157 CLEVELAND ST REDFERN

DEVELOPMENT APPLICATION
DESIGN REPORT FOR urbanest
PROJECT NO. S11341

NOVEMBER 2011

BATESSMART™

CLIENT

urbanest Student Accomodation

CONSULTANTS

Bates Smart acknowledges the following consultants who have been involved in the preparation of this Development Application:

Aspect	Landscape Architect
RPS Group	Town Planner
Pure Projects	Project Manager
NBRS+ Partners	Heritage
Acoustic Logic	Acoustics
Cundall	Environmental Sustainability
Cardno ITC	Building Services & Transport
Northrop Engineers	Structural Engineer
ERM	Contamination
Jeffery and Katauskas	Geotechnical
urbanest	Facility Management
Denny Linker & Co	Site Surveyor
Hill PDA	Socio-Economic Impact
Blackett Maguire + Goldsmith	BCA
Garry Clubley	Arborist
CRM	Archeological

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1.0 EXECUTIVE SUMMARY

1.0 EXECUTIVE SUMMARY

This Design Report has been prepared by Bates Smart Pty Ltd for urbanest. It forms part of the Development Application and Environmental Impact Statement for submission to the Department of Planning and Infrastructure. The report describes the architectural design of the proposed student accommodation building located at 157 Cleveland Street, Redfern. Included in the application is a proposal for external building signage and a 5-bedroom apartment display suite to be opened prior to the completion of the main works.

The 5-storey building accommodates 461 students in 404 rooms with a mix of studios and 4, 5 and 6 bedroom apartments. The majority of apartments overlook a large landscaped courtyard with direct access to communal recreation spaces located at ground level. The building is entered off the corner of Cleveland and Abercrombie Street via a generous entry lobby and reception. To the north study areas, games room and communal laundry provide visual activation of Cleveland Street, while to the south; ground floor apartments address the tree-lined frontage of Hudson Street. Plant rooms and maintenance facilities are located along Hart Street. The development has no on-site car parking and accommodates 154 bicycle storage spaces.

Along Cleveland Street the built form is defined at the lower two levels by a perimeter block that retains and integrates the two storey facades of the existing 1938 warehouses which are identified as contributory items within the conservation area. The upper levels are defined by four linear wings, one parallel with Hudson Street and three perpendicular to Cleveland Street. They provide a highly articulated built form that is sympathetic to the grain and scale of the surrounding context. To the North West the curved form acknowledges the site's corner location, creating a strong visual identity.

The use of face brick to Hudson Street and the lower levels of Cleveland Street reference the masonry character of surrounding buildings. Brickwork screens, sunshades, projecting window frames, juliette balconies and planters provide a secondary layer of facade articulation that reinforces the building's residential use and maximises amenity.

The design complies with the LEP height restriction of 5-floors and proposes an FSR of 3:1. The FSR is subject to an amendment to the SEPP with respect to student accommodation. Bedrooms and communal spaces have been designed to comply with the City of Sydney Boarding House DCP controls.

1.1 SEPP 65 VARIFICATION STATEMENT

Pursuant to Clause 50 (1A) of the Environmental Planning and Assessment Regulation 2000, effective from July 26 2003; we confirm that Mr Guy Lake of Bates Smart directed the design of the development application and that Mr Lake is a qualified designer, which means a person registered as an architect in accordance with the Architects Act 1921 as defined by Clause 3 of the Environmental Planning and Assessment Regulation 2000. We affirm that the design achieves or is capable of achieving the design quality principles as set out in Part 2 of the State Environmental Planning Policy No 65 – Design Quality of Residential Flat Development.

1.2 PROPOSED DEVELOPMENT SUMMARY

Site location:	157 Cleveland Street Redfern
Total Area	10,080m2
Site Area	3,360m2
Floor space ratio	3:1
Students:	461 students (404 rooms)
Mix:	4 students in four bed apartment 45 students in five-bed apartments 294 students in six-bed apartments 118 students in studio-apartments
Car parking:	The development has no parking spaces
Bike storage:	135 bicycle storage spaces

PICTURED
1/ View of landscaped communal courtyard looking north

2.0 ABOUT urbanest student accommodation

2.1 DEVELOPMENT PRINCIPLE

urbanest's aim at 157 Cleveland Street is to provide high quality, managed accommodation for tertiary students. With the inner city rental market under increasing demand, there is a real need for student accommodation which is convenient to local universities, handy to transport and well located for recreation and other services. urbanest Cleveland Street will provide purpose built well-managed accommodation to help ease rental pressures on the surrounding residential areas and benefit the economic, social and safety prospects of the local community. The concept for Cleveland Street is based on their existing high quality student accommodation facilities in Haymarket (Sydney), Brisbane and Adelaide.

2.2 LONG TERM NEIGHBOUR

Urbanest is committed to providing high quality student accommodation and investing in the area as a long term property owner, manager and neighbour. Unlike residential developers, urbanest does not build, sell, and move on. Once construction is completed, they continue to own and manage the building with highly trained and dedicated management staff on site 7 days a week.

urbanest strives to establish good relationships with their neighbours and actively engages with the local community, businesses and organisations.

PICTURED
1 - 6/ urba**nest** student accomodation at Quay St, Haymarket - shorlisted for Australian Institute of Architects award

2.3 HOUSE RULES

The House Rules set minimum expectations and directions in relation to:

- Health and safety standards
- Emergency procedures
- Maintenance
- Waste management
- Student welfare
- Complaints, management/response (both internal and external)
- Guidelines on respecting the local community

2.4 RESPECT FOR NEIGHBOURS

All students are required to abide by the House Rules which ensure that they respect the needs of fellow residents and neighbours. Importantly, around-the-clock community managers ensure that there is always someone available to deal with any issues or concerns from neighbours.
The management staff is trained in emergency procedures and bring experience from the operational management of urbanest's other sites. Close communication is maintained with all emergency services for both our customers' interests and that of the local community.

2.5 urbanest QUAY STREET, HAYMARKET

This facility, designed by Bates Smart, is fully operational and has received positive feedback and support from local government, local businesses and the local community for setting a new benchmark in student accommodation.


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PICTURED
1-6/ urbanest student accomdation at Quay St, Haymarket - shorlisted for Australian Institute of Architects award

3.0 SITE ANALYSIS

SEPP65 principle 1, clause 9 states:
Good design responds and contributes to its context. Context can be defined as the key natural and built features of an area.

Responding to context involves identifying the desirable elements of a location's current character or, in the case of precincts undergoing a transition, the desired future character as stated in planning and design policies. New buildings will thereby contribute to the quality and identity of the area.

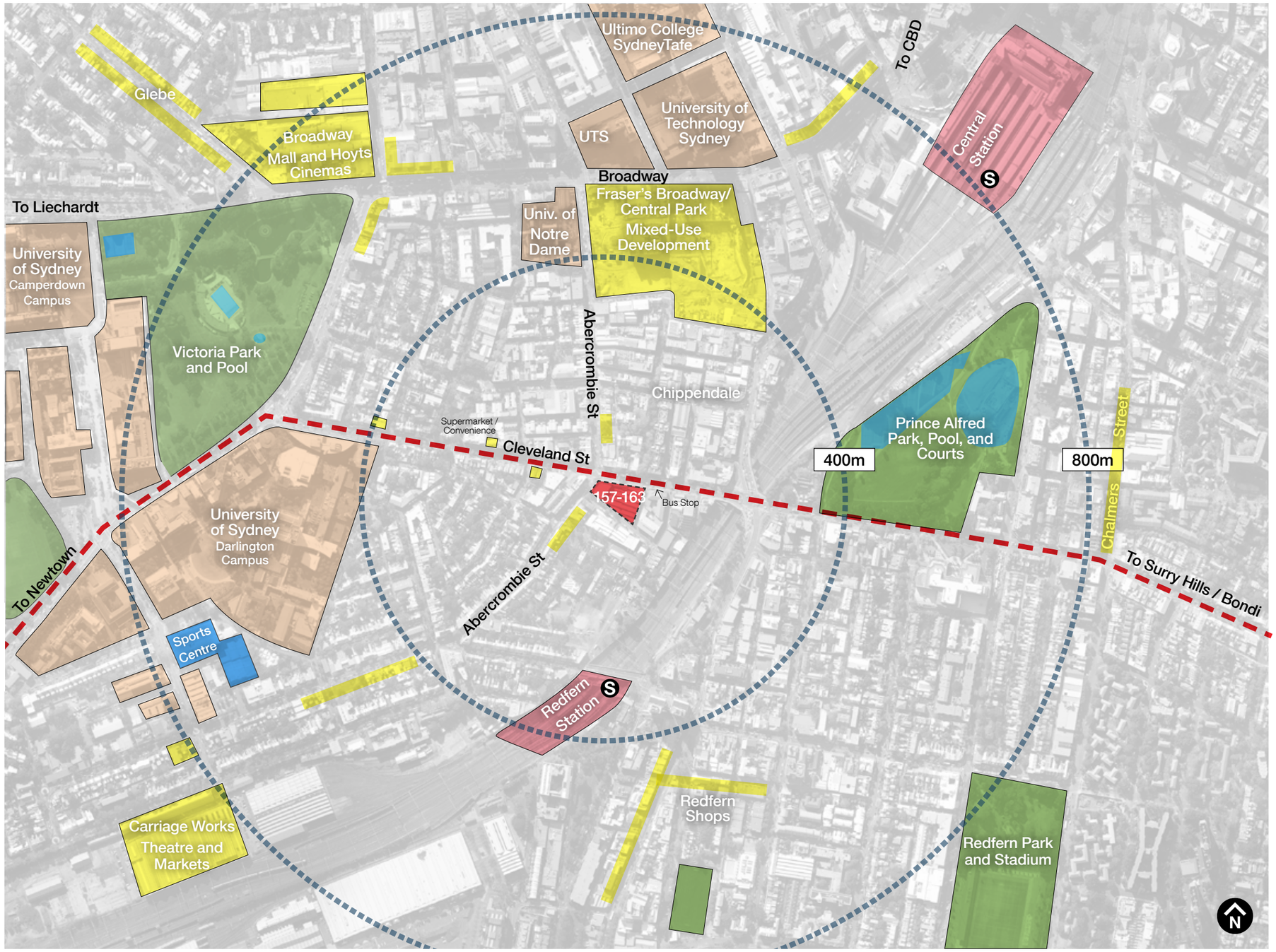
3.1 LOCATION & CONTEXT

The site is located at 157 Cleveland Street, on the corner of Abercrombie St and Cleveland Street and on the boundary between the neighbourhoods of Chippendale and Redfern.

Strategically located between three Universities and one Tafe, and in close proximity to parks, and both Redfern and Central railway stations, the site presents an ideal location for a student housing facility.

The site provides easy pedestrian access to prominent destinations around the city including:

- VIA CLEVELAND ST - University of Sydney, Victoria Park, Prince Alfred Park
- VIA ABERCROMBIE STREET - University of Technology Sydney, University of Notre Dame, Central Park



LEGEND

- 157 Cleveland St site
- Train Stations
- Universities / Tafe
- Retail / Entertainment
- Parks / Ovals
- Swimming Pools, Tennis and Basketball Courts
- 400m = 5 minute walk
- 800m = 10 minute walk
- = Bus Route 352

The following diagrams analyse the site and its context and have informed the design process.

3.2 SITE & TOPOGRAPHY

The site has an area of 3360m2 and a prominent 77 metre frontage to Cleveland Street. It is also bounded by Hudson Street to the south, Abercrombie Street to the west and Hart Street to the east. Cleveland St falls gradually from a high point at the corner of Hart Street to a low point at the corner of Abercrombie Street. Abercrombie Street falls quickly over a short distance, from the corner of Hudson Street to Cleveland Street, while Hudson Street is mostly level. There is a total fall of 2.4m across the site. To the West, Cleveland Street continues to fall to a low of RL +11.600 near the intersection with Boundary Street, before rising steeply to meet City Road.

3.3 ENVIRONMENTAL

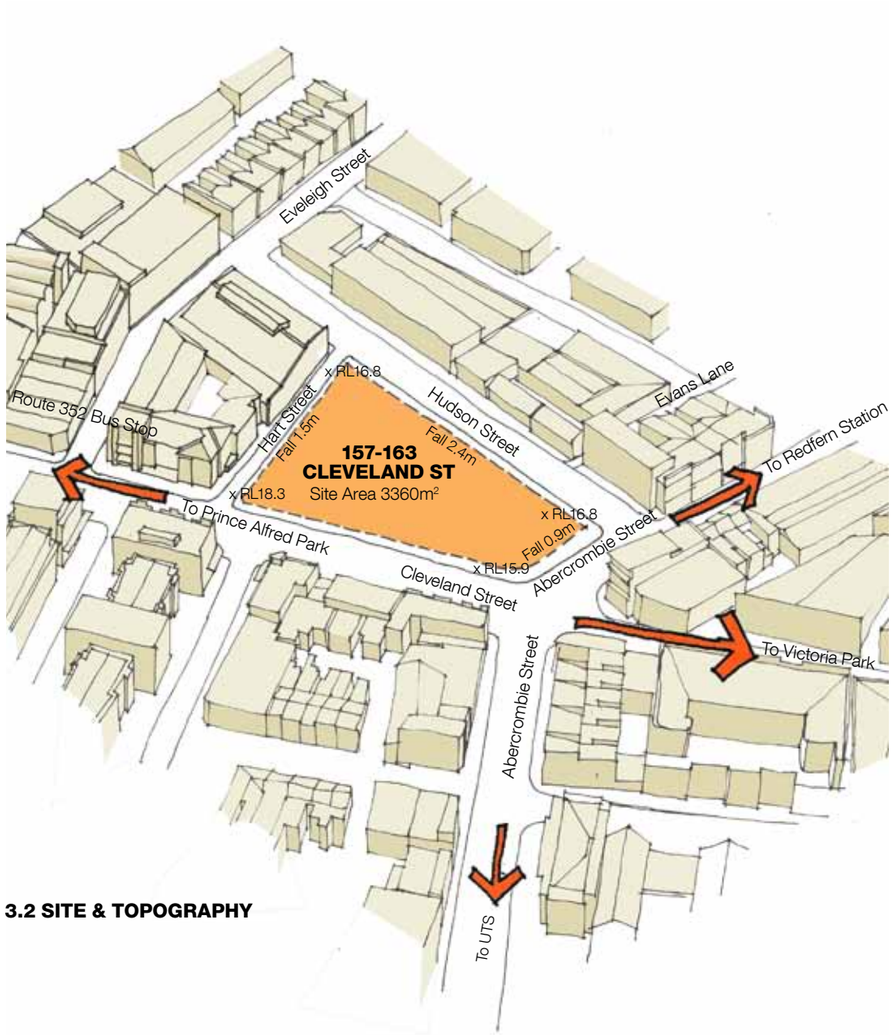
North is almost perpendicular to the Cleveland Street frontage. Cleveland Street has high traffic volumes and any design proposal needs to reconcile the conflicting desire to maximise solar access while minimising the negative impact of traffic noise.

3.4 PLANNING CONTROLS

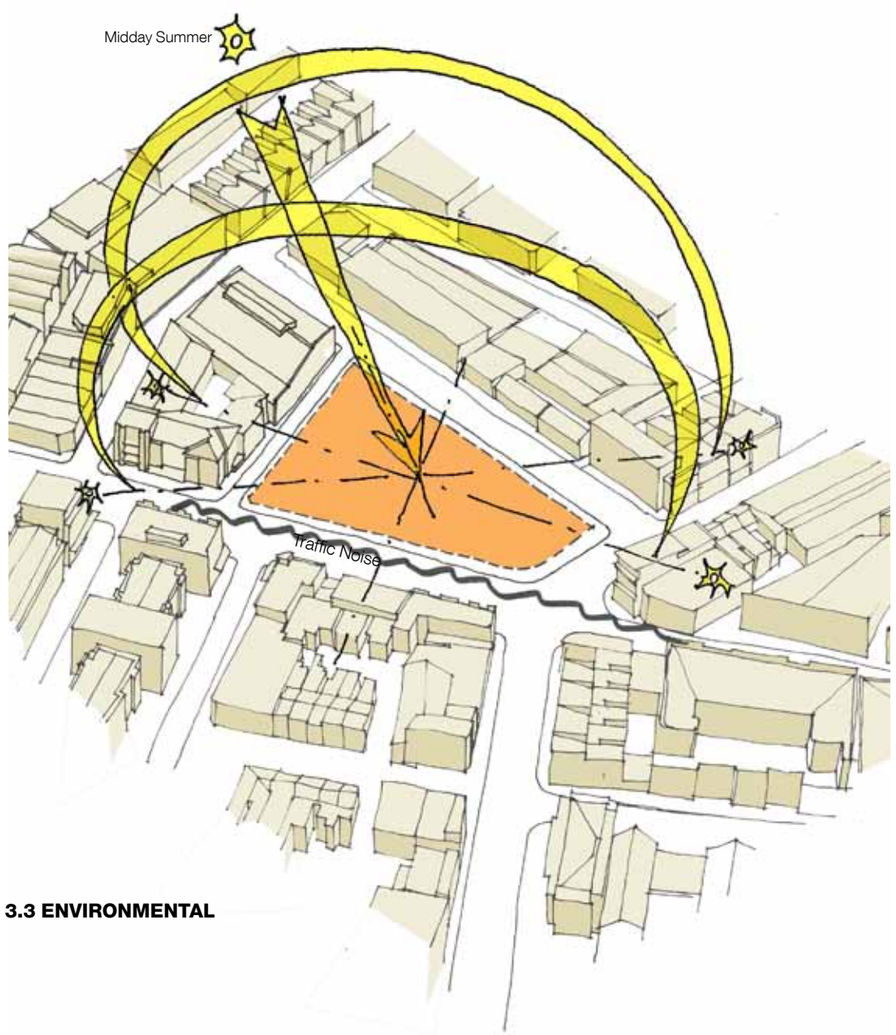
The site sits within the Redfern Waterloo Authority area and is subject to the following planning controls under the South Sydney LEP:

- Maximum Height Limit: 5 Stories
- Residential FSR - 1:1
- Non Residential FSR - 3:1

The DLEP controls for the precinct around the site appear to follow the existing built form. The controls range in height from 9 - 18m (approximately 3 – 6 stories) with FSR's of 2.5:1 for sites of a similar size to 157 Cleveland Street. Applying the Affordable Housing SEPP bonus of 0.5:1 to one of these sites would result in development with an FSR of 3:1.



3.2 SITE & TOPOGRAPHY



3.3 ENVIRONMENTAL

3.4 PLANNING CONTROLS

PICTURED
1/ Cleveland Street elevation showing 5 storey building envelope

3.5 EXISTING BUILDINGS

The site is currently occupied by a two storey face brick and render warehouse (157-163 Cleveland St) and three storey rendered commercial and residential building (136-144 Abercrombie St). The brick warehouse was originally comprised of two small factories, built in 1938 for the Coo-ee Clothing Company and commandeered by the Defence Department during the Second World War. Since the 1980's the factories have been used by a sporting goods company for storage. The commercial and residential building on the corner of Cleveland and Abercrombie Streets was constructed in 1996.

3.6 HERITAGE AND CONTEXT

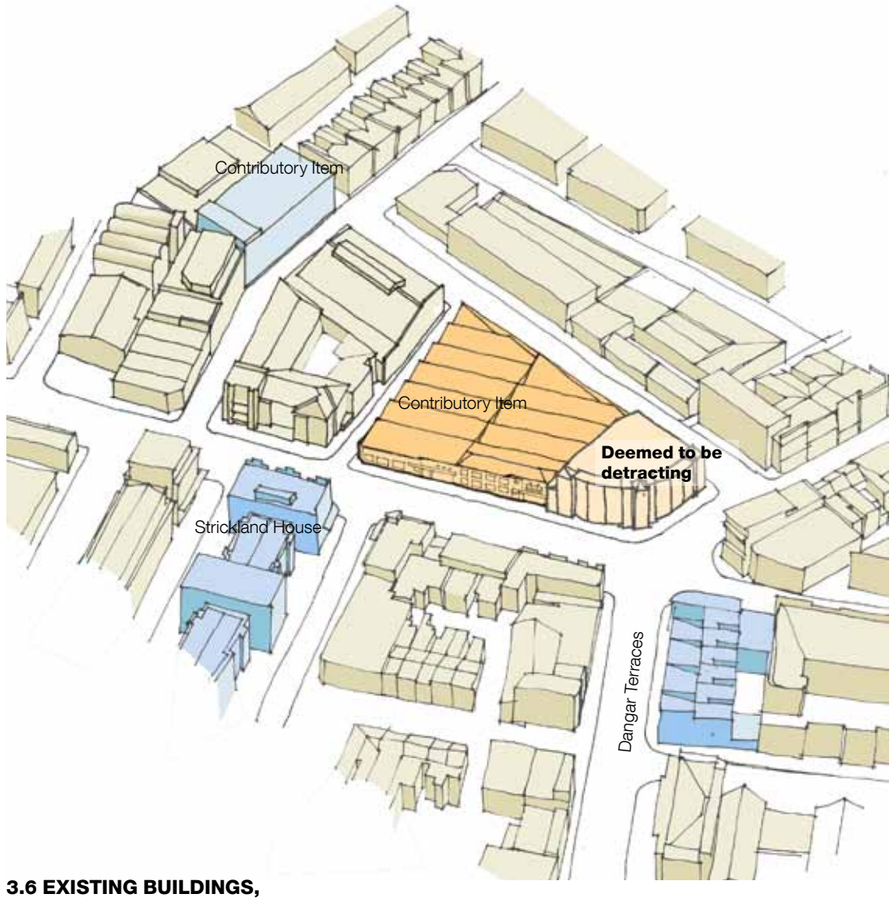
The project sits within the Darlington Heritage Conservation Area and the existing 1938 warehouse building has been identified as a contributory item in the conservation area. Although not heritage listed, the opportunity exists to retain and integrate the original facades which contribute to the character of the surrounding area. The 1996 building on the corner of Cleveland and Abercrombie Streets has been identified as detracting from the surrounding Heritage Conservation Area and is to be demolished.

Opposite the site are the listed heritage items, The Strickland Buildings (56 Balfour St) and the Dangar Terraces (117 Abercrombie St). Dangar Terraces have been identified as a good and relatively intact example of a Federation terrace group with corner shop. The Strickland Buildings are a three storey face brick Federation Arts and Crafts style residential flat building constructed in 1914. R. M. Broderick, City Council Architect) Occupying an entire block, these early apartments mark an important transition from terrace to flat dwelling. The building has a good range of materials and period details in its elevational composition.

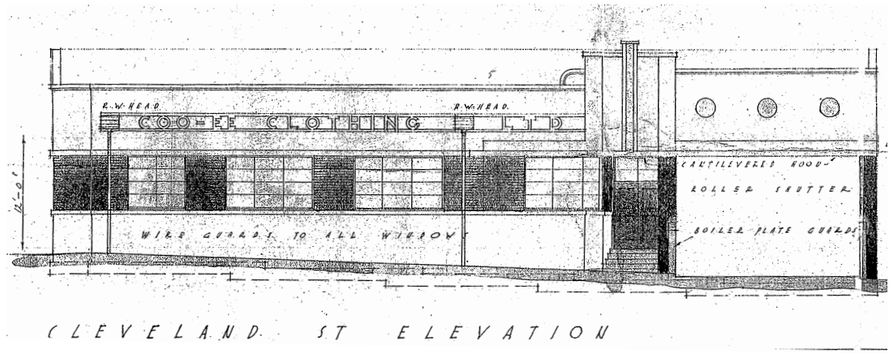
3.7 ACCESS

The high visibility offered by the corner of Abercrombie and Cleveland Street and its natural intersection of the main pedestrian routes past the site make it the most logical location for the building entry.

Hart Street is the least prominent and active street frontage and therefore the most appropriate location for plant rooms and building services requiring direct access to the street. Given its narrow dimensions it is not suited to waste removal vehicles which are able to be accommodated off Hudson Street.



3.6 EXISTING BUILDINGS, HERITAGE AND CONTEXT



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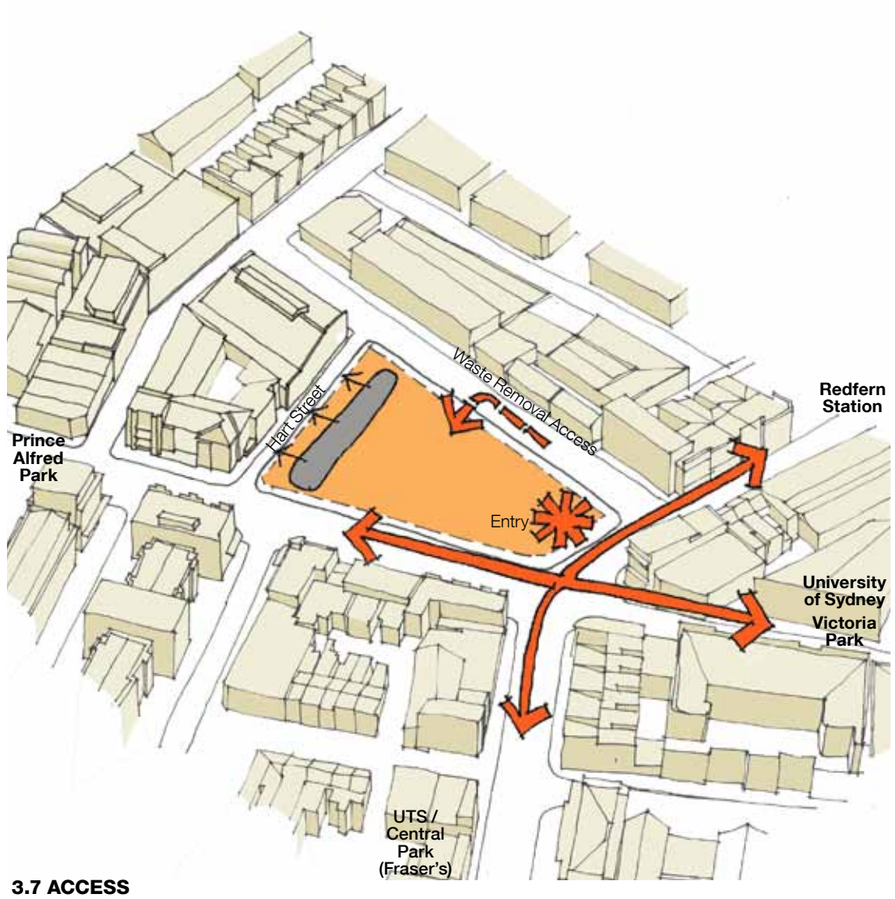

3.7 ACCESS

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PICTURED
1/ Original 1938 elevation of Coo-ee Clothing Company Factory
2/ The Strickland Buildings, 56 Balfour Street
3/ Dangar Terraces. 117 Abercrombie Street


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3.08 STREETSCAPE PHOTOGRAPHS
1/ Cleveland Street south looking up Abercrombie Street
2/ Corner of Cleveland & Abercrombie Street
3/ Abercrombie Street looking north
4/Existing facade to Hart Street
5/ Cleveland Street looking west towards site
6/ Corner of Cleveland & Abercrombie Street
7/Hudson Street looking east
8/ View to UTS from site
9/ Existing facade to Cleveland Street
10/ Corner of Hudson & Abercrombie Street

4.0
DESIGN APPROACH

SEPP65 principle 2 clause 10 states:
Good design provides an appropriate scale in terms of the bulk and height that suits the scale of the street and the surrounding buildings.

Establishing an appropriate scale requires a considered response to the scale of existing development. In precincts undergoing a transition, proposed bulk and height needs to achieve the scale identified for the desired future character of the area.

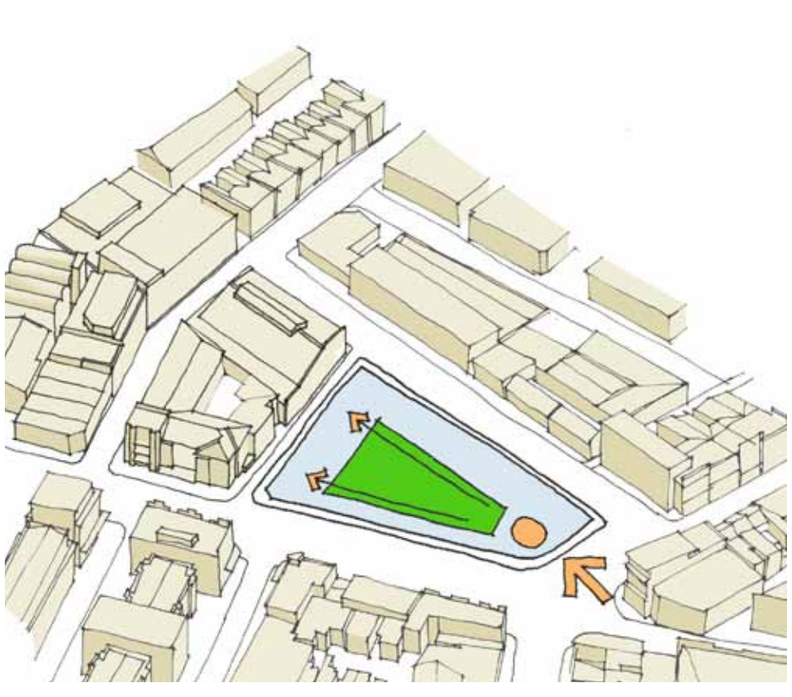
SEPP65 principle 3 clause 11 states:
Good design achieves an appropriate built form for a site and the building's purpose, in terms of building alignments, proportions, building type and the manipulation of building elements.

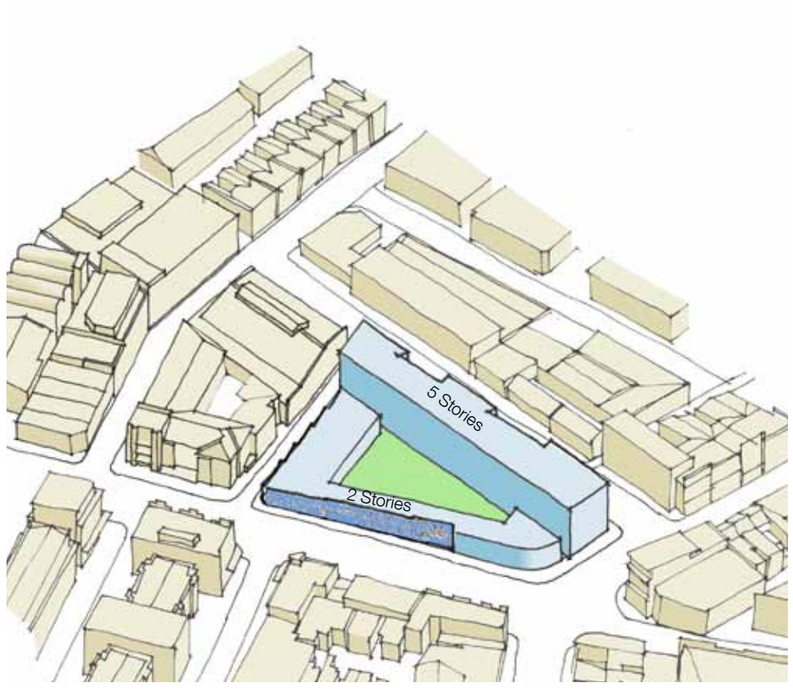
Appropriate built form defines the public domain, contributes to the character of streetscapes and parks, including their views and vistas, and provides internal amenity and outlook.

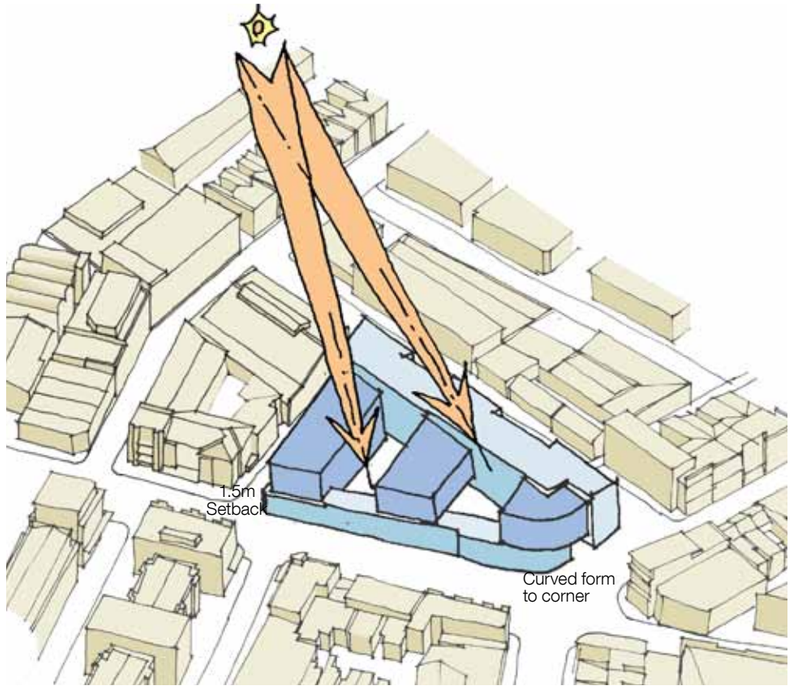
4.1 CENTRAL COURTYARD
Buildings are organised around a large landscaped courtyard which forms the focus to the student accommodation facility and provides a high quality outdoor recreation are for residents. The building entry is positioned on Abercrombie Street just south of the intersection of the main pedestrian routes past the site. Internal pedestrian circulation is organised along the edge of the courtyard and provides access to communal facilities and vertical circulation.

4.2 BLOCK EDGE
Around the courtyard existing and new masonry facades are built to the street edge reinforcing the predominant block edge character of the Chippendale/Redfern area which is apparent in the form of surrounding industrial and residential buildings. Along Cleveland and Hart Street the new building integrates with the facade of the existing 1938 warehouse buildings to define a two storey perimeter block. The perimeter block provides a visual and acoustic buffer between Cleveland Street and the landscaped courtyard. A five storey building defines the edge of Hudson Street, the form of which is, stepped along the street frontage.

4.3 NORTH SOUTH WINGS
The three levels adjacent to Cleveland Street are oriented North-South to allow good solar access into the courtyard and communal spaces at ground level and to ensure that the majority of accommodation receives direct solar access for some period of the day. The massing is also designed to reduce the massing along the Cleveland Street elevation and to appear as three buildings above a podium from street level. This configuration also orients the living and sleeping spaces away from busy Cleveland Street, providing outlook to either the central courtyard or to quieter street fronts. Where the wings are above the existing facades they are setback 1.5m to create a visual separation between existing and new. The overall built form varies in height between 2 and 5 stories which is consistent with the 9 – 18m DLEP height controls for the precinct around the site.







PICTURED
1/ Photomontage from corner of Cleveland and Abercrombie Streets

5.0 PROJECT DESCRIPTION

5.1 GROUND LEVEL

Communal Spaces

The building entry is positioned off Abercrombie Street just south of the intersection of the main pedestrian routes past the site. Residents and visitors pass through an entry lobby with double doors and arrive into a large open lounge area with a concierge desk and a range of informal seating areas and hot desks. To the east the entry lounge opens into the landscaped courtyard. Behind the concierge desk is an administration office and adjoining meeting room used by both management and students. Recreation spaces, communal laundry and study areas look out onto Cleveland Street and have direct access to the landscaped courtyard.

Central Courtyard

The central courtyard occupies 830sqm of the site and comprises both open and covered outdoor space featuring hard and soft landscaping with deep planting zones. The levels of the courtyard reflect the natural topography of the site and rise to the east, with access to the lift cores provided by gentle ramps along the north and south covered walkways. The edges of the courtyard are activated by a range of communal recreation spaces, along its north, south and western frontage. The central courtyard area, sheltered by the residential wing above, is activated by a BBQ and outdoor seating and games area. The landscape design, by Aspect Studio, is described in detail in Section 9 of this report.

Apartments:

Four studios and six bedrooms are located at the eastern end of the courtyard. They are raised 500mm above the courtyard and screened by deep planting zones for privacy. To the south three 5-bedroom apartments and two 6-bedroom apartments are located along Hudson Street. The apartments are elevated approximately 1.1m above street level with brick screens and planters providing a buffer to the street.

PICTURED
1/ Ground Level Floor Plan

SEPP65 principle 8 clause 16 states:
Good design optimises safety and security, both internal to the development and for the public domain.

This is achieved by maximising overlooking of public and communal spaces while maintaining internal privacy, avoiding dark and non-visible areas, maximising activity on streets, providing clear, safe access points, providing quality public spaces that cater for desired recreational uses, providing lighting appropriate to the location and desired activities, and clear definition between public and private spaces.

Service Spaces

The majority of plant space requiring street access is located along the Hart Street frontage which offers the least potential for pedestrian activation. These services are located behind the east facade of the existing warehouse building, with ventilation provided by louvers integrated into the existing openings in the facade. The waste room is located centrally on Hudson Street providing convenient access to residents and allowing waste collection vehicles to service the facility without blocking traffic in Hart Street, as detailed in the Traffic Report. Access to the Bike Store located in the North east corner of the site is via the central courtyard and entry lobby.

SAFETY & SECURITY

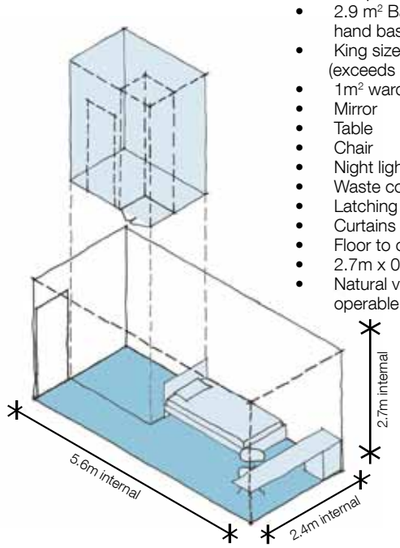
The project will provide security and safety by increasing pedestrian activity to neighbouring streets. The proposed built form is based on a typology that reinforces street edges and provides significant internal courtyard space. Along Cleveland and Abercrombie Street security is enhanced through the location of the entry lobby and student lounge, meeting rooms and recreation spaces which increases the opportunity for regular passive surveillance. The entry lobby functions as an airlock with two sets of automated glass doors providing an additional layer of security. All frontages are overlooked by apartment windows and balconies that provide site wide passive surveillance both externally and to the internal communal courtyard. Primary ground level circulation routes along the edge of the courtyard are terminated by full height glazing that provide passive surveillance to Hart Street. Ground level apartments overlook Hudson Street with brick screens and planters providing a physical separation between residents and the street while maintaining street surveillance. Combined with appropriate lighting this will provide a safer environment for residents and the general public alike.

PICTURED
1/ Section A-A
2/ Section B-B

5.1 BEDROOMS

The individual bedrooms have been designed to comply with the City of Sydney Boarding House DCP contols including:

- Greater than 10.5m² area / one person per room
- 2.9 m² Bathroom Pod containing hand basin, WC, shower
- King size single bed (exceeds min. 800mm x 1900mm)
- 1m² wardrobe storage
- Mirror
- Table
- Chair
- Night light
- Waste container
- Latching device for door
- Curtains / blinds
- Floor to ceiling height 2.7m
- 2.7m x 0.9m full height window
- Natural ventilation through operable windows



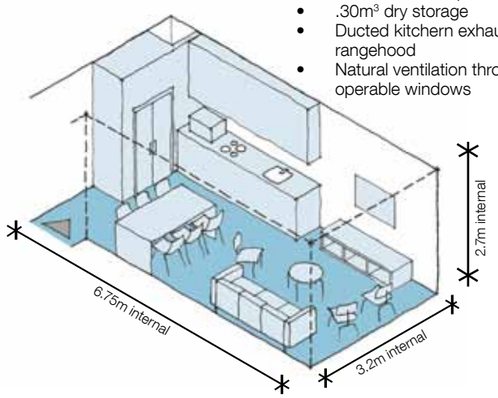
5.2 KITCHEN / DINING AREAS - INDOOR COMMUNAL AREA

The indoor communal areas have been designed to comply with the City of Sydney Boarding House DCP contols including:

Greater than 21.2m² area per max 6 persons (DCP requires 15m² for up to 12 people)

Communal kitchens contain:

- Lockable drawers / cupboard for food storage for each guest
- 1 sink / 6 persons
- 1 stove / 6 persons
- 0.13m³ refrigerator space
- 0.05m³ freezer space
- .30m³ dry storage
- Ducted kitchern exhaust via rangehood
- Natural ventilation through operable windows



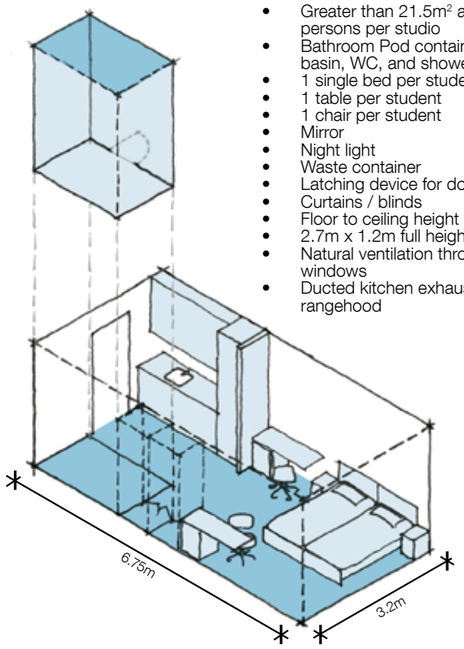
5.2 LEVEL 01

At Level 01 the central courtyard is enclosed to Cleveland Street by a perimeter block accommodating student apartments located behind the masonry walls of the existing warehouse facade. These apartments are oriented towards the central courtyard to improve their visual and acoustic amenity. The East wing of student accommodation is setback 1.5m from the Cleveland and Hart Street facades, with a landscaped outdoor terrace sheltered behind the exiting parapet. Access to the apartments is provided via 4 lift cores, the lobbies of which receive natural light and ventilation, while three of the four enjoy courtyard views. An accessible studio and accessible room within a 6-bed apartment are located adjacent to the central lift core. Two apartments located along the northern face are accessed from ground level via a stair.

PICTURED
1/ Level 1 Plan

5.4 TYPICAL STUDIO

The studios have been designed to comply with the City of Sydney Boarding House DCP contols including:



- Greater than 21.5m^2 area / max 2 persons per studio
- Bathroom Pod containing hand basin, WC, and shower
- 1 single bed per student
- 1 table per student
- 1 chair per student
- Mirror
- Night light
- Waste container
- Latching device for door
- Curtains / blinds
- Floor to ceiling height 2.7m
- 2.7m x 1.2m full height window
- Natural ventilation through operable windows
- Ducted kitchen exhaust via rangehood

5.3 LEVEL 2 - 4

The typical floor has 13 apartments, comprising groups of six ensuite bedrooms and shared living/ dining & kitchen areas. In addition there are 13 twin studios. The accommodation is organised into four wings; one running along the south frontage and three oriented north-south, perpendicular to Cleveland Street. The apartments are arranged to maximise the number of units with dual orientation (11 out of 13), to promote natural ventilation and to ensure that communal spaces are oriented either towards the central courtyard or to quieter streets. The northern end of the north-south building wings overlooks a green roof that provides a pleasant outlook and good thermal insulation to the level below.

PICTURED
/1 Level 2 Plan

6.0 RESIDENTIAL AMENITY

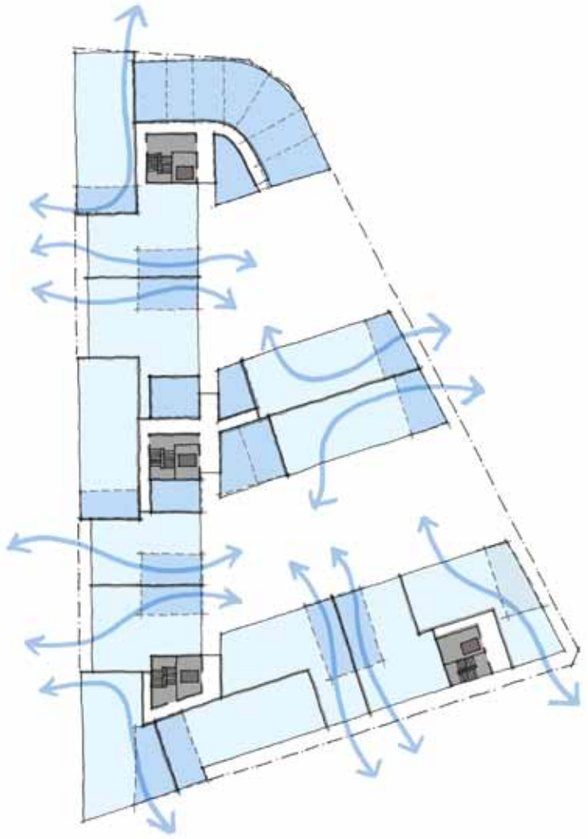
SEPP65 principle 7 clause 15 states:
Good design provides amenity through the physical, spatial and environmental quality of a development.
Optimising amenity requires appropriate room dimensions and shapes, access to sunlight, natural ventilation, visual and acoustic privacy, storage, indoor and outdoor space, efficient layouts and service areas, outlook and ease of access for all age groups and degrees of mobility.

6.1 PLANNING

Single level apartments and studios are clustered around multiple cores with between two and five apartments per core. This minimises circulation corridors and maximises dual frontage apartment. All lift lobbies have full height glazing and are naturally lit and ventilated. An accessible studio and accessible room within a 6-bed apartment are located adjacent to the central lift core.

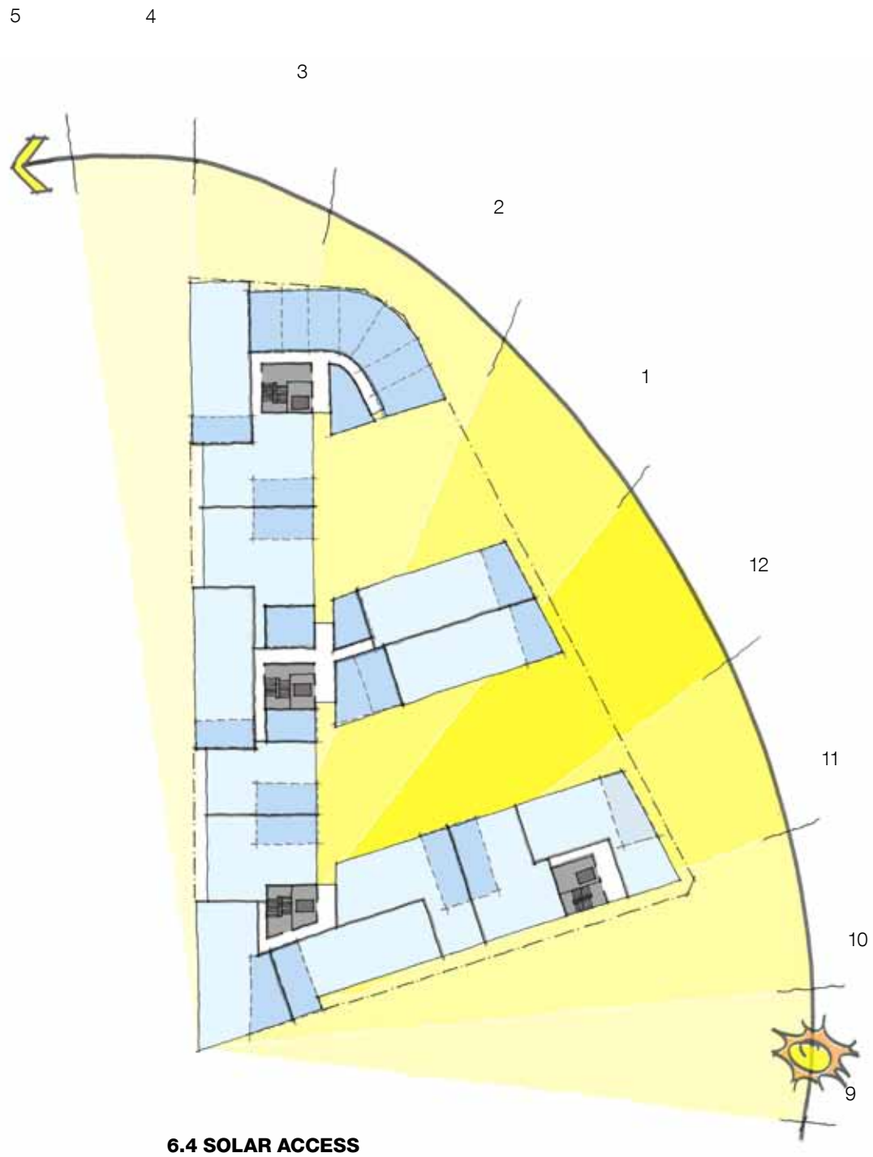
6.2 ASPECT

The plan layout has been organised so that the majority of communal spaces are oriented either towards the central courtyard or to quieter streets with good visual and acoustic amenity.



6.3 NATURAL VENTILATION

Apartments are arranged to maximise the number of units with dual orientation (84%) to promote natural ventilation.



6.4 SOLAR ACCESS

The plan is organised to maximise the amount of apartments receiving direct solar access for some period of the day while minimising the number of bedrooms with direct exposure to Cleveland Street. The north-south orientation of the building wings allows sunlight to penetrate deep into the site.

7.0 SUSTAINABILITY

SEPP65 principle 5 clause 13 states:
Good design makes efficient use of natural resources, energy and water throughout its full life cycle, including construction.

Sustainability is integral to the design process. Aspects include demolition of existing structures, recycling of materials, selection of appropriate and sustainable materials, adaptability and reuse of buildings, layouts and built form, passive solar design principles, efficient appliances and mechanical services, soil zones for vegetation and reuse of water. The facility is centred around a large landscaped courtyard with deep-soil planting

Sustainability initiatives are described in detail in the Cundall ESD report. The key initiatives include:

7.1 ENERGY

The building functions as a mixed mode building; designed to operate both under mechanical cooling and natural passive ventilation. Operable windows allow for effective natural ventilation, restoring thermal comfort and reducing the use of air- conditioning.

Approximately 30% of the building envelope is glazed with performance glass, the remaining wall mass ensures energy efficiency through an insulated building envelope and a high percentage of masonry facade. A gas boosted solar hot water system will reduce greenhouse gas emissions. Installation of efficient appliances as part of the base building works (refrigerators, clothes washers and clothes dryers) is also proposed.

Energy Efficiency initiatives:
> Natural ventilation
> Occupant controlled operable windows
> Performance Glass
> Insulated façade
> Gas boosted solar hot water
> Efficient Appliances
> Energy Monitoring

7.2 WATER EFFICIENCY

The washing machines are to be supplied as part of the base building works and are a minimum 4 star rated under the WELS scheme. The apartments will have no dishwashers which will reduce the water consumption of the building. Water meters are to be installed to both monitor and manage major water uses. Landscape irrigation will provide for irrigation and use xeriscape (low water needs) gardens. The building contains no heat rejection water systems (cooling towers or evaporative cooling). A rainwater harvesting system will provide for irrigation and une in the laundry. All fire test water will be discharged to the rainwater tank to avoid water waste.

Water Efficiency initiatives include:
> Efficient fixtures
> Water meters
> Xeriscape vegetation
> No water based heat rejection systems
> Rainwater harvesting irrigation and laundry

7.3 TRANSPORT

The building is in close proximity to two railway stations and a number of bus routes. In addition it is located within a developed urban centre integrated with a number of local amenities thereby reducing the need for residents to commute. No car parking spaces are provided on site and generous cyclist facilities with provision of bicycle racks (2 per 5-6 people) will facilitate the use of clean transport.

PICTURED
1/ View of communal landscaped courtyard looking north

8.0
FACADE DESIGN

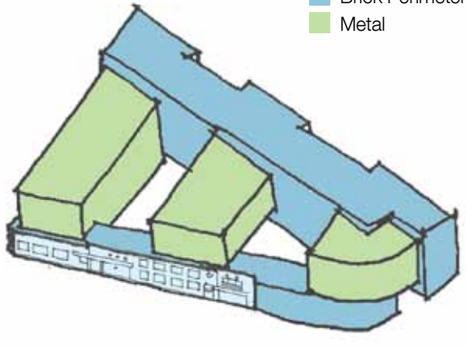
8.1 FACADES & MATERIALS

Building facades have been designed to respond to the historical and material context of the surrounding area and to provide an environmentally responsive building fabric. Two contrasting facade types; masonry and metal clad, help to differentiate the components that make up the building form.

Masonry facades include the perimeter block of two storeys to Cleveland Street and Hart Street and five storey building wing along Hudson Street. Their design integrates the existing masonry facades providing a robust face brick base to the building along Cleveland Street and a contextual response to the brick warehouses along Hudson Street. In contrast to the 'grounded' brick elements that define the perimeter block, three elevated north-south wings with lightweight metal clad facades reference the light industrial character of the immediate surrounds.

Building facades are typically defined by the composition of vertically proportioned windows which provide full height glazing to the study rooms. These elements are staggered horizontally over multiple floors to create a dynamic, yet balanced facade composition. The 930mm wide and full height bedroom windows have a sliding sash to facilitate air movement at both high and low level. The lower glass panel is restricted to a 125mm opening. The full height windows increase the sense of space within the room, and improve views from further back in the space. An alternating variation on this typical window type introduces an inward opening door and balustrade. Communal living spaces have 1860 wide full height openings with balustrades and inward opening double doors.

LEGEND
- Existing
- Brick Perimeter Block
- Metal



PICTURED
1/ Photomontage view from corner of Abercrombie & Hudson Street
2/ Massing diagram showing location of facade types

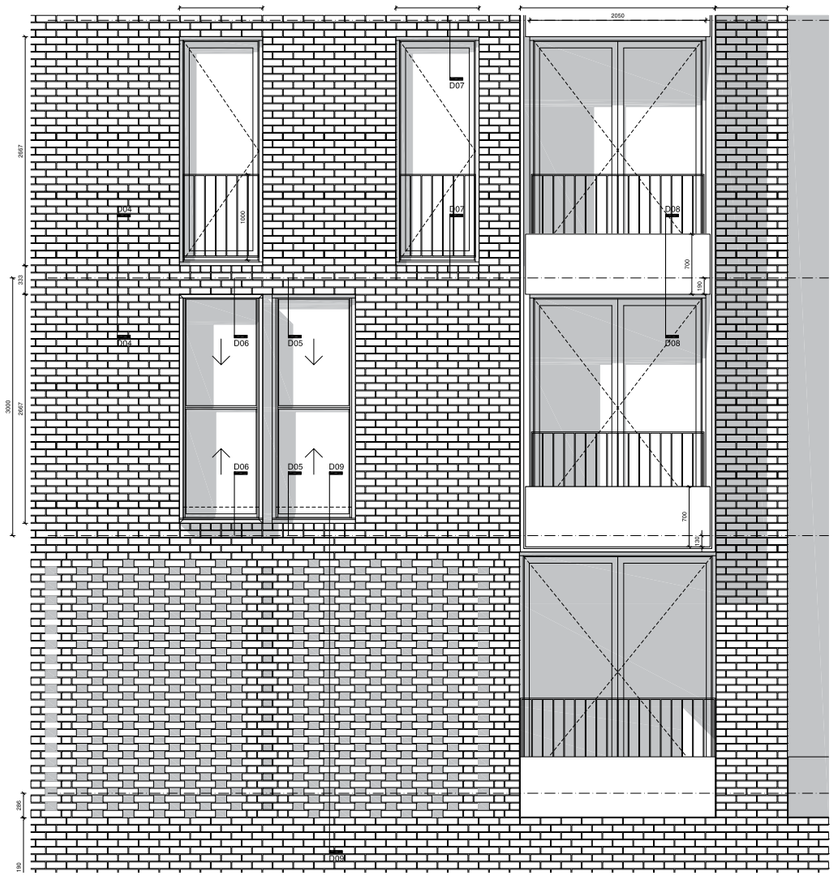
8.2 MASONRY FACADES

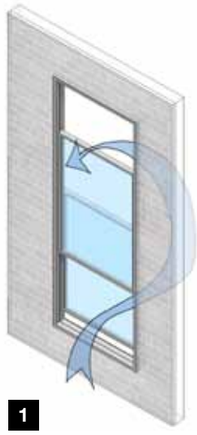
The Hudson Street facade is defined by a dark red-brown face brick selected to match that of the surrounding brick warehouses. The brick facade is punctuated by a complex and lively composition of staggered vertical windows. The vertical windows to bedrooms are distributed individually or in pairs and consist of three types; 1. a recessed sliding sash with brick sills, 2. a metal balustrade with an inward opening glass door, and 3. a typical sash window with an expressed aluminium frame. These variations in window types provide depth and visual interest to the facade and maximise residential amenity.

Glazing to communal living spaces along Hudson Street is framed over multiple floors, visually differentiating the living spaces from bedrooms and providing a series of strong projecting vertical elements that along with the stepped building massing results in a street frontage with depth and articulation. Integrated into the frame at each level is a planter which provides screening for the communal space and a green outlook for residents.

The student accommodation at ground floor is setback and elevated approximately 1100mm above street level. It is separated from the street by planters and brick screens. Behind the brick screens are planters and full height glass sliders the provide privacy and security whilst maximising ventilation and light. The brick screens provide the street edge buildings with a strong masonry base.

The West elevation defines the narrowest point of the site at the corner of Abercrombie and Cleveland Streets. The elevation composes the distinct elements of the glazed entry and recreational spaces with the vertical masonry element that defines Hudson Street, and lightweight metal facade cladding to the upper three levels.

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PICTURED
1/ Sash window
2/ Inward opening dorr with juliette balcony
3/ Sash window with expressed aluminium frame
4/ Hudson street part elevation
PRECEDENT IMAGES
5/ Staggered window pattern
6/ 7/ Brick screens
8/ 9/ Balustrades and expressed window frames

8.3 METAL FACADES

Lightweight metal facades define the upper three levels of the Cleveland Street, Abercrombie Street, Hart street and East/West courtyard facades. Windows have 'L-shaped' aluminium sunhoods that provide protection from mid-morning and mid afternoon sun as well as weather protection to operable windows. Further south the windows are framed on all sides to provide both sun protection and visual privacy from adjacent apartments within the courtyard. Communal living spaces have metal balustrades with inward opening glass double doors.

The profiled metal panels are separated vertically at every floor by a dark projecting horizontal trim. Horizontally the panels are separated by the full height windows below which a 300mm deep recessed metal panel conceals the floor slab. The profiled metal facade panels catch low angle sun and along with the sun hoods and recessed windows result in a rich interplay of light, shadow and texture. At the intersection of Cleveland and Abercrombie Street this interplay of light, shadow and texture is further enhanced by the curvature of the building which provides a distinct corner expression.

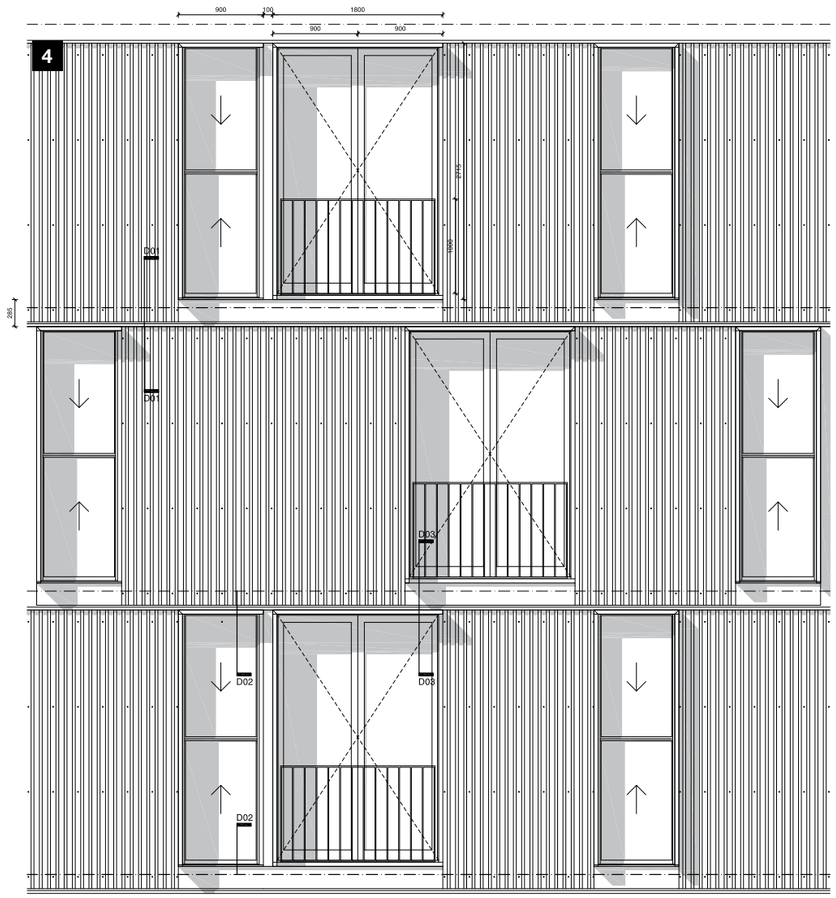
1

3

2

SEPP65 principle 10 clause 18 states:
Quality aesthetics require the appropriate composition of building elements, textures, materials and colours and reflect the use,internal design and structure of the development.

Aesthetics should respond to the environment and context, particularly to desirable elements of the existing streetscape or, in precincts undergoing transition, contribute to the desired future character of the area.



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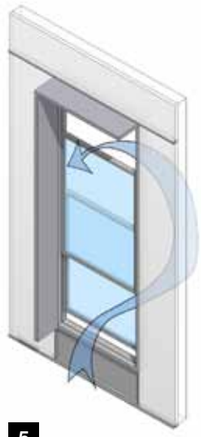
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PICTURED
1/ View of courtyard facades
Precedent Images
2/ Profiled metal wall panels
3/ Staggered windows, balustrades and expressed frames
4/ Courtyard part elevation
5/ Sash window with I-shaped sunhood
6/ Sash window with 250mm frame for shadingf and privacy
7/ Living space with inward opening double doors and balustrade
8/ Cleveland Street elevation
9/ Hart Street elevation

9.0 LANDSCAPE DESIGN

9.1 Landscape Principals

ASPECT Studios were commissioned to prepare landscape development application documentation for the proposed student housing development in Redfern.

The landscape scheme intends to:

- Provide a calm and 'green oasis' within the proposed development to contrast the harsh urban surrounding of the sit
- Accommodate a variety of uses including social and passive spaces which complement the proposed internal common areas;
- Provide adequate privacy to ground floor studios through design arrangement and planting;
- Provide a green outlook for common areas as well as studios above;
- Utilise robust materials and planting to avoid intense maintenance regimes;
- Adhere to WSUD and ESD principles

9.2 Central Courtyard

The courtyard is located centrally on the site. It is accessed from the entry lounge located on the corner of Cleveland Street and Abercrombie Street. The building has common function rooms laid out around the courtyard opening up and blending the functions from the internal to the external spaces. The East side of the open space is lined by apartments and requires careful design and dense planting to provide sufficient privacy screening and create a lush and inviting outlook. The courtyard is designed to cater for a range of functions as well as being flexible in its use.

The lobby opens up to provide an outside waiting/ gathering area defined by a raised planter with lush planting and a winter shade tolerant feature tree (Wollemia nobilis). The lower courtyard area is paved with a mix of new and recycled bricks. The outdoor kitchen area has partial cover from the under croft and seating is provided through seating edges and loose furniture.

PICTURED
1/ Section A-A
2/ Landscape plan






Tree Species

Roof Top Precedents








Feature Plants













SEPP65 principle 6 clause 14 states:
Good design recognises that together landscape and buildings operate as an integrated and sustainable system, resulting in greater aesthetic quality and amenity for both occupants and the adjoining public domain.

Landscape design builds on the existing site's natural and cultural features in responsible and creative ways. It enhances the development's natural environmental performance by coordinating water and soil management, solar access, micro-climate, tree canopy and habitat values. It contributes to the positive image and contextual fit of development through respect for streetscape and neighbourhood character, or desired future character.

Landscape design should optimise usability, privacy and social opportunity, equitable access and respect for neighbours' amenity, and provide for practical establishment and long term management.

Barbeques are integrated into a bench with range hoods over attached to the roof; the bench provides a salad bar for common use by the students. The middle of the courtyard is mainly undercover with a clear open space that allows for the flexible use of portable tables and pool tables. This zone also provides an extension of the internal TV and games area with high quality inset concrete and decorative saw cut paving. Main circulation is provided along the edge of the space with an awning above for weather protection. An equal access ramp is provided to the internet/ communal study room which comply with the Australian Standards. The generous lawn and spill out area provides seating to its edges. Combined with lush understorey planting and proposed trees in deep soil this edge treatment frames the passive study spaces and provides privacy to the ground floor apartments to the East side of the courtyard.

9.3 Public Domain
Existing paving and kerbing is to be retained and repaired were required, existing driveway laybacks will be demolished and replaced with new kerb and gutter to Council specification.

9.3 Roof Top Garden
An inaccessible green roof is proposed with low maintenance planting and gravel defined by steel edges. The landscape layout has a graphic composition for the benefit of overlooking residents, and access for maintenance will be provided.

10.0
SCHEDULE OF AREAS

SEPP65 principle 4 clause 12 states:
Good design has a density appropriate for a site and its context, in terms of floor space yields (or number of units or residents).

Appropriate densities are sustainable and consistent with the existing density in an area or, in precincts undergoing a transition, are consistent with the stated desired future density. Sustainable densities respond to the regional context, availability of infrastructure, public transport, community facilities and environmental quality.

SEPP65 principle 9 clause 17 states:
Good design responds to the social context and needs of the local community in terms of lifestyles, affordability, and access to social facilities.
New developments should optimise the provision of housing to suit the social mix and needs in the neighbourhood or, in the case of precincts undergoing transition, provide for the desired future community.
New developments should address housing affordability by optimising the provision of economic housing choices and providing a mix of housing types to cater for different budgets and housing needs.

10.1 Density

The site is ideally located between three universities and one Tafe, and has excellent access to parks and public transport. The 2 - 5 storey building has been designed with consideration given to the surrounding density and grain and scale of neighbouring buildings. The built form has been articulated into a series of linear elements that read as separate buildings that reduce the scale and density of the development. A large landscaped courtyard provides separation between buildings and good residential amenity.

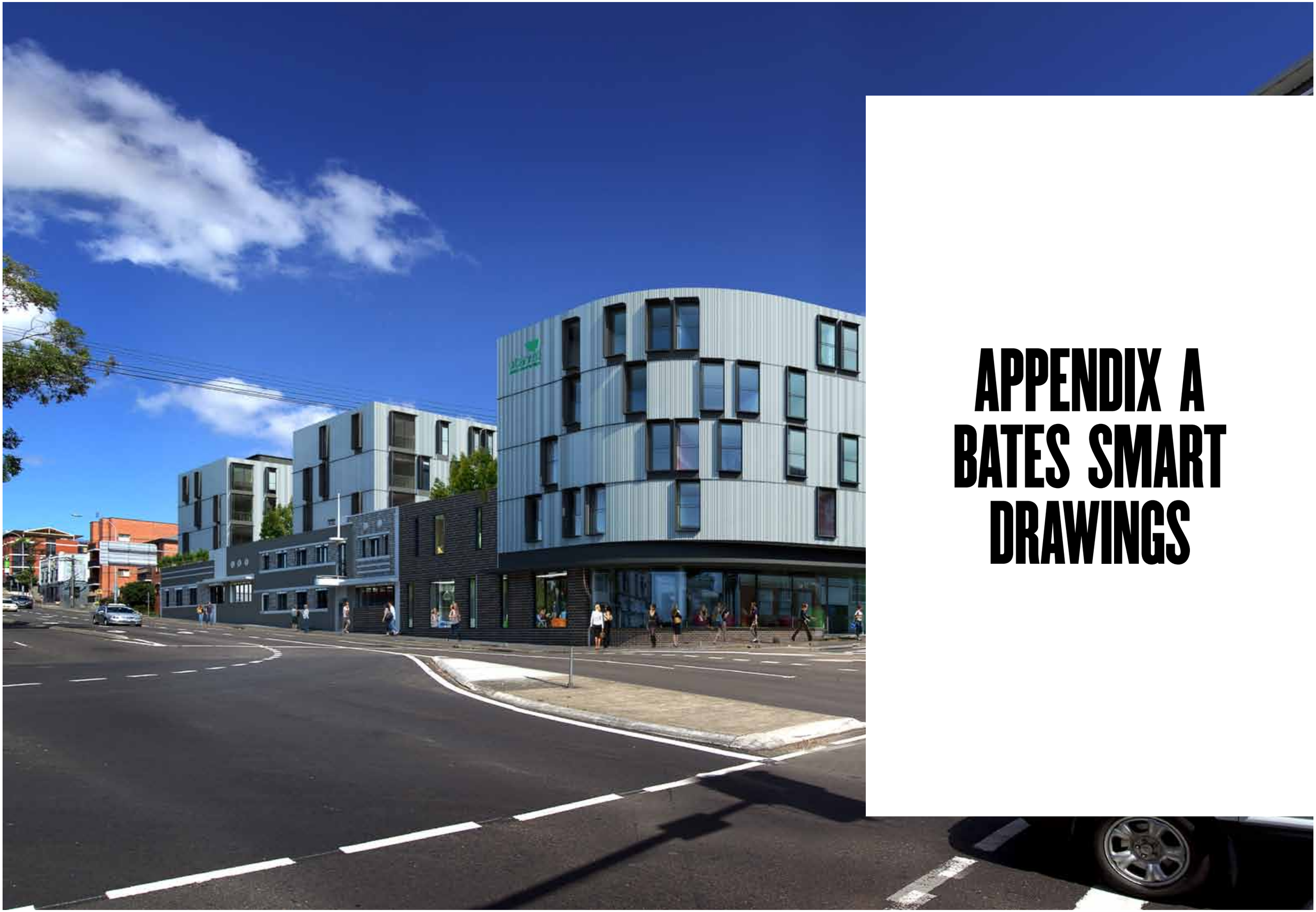
The site is located at 157 Cleveland Street, on the corner of Abercrombie St and Cleveland Street and on the boundary between the neighbourhoods of Chippendale and Redfern. Strategically located between three Universities and one Tafe, and in close proximity to parks, and both Redfern and Central railway stations, the site presents an ideal location for a student housing facility.

10.2 Social Dimensions

The purpose of the development is to provide well designed student accommodation within close proximity to universities and public transport. The facility will provide a range of apartments and studios to meet varying levels of affordability. A wide range of active and passive social spaces provided opportunities for social interaction and help to foster a strong sense of community.

Level	# Units	Students Per Unit	Rooms	# of Students for DA	% of apartments per floor	GFA inc common rooms	GBA	*Net Area	*Façade Area	*Room Area
Ground level 00										
Studio	4	2	4	8	20.5%					
4 Bed Ensuite	1	4	4	4	10.26%					
5 Bed Ensuite	3	5	15	15	38.46%					
6 Bed Ensuite	2	6	12	12	30.8%					
Wall Height (Average)(m)									4.05	
Perimeter of external walls(m)									413.9	
Hertage Façade Area(m²)									398.1	
Level 00 Total			**35**	**39**	**100.0%**	**1532**	**2308**	**768.5**	**2074.395**	**518.4**
Level 01										
Studio (1x DDA)	18	2	18	35	30.2%					
4 Bed Ensuite	0	4	0	0	0.0%					
5 Bed Ensuite	3	5	15	15	12.9%					
6 Bed Ensuite (1x DDA)	11	6	66	66	56.9%					
Wall Height(m)									3	
Perimeter of external walls(m)									386.4	
Hertage Façade Area(m²)									260.1	
Level 01 Total			**99**	**116**	**100.0%**	**2380**	**2629**	**2082.5**	**1419.3**	**1492.8**
Level 02										
Studio (1x DDA)	13	2	13	25	24.5%					
4 Bed Ensuite	0	4	0	0	0.0%					
5 Bed Ensuite	1	5	5	5	4.9%					
6 Bed Ensuite (1x DDA)	12	6	72	72	70.6%					
Wall Height(m)									3	
Perimeter of external walls									380.5	
Level 02 Total			**90**	**102**	**100.0%**	**2054**	**2271**	**1865.2**	**1141.5**	**1339.6**
Level 03										
Studio (1x DDA)	13	2	13	25	24.5%					
4 Bed Ensuite	0	4	0	0	0.0%					
5 Bed Ensuite	1	5	5	5	4.9%					
6 Bed Ensuite (1x DDA)	12	6	72	72	70.6%					
Wall Height(m)									3	
Perimeter of external walls									380.5	
Level 03 Total			**90**	**102**	**100.0%**	**2054**	**2271**	**1865.2**	**1141.5**	**1339.6**
Level 04										
Studio (1x DDA)	13	2	13	25	24.5%					
4 Bed Ensuite	0	4	0	0	0.0%					
5 Bed Ensuite	1	5	5	5	4.9%					
6 Bed Ensuite (1x DDA)	12	6	72	72	70.6%					
Wall Height(m)									3	
Perimeter of external walls									380.5	
Level 04 Total			**90**	**102**	**100.0%**	**2054**	**2271**	**1865.2**	**1141.5**	**1339.6**
			Rooms	Students	Mix	GFA	GBA	Net Area	Façade Area	Room Area
Grand Totals			**404**	**461**	**100.0%**	**10074**	**11750**	**8446.6**	**6918.195**	**6030**
Studios (4x DDA)	61	2	61	118	25.6%					
4 Bed Ensuite	1	4	4	4	0.9%					
5 Bed Ensuite	9	5	45	45	9.8%					
6 Bed Ensuite (4x DDA)	49	6	294	294	63.8%					
Site Area			**3360**							
Allowable GFA			**10080**							
FSR						**3.00**				

* Net Area = All area within apartment and studio from the internal face of walls. Including partitioning walls between bedrooms
* Façade Area = Perimeter of external walls x height of the level + area of heritage façade
* Room Area = total area of bedroom and studio from the internal face of partitioning walls



APPENDIX A
BATES' SMART DRAWINGS

APPENDIX B
ASPECT STUDIO DRAWINGS

APPENDIX C
SHADOW DIAGRAMS

1 DA 1.011 Sunshading_Summer Solstice_9am
1 : 500

2 DA 1.011 Sunshading_Summer Solstice_12pm
1 : 500

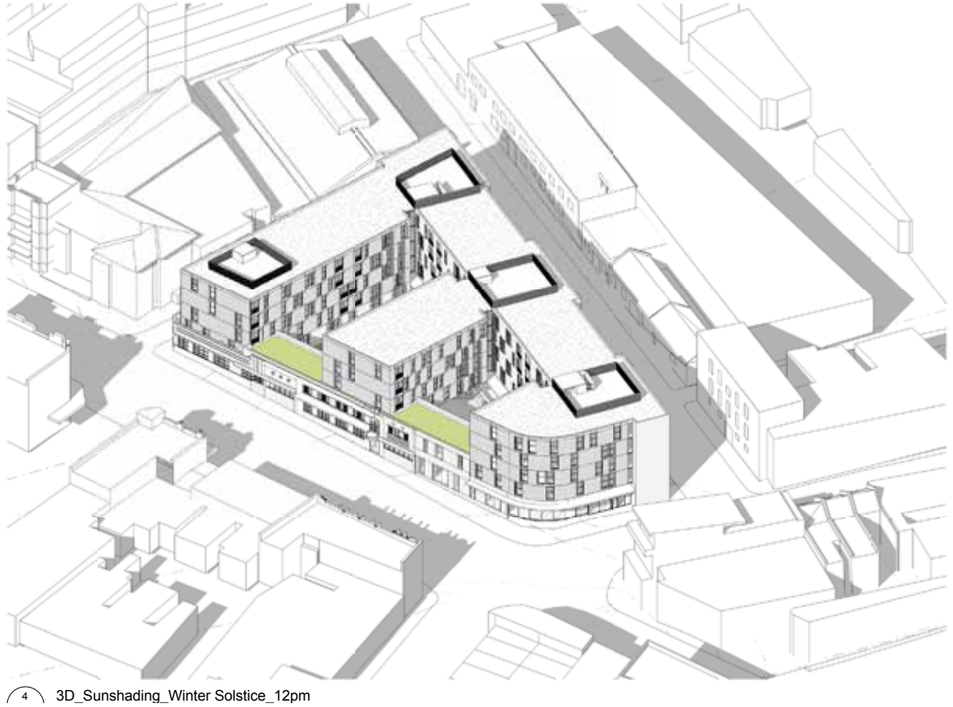
3 DA 1.011 Sunshading_Summer Solstice_3pm
1 : 500

4 DA 1.011 3D_Sunshading_Summer Solstice_12pm

1 DA 1.012 Sunshading_Winter Solstice_9am
1 : 500

2 DA 1.012 Sunshading_Winter Solstice_12pm
1 : 500

3 Sunshading_Winter Solstice_3pm



4 3D_Sunshading_Winter Solstice_12pm

1 DA 1.012 Sunshading_Equinox_9am
1 : 500

2 DA 1.012 Sunshading_Equinox_12pm
1 : 500

3 DA 1.012 Sunshading_Equinox_3pm
1 : 500

4 DA 1.012 3D_Sunshading_Equinox_12pm