Plantings should not obscure caged booster, hydrant or meter enclosures. Unfortunately, there are higher-level (extreme consequence) risks relating to utilities infrastructure with the intention to cause damage to these structures. They are especially vulnerable when concealed (hidden) by mature shrubs or dense high-spread grasses, for example. (**Refer also 7.5.4**)

Landscaping (and lighting above) will define the attractiveness and safety of the entire footprint's internal and external (outside of the security boundary) circulation.

We note the pre-DA advice from Council regarding a vegetation buffer for the Woolooware Bay interface. "*It is Council's expectation and long-term outcome for the site that land along the foreshore boundary will form part of a vegetative buffer along the entirety of the foreshore area. Therefore, a detailed landscape management plan (LMP) that details the creation of the vegetation buffer adjacent to this portion of the site must be provided with any future DA.*" (Sutherland Shire Council)

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7.4.3 Application – Signage

Signage will add safety and security value throughout the site so that existing and new building wayfinding is common and legible. Directional signage is the key to wayfinding and access controlling 'knowledge'. Signs should reflect a consistency of style aimed at providing wayfinding confidence, destination (arrival) certainty and access-limiting advice.

Ideally, throughout the site, signs should be colour coordinated and visually 'readable' to cater for human height differences and should be disability inclusive. Pictorial signage is an option.

Regular users of all eight buildings, ground plane parking and open spaces will soon become familiar with signs and their purposes. However, new day or night-time visitors, for example, will find visually attractive directional (wayfinding) and destination signage helpful and less confusing.

For increased wayfinding and building destination safety, it is important to display back-lit signage indicating each building, their entrances and unit numbering. Therefore, the proposal to illuminate all signs is endorsed.

Emergency (including fire and exit) signage is subject to codified compliance.

Proposed signage (below) indicates legibility. The 'blade' designs proposed for map and building location signage should, in our view, be limited in scale to avoid obscuring sightlines and to prevent unintended concealment or entrapment opportunities.

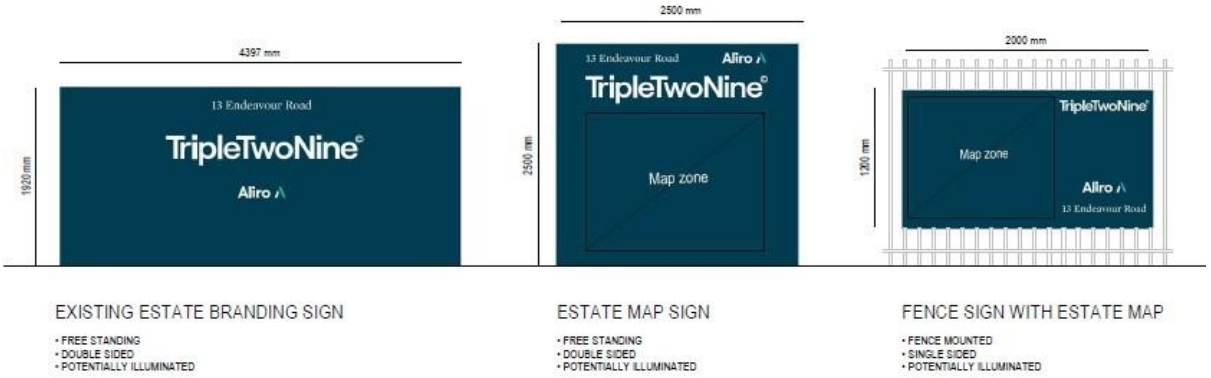

Image 8 legible existing and proposed estate signage – Watson Young

CPTED Principle 4 Activity Support Conclusions and/or Recommendations

External lighting will provide invitational and safe circulation throughout the site's building and public space footprints, providing complementary intra-site wayfinding solutions.

CPTED lighting treatments should be specified as

(i) recessed pole-mounted luminaires,
(ii) recessed under-eave down luminaires, and/or
(iii) recessed high-wall luminaires.

This recommended lighting coverage is achievable if:

(i) the lighting brief observes whole-of-site 'no gaps' principle,
(ii) all external luminaires follow a 4000 Kelvin (colour) consistency,
(iii) bollard lights are excluded.

We recommend and assume LED luminaires. Wayfinding luminaires should be sufficiently beam-angled to achieve throw, spill and (where appropriate) wash, eliminating, shadowing and dark gaps.

Bollards should not be a lighting feature due to low level glare and the potential for damage.

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CPTED landscaping solutions should:

(i) eliminate possible concealment or entrapment within or around plantings,
(ii) ensure perimeter and site-wide sightline continuity,

Signage should consider first-time visitors, clients, maintenance contractors and emergency responders to the site. All signs should be disability inclusive and where practical back-lit. Pictorial signs should be considered.

Inter-disciplinary coordination of these three 'support elements' is essential to enhance the overall safety (security) of the development. Design development should detail inter-disciplinary solutions.

7.5 CPTED Principle 5 Target Hardening: adding specific and robust architecture and technology

General Explanation

Target hardening is often called 'situational' crime prevention. It aims to reinforce other CPTED principles and to proactively 'strengthen' form, infrastructure, structures, fixtures, fittings and furniture in and around identified vulnerable spaces. Target hardening design is an added crime risk defence layer.

CPTED design measures aim to increase the efforts intending offenders must expend attempting to damage property and/or harm or injure people.

Target hardening can apply additional physical, mechanical, structural and electronic treatments to deny or limit access. Electronic alarms or surveillance cameras are the more common target hardening measures. However, the Principle's design goal is to avoid place 'fortressing'.

7.5.1 Application – Video Surveillance Installations

Video surveillance is an essential 'target-hardening' element, largely to deter and/or (hopefully) identify individuals suspected of committing offences anywhere within the site.

We recommend a video surveillance masterplan – one covering the existing Building 1 and 2 footprint and linking with the (new) development. Where cameras are already located, the development provides an opportunity to upgrade to an advanced IP-based video surveillance system capable of viewing video images within the site using, for example smart phones or tablets.

The system should provide situational assessment to direct an appropriate response and be capable of facial recognition and vehicle number plate identification at selected locations.

The system must robust, reliable and be suitable for the range of environmental conditions, such as resistance to salt corrosion from the immediate foreshore. A proactive systems maintenance program is recommended.

Camera installations may be fixed to appropriate external (wayfinding) light poles, perimeters and/or on building corners, in order to achieve maximum coverage.

The following site-wide locations are examples that should be considered, all in conjunction with appropriate lighting:

(i) at each perimeter fence corner, with capability to 'sight' along fence lines, including the cycleway and Solander Fields perimeters,
(ii) along the fence lines abutting the foreshore easement,
(iii) at each security gate,
(iv) at the main pedestrian and vehicle entrances off Captain Cook Drive and Endeavour Road,

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(v) for all carparks,
(vi) at key infrastructure installations - sub-station and utilities,
(vii) at the entrance to each building, and
(viii) emergency alarm point locations.

7.5.2 Application – Building Facades

The building facades are prime targets for 'tagging'. While no masonry coatings can guarantee protection from graffiti damage, we recommend investigating and applying the latest protective material, and/or coatings to minimise likely defacing of ground level masonry areas. The coating should also facilitate ease of graffiti removal.

Given the high visual 'exposure' of the existing and new buildings, the 'it-is-there-and-it-is-new' phenomenon, will tempt offenders to 'test' security measures. Causing wall or building damage from graffiti is a relatively easy 'test' option. If they succeed in this opportunity, they may then seek other ways of breaching design and operational security management measures.

7.5.3 Application – Security (Alarm) Technology

There should be a review of the proposed expanded intruder detection technology in conjunction with any existing security alarm systems around Building 1 and 2 footprints, as part of a site-side integrated security monitoring and response system.

7.5.4 Application – Securing External Utilities Infrastructure

The site has designated locations for the location and installation of utilities infrastructure, including hydrant booster pumps and meters. We recommend that these installations be enclosed either in recessed cabinets or in caged enclosures. These enclosures would be secured with key access available to fire and emergency services. This avoids any temptation by persons to tamper with valves and taps.

7.5.5 Application – Emergency Assembly Areas

These will be code-defined. It is essential that they be 'clutter' free, that is, zones where robust or 'loose' external furniture, waste bins etc., are not in these areas. It is also essential for night movement safety that external lighting apply high and focussed lux levels at these assembly areas.

Emergency vehicle parking should be available at these areas.

CPTED Principle 5 Target Hardening Conclusions and/or Recommendations

We recommend investigating installation of a coordinated video surveillance system covering the existing and proposed development footprints. As mentioned above (7.5.1), the surveillance locations should include:

(i) at each perimeter fence corner, with capability to 'sight' along fence lines, including the cycleway and Solander Fields perimeters,
(ii) along the fence lines abutting the foreshore easement,
(iii) at each security gate,
(iv) at the main pedestrian and vehicle entrances off Captain Cook Drive and Endeavour Road,
(v) for all carparks,
(vi) at key infrastructure installations - sub-station and utilities,
(vii) at the entrance to each building, and
(viii) emergency alarm point locations.

The system should be capable of facial recognition and/or vehicle number plate identification to direct a response at selected locations. It should be capable of viewing video images by designated staff across the site with the use of portable receiving devices, for example smart phones or tablets.

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A review of all security alarm technology is recommended to provide a site-wide integrated system.

Anti-graffiti coatings are recommended for all ground plane masonry finishes.

From a crime prevention perspective, the above treatments are not 'invasive'. We believe that design development drawings can specify combination solutions without creating a sense of fortressing.

8 Informing Legislation, Policy and or Planning Instruments: Compliance

8.1 Environmental Planning and Assessment Act, 1979 (as amended)

Consideration of crime prevention for mid to large scale developments in New South Wales derives from Section 4.15 (1) (b) and (e) of the NSW Environment Planning and Assessment (EPA) Act, (as amended).

The Act allows provision for State and local government instruments to regulate or codify issues pertaining to the evaluation of environmental impacts of developments. Social "*impacts*" (b) and "*the public interest"* (e) fall within this Section. Under the heading 'Evaluation', Section 4.15 (1) states:
"*In determining a development application, a consent authority is to take into consideration such of the following matters as are of relevance to the development the subject of the development application:*

(b) the likely impacts of that development, including environmental impacts on both the natural and built environments, and social and economic impacts in the locality,

(c) the suitability of the site for the development,
(d) any submissions made in accordance with this Act or the regulations,
(e) the public interest."

In the case of 'green' or 'brown' field developments, interpretation of "*the public interest*" includes stakeholder proponents, post-development occupants and, by extension, the wider community.

Local Government authorities in NSW are required to consider the various impacts within S.4.15 when evaluating developments. Councils recognise the importance of mitigating anti-social and criminal behaviour within their constituencies. Many have incorporated the CPTED framework into Development Control Plans and/or Crime Prevention Plans, requiring crime prevention considerations as a specific development consent condition.

The *public interest* interpretation aims to ensure CPTED-relevant architecture creates and promotes 'safe place' outcomes, i.e. to prevent anti-social and/or criminal behaviour which could put at risk people and property associated with a new development footprint.

Ordinarily, the *public interest* is limited to a development footprint. However, public space approaches to, or 'edges' of, a development's surrounds, may be considered as an extension of the social and public interest impacts (S.4.15 (b) and (e).

In our opinion, the proposed development has considered the "social" and "public interest" requirements of this Section and the 2001 regulatory CPTED Guidelines.

8.2 Sutherland Shire Council

8.2.1 Development Control Plan (DCP) 2015 – Chapter 41 Social Impact

Under "*Matters to be Addressed in a Social Impact Evaluation*", development design should seek to "*reduce or avoid opportunities for criminal activity and/or anti-social behaviour through the adoption of*

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relevant CPTED principles." and, "*to improve safety and security in the public domain through the adoption of relevant CPTED principles*." (p5)

8.2.2 Crime Prevention Plan

The Council has a Crime Prevention Plan (2018 – 2021+) in which it references the need for CPTED to be applied to certain developments including public spaces. While graffiti prevention and removal is the focus, the Plan references more general CPTED applications as: "*Crime Prevention principles are integrated into environmental planning outcomes. CPTED is integrated into Council's development assessment processes and appropriate referrals are made to NSW Police and/or Council's Economic & Community Development Team.*"

8.3 NSW Police – Sutherland Shire Police Area Command

We have discussed our assessed crime risks to the development (**Section 5**) with the Crime Prevention Officer (CPO) at Sutherland Shire Police Area Command, who agrees that the site's 'isolation' from existing known risk streets and premises, presents no special vulnerability.

The CPO further agrees that the development will create high levels of pedestrian and vehicle activity across the site and its 'connection' with the adjacent sports fields and cycleway. Our assessed risks, CPTED analyses, conclusions and recommendations have taken this observation into account.

The Police have provided their own CPTED (or Safer-By-Design) guidelines as a 'Check List' for developments of this nature. This report has been undertaken with reference to any relevant items.

8.4 International Standards Informing CPTED Principles and Applications

There are no (crime) risk and mitigation absolutes or guarantees. However, there are two International Standards relevant to the application of CPTED. AS/ISO 31000:2018, *Risk Management Guidelines*, provides a helpful framework to identify and manage any organisational risks, include crime risks.

A more recently, and relevant, gazetted Standard is ISO 22341:2021 *Security and Resilience – Protective Security – Guidelines for Crime Prevention Through Environmental Design*. It provides a generic CPTED framework for adoption across countries and contexts.

These Standards are included as important and relevant references for developers, planners and all government departments or agencies aiming to 'design-out' crime. **Appendix 2** outlines a Harris adapted matrix of crime risk levels, based on the AS/ISO 31000 Risk Management Standard (Guidelines).
The International CPTED Association (ICA) distributes papers from its biennial international conferences, focussing on application and evaluation elements impacting CPTED architecture.

8.5 Instrument Compliance Conclusions and/or Recommendations

Harris Crime Prevention Services' consultants conclude that reviewed and assessed drawings of the proposed business park mixed use development by Aliro at 13 Endeavour Road Caringbah NSW, are consistent with CPTED principles and their application as required by:

(i) legislation and/or regulations and crime prevention guidelines derived from Section 4.15 of the NSW Environment Planning and Assessment Act, 1979, as amended,

(ii) the Crime Prevention Plan (2018 – 2021) of Sutherland Shire Council,

(iii) Sutherland Shire Development Control Plan 2015 Chapter 41: Social Impact,

(iv) the NSW Police Crime Prevention (Safer-By-Design) Checklist – Revision 2020.

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We conclude that, subject to intentional application of CPTED measures throughout design development-detail documentation, the reviewed and assessed drawings support consent by Sutherland Shire Council, as that consent relates to considering or fulfilling CPTED conditions.

We also acknowledge that Section 15 of the Green Star Communities Submission (GSCS) Guidelines in relation to 'safety and security', Guideline V1.1, have been met, in so far as those Guidelines require compliance in the development's 'green star' rating application.

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9 OVERALL CPTED ASSESSMENT SUMMARY

Application of CPTED Principles

In our professional opinion, the assessed drawings and associated documentation for the proposed business park mixed use development at 13 Endeavour Road Caringbah NSW, has considered, or will consider, CPTED principles and their application throughout the design development and design detail processes.

We have noted (8.5) that the development's incorporation of CPTED principles complies with the State Government's 'social impact' and 'public interest' requirements, under Section 4.15 of the NSW Environmental Planning and Assessment Act, 1979, as amended, and with the Act's regulatory guidelines. It also complies with Sutherland Shire Council's development application requirements.

The development also complies with requirements of the Green Star Communities Submission (GSCS) 'safety and security' Guidelines.

Harris Crime Prevention Services is also of the view that the proposed development should make a positive crime prevention contribution to the Council's broader 'community safety' (crime prevention) objectives.

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10 References

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Moffatt, R, Crime Prevention Through Environmental Design – A Management Perspective, Canadian Journal of Criminology, Vol 25, 1983,

NSW Bureau of Crime Statistics and Research, *Crime Statistics for the suburb of Caringbah, NSW*, April 2018 – March 2023,

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Watson Young Architects, Drawings for the Aliro Business Park Development, preliminary issue, 1st August 2023.

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APPENDIX 1 CRIME STATISTICS FOR THE SUBURB OF CARINGBAH NSW

The following crime statistics are supplied by the NSW Bureau of Crime Statistics and Research. They are indicative of reported crime only and can only be taken as a guide to actual crime (reported and unreported) occurring in Caringbah suburb over the (reported) 5-year period, April 2018 – March 2023.

NSW Crime Statistics April 2018 to March 2023 - Caringbah (Suburb)											
	5 Year Trend to March 2023	Year to March 2019 Count	Year to March 2019 Rate	Year to March 2020 Count	Year to March 2020	Year to March 2021 Count	Year to March 2021 Rate	Year to March 2022 Count	Year to March 2022 Rate	Year to March 2023 Count	Year to March 2023 Rate
Homicide	n.c.	0	0.0	0	0	0	0.0	0	0	0	0.0
Assault - domestic	Stable	99	786.9	144	1133.3	160	1272.8	119	944.9	119	944.9
Assault - non Domestic	Stable	60	476.9	76	598.3	78	620.5	50	397.0	50	397.0
Sexual assault	n.c.	8	63.8	6	47.4	7	55.7	6	47.6	11	87.3
Sexual touching, sexual act & other sexual offences	n.c.	9	72.0	16	126.0	22	175.0	5	39.7	10	79.4
Robbery without weapon	n.c.	2	15.7	3	23.8	2	15.9	1	7.9	1	7.9
Robbery with a firearm	n.c.	0	0.0	1	7.8	0	0.0	0	0.0	0	0.0
Robbery with weapon not a firearm	n.c.	2	16.0	1	8.0	1	8.0	4	31.8	2	15.9
Intimidation, stalking & harassment	Stable	65	518.3	94	739.4	102	811.4	97	770.2	79	627.3
Other offences against the person	n.c.	4	31.3	1	7.8	1	7.9	3	23.8	3	23.8
Break & enter dwelling	n.c.	21	168.0	38	299.1	24	190.8	42	333.5	5	39.7
Break & enter non dwelling	n.c.	13	103.5	13	102.2	8	63.6	5	39.7	7	55.6
Motor vehicle theft	n.c.	25	198.8	22	173.3	9	71.6	9	71.5	15	119.1
Steal from motor vehicle	Down 16.5% per	45	359.2	49	385.2	37	294.4	34	270.0	22	174.7
Steal from retail store	Stable	56	445.2	58	456.6	47	374.0	34	270.0	50	397.0
Steal from dwelling	Stable	33	263.5	29	228.2	25	198.9	43	341.4	27	214.4
Steal from person	n.c.	3	23.7	2	15.7	3	23.9	8	63.5	2	15.9
Liquor offences	Down 11.8% per	43	341.5	61	480.7	21	167.1	26	206.4	26	206.4
Disorderly conduct	Stable	44	349.3	67	526.9	50	397.8	55	436.7	60	476.4
Disorderly conduct (criminal intent)	n.c.	4	31.9	7	55.0	9	71.6	8	63.5	6	47.6
Disorderly conduct (trespass)	n.c.	13	103.1	15	117.9	14	111.4	26	206.4	24	190.6
Disorderly conduct (offensive conduct)	n.c.	16	126.8	27	212.4	20	159.1	14	111.2	26	206.4
Drug offences	Down 10.3% per	163	1298.1	219	1721.4	204	1623.1	154	1222.8	106	841.7
Malicious damage to property	Down 10.3% per	109	869.3	105	825.6	101	803.5	92	730.5	71	563.8
Prohibited and regulated weapons	Stable	21	166.6	39	307.1	37	294.4	23	182.6	27	214.4
Arson	n.c.	4	31.7	3	23.5	1	8.0	1	7.9	2	15.9

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APPENDIX 2 THE RISK MANAGEMENT STANDARD

While there are no absolutes or guarantees around risk and risk mitigation, the International Standard – AS/ISO 31000:2018 provides a helpful framework to identify and manage *any* organisational risks, including crime risks.

Identifying and mitigating crime risks is a legitimate application of the Standard. The Standard provides a theoretical and practical framework whereby contexts, risks, levels and consequences can be identified and managed.

The Standard defines generic risk as... "*the effect (impact) of uncertainty on objectives*" (AS/ISO 31000 Clause 2.1). The Standard's objective is to identify and remove or manage the uncertainty so as not to negatively impact on organisational objectives.

Harris has adapted and applied the Standard by defining (crime) risks within the **context,** assessing **risk levels** and affirming and/or recommending appropriate CPTED treatment.

The collective term '**risk**' has been more widely defined as: ...'*the likelihood of something untoward happening and the consequence(s) if one or more risks become threats or incidents*.'

Threats and incidents are progressive in their definitions. If risks remain unidentified and untreated (unmanaged), they can rapidly and easily become threats or incidents.

A '**threat**' may be defined as *'unacceptable and escalating behaviour stemming from one or more 'uncontrolled' risks, which if not urgently managed, is likely to lead to harm or damage with negative consequences or outcomes*.'

An '**incident**' may be defined as *'an uncontained threat with likely negative harm or damage consequences*.'

2.1 A (Crime) Risk Management Matrix

CPTED solutions should 'match' the adapted Standard's risk levels and categorised behaviours. Recommendations and/or affirmation of architectural solutions are proposed against this backdrop. This table identifies typical risk levels applicable to this specific development.

Low Level Risks	disturbances, intimidation, and aggressive behaviour towards individuals or groups; graffiti and other minor property damage to the façades or street fixtures, fittings, paving, luminaires, plantings and signage
Moderate Level Risks	escalating intimidating or threatening behaviour leading to assault, and/or damage to personal property; unauthorised access, damage to and/or theft of property from the building, vehicles and/or vehicle theft
High Level Risks	'moderate level' crime risks escalated to intentional (planned) personal harm and /or damage to building facades and structures and/or property including plant and associated utilities infrastructure
Extreme Level Risks	immediate and dangerous threats to people and/or property, including the building and contents, vehicles, and/or nearby structures and/or utilities infrastructure, including bomb threats and hostile vehicle penetration

It is worth reiterating that even low risk levels can have serious consequences if not addressed.

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