

Primefield Properties Pty Ltd C/- Loucas Zahos

DA 020/A052/17

23-29 Market Street, Adelaide

Demolition of existing buildings and construction of a mixed use building comprising tourist accommodation, residential apartments, café and ancillary car parking

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OVERVIEW

Application No	020/A052/17 (ID 2275)
Unique ID/KNET ID	2017/14837/01 (#11821292)
Applicant	Primefield Properties Pty Ltd c/- Loucas Zahos
Proposal	Demolition of existing buildings and construction of a mixed use building comprising tourist accommodation, residential apartments, rooftop garden and bar, café and ancillary car parking
Subject Land	23-29 Market Street, Adelaide
Zone/Policy Area	Capital City Zone
Relevant Authority	State Commission Assessment Panel
Lodgement Date	4 July 2017
Council	City of Adelaide
Development Plan	Adelaide (City) consolidated 20 June 2017
Type of Development	Merit
Public Notification	Category 1
Representations	N/A
Referral Agencies	Government Architect, Adelaide Airport Limited
Report Author	Ben Scholes, Project Officer
RECOMMENDATION	Conditional Development Plan Consent

EXECUTIVE SUMMARY

The application is for demolition of 2 existing buildings and construction of a multi-level mixed use building comprising tourist accommodation, residential apartments, a rooftop garden and bar area, ground floor café and ancillary car parking.

The application is a merit, Category 1 form of development which is subject mandatory referrals to the Government Architect and the Commonwealth Secretary for the Department of Transport and Regional Services.

A maximum height of 43 metres is recommended for development on the subject land. The proposal seeks to exceed this level by 15.1 metres, and is considered eligible to do so in accordance with recently amended over-height provisions of the Capital City Zone.

The proposal has been subject to several iterations throughout the pre-lodgement and assessment phases to respond to matters raised by the Associate Government Architect, the City of Adelaide and the Department of Planning, Transport and Infrastructure.

The resulting application is considered to respond well to Development Plan policy guiding design and appearance of medium to high scale development in Adelaide's CBD.

The development is expected to make a positive contribution to the City skyline without imposing unfavourably on anticipated City form or on Market Street's intimate scale and historic setting.

The City of Adelaide advises the proposal is supported in terms of its impact on and interface with several places of Local Heritage significance in the vicinity of the subject land.

Overall the applicant is considered to have successfully addressed key planning, design and technical issues through design adaptation and accordingly the application is deemed to warrant Development Plan Consent, subject to conditions.

ASSESSMENT REPORT

1. BACKGROUND

1.1 Strategic Context

On 30 May 2017 the Minister for Planning approved the Capital City Policy Review (Design Quality) Development Plan Amendment, the purpose of which was to introduce new policy intended to:

- reinforce design quality for new development;
- establish additional requirements for over-height development including zone interface treatments and triggers for over-height allowances; and
- strengthen the Desired Character Statement along Rundle Street to recognise its important character and provide guidance in regard to contextual building design.

1.2 Pre-Lodgement Process

The applicant engaged with the Department of Planning, Transport and Infrastructure's pre-lodgement service from February 2017, participating in 2 pre-lodgement panel meetings and 2 design review sessions through which the concept progressed positively.

It should be noted the Development Plan Amendment referred to above occurred during concept development, necessitating considerable adaptation of the applicant's proposal to suit amended policy associated with anticipated City form and building heights exceeding the maximum levels recommended in Development Plan Concept Plan Figures CC/1 and 2.

2. DESCRIPTION OF PROPOSAL

The application is for demolition of 2 buildings existing on the subject land and construction of a multi-level mixed use building comprising tourist accommodation with 120 rooms, ground floor café, 18 residential apartments, rooftop garden and bar area, communal recreation facilities and ancillary car parking. Application plans are contained in **Attachment 1**. A summary of the proposal is as follows:

Land Use Description	Mixed Use building containing tourist accommodation lobby, café and residential entry on the ground and mezzanine levels, car parking (stacking system) and ground and first floors, 120 tourist accommodation units over levels 1 to 11 and 18 residential apartments over levels 12 to 15 with rooftop garden
Building Height	57.9 metre wall height & 58.1 metres to top of lift overrun 17 levels above ground floor
Description of levels	<p><u>Ground</u>: Tourist accommodation lobby and office, meeting rooms, café tenancy, residential apartment entry lobby, car parking, refuse area, delivery area and services</p> <p><u>Mezzanine</u>: Storage, car parking, bicycle parking, tourist accommodation lift lobby, meeting rooms and toilets</p> <p><u>Level 1</u>: 13 tourist accommodation units</p> <p><u>Level 2</u>: 13 tourist accommodation units</p> <p><u>Level 3</u>: 13 tourist accommodation units</p> <p><u>Level 4</u>: 4 tourist accommodation units, gymnasium, swimming pool, hanging lounge area, sun deck</p> <p><u>Level 5</u>: 11 tourist accommodation units</p> <p><u>Level 6</u>: 11 tourist accommodation units</p> <p><u>Level 7</u>: 11 tourist accommodation units</p> <p><u>Level 8</u>: 11 tourist accommodation units</p>

	<u>Level 9</u> : 11 tourist accommodation units <u>Level 10</u> : 11 tourist accommodation units <u>Level 11</u> : 11 tourist accommodation units <u>Level 12</u> : 5 apartments <u>Level 13</u> : 5 apartments <u>Level 14</u> : 4 apartments <u>Level 15</u> : 4 apartments <u>Rooftop</u> : communal garden / pergola, bar area, photovoltaic panels and services
Apartment floor area (excluding balconies)	1 bedroom apartments: vary between 50m ² and 52m ² 2 bedroom apartments: vary between 73.5m ² and 78.5m ² 3 bedroom apartments: 125m ² (Tourist accommodation units: vary between 26.5m ² to 38.5m ²)
Private open space	1 bedroom apartments: 8m ² 2 bedroom apartments: 11m ² 3 bedroom apartments: 16m ²
Site Access	Private laneway to the south and west of subject land
Car and Bicycle Parking	12 car spaces over ground / mezzanine levels (4 stacked bays) 20 bicycle parking spaces at mezzanine level
Encroachments	Canopies over footpath at Market Street frontage

3. SITE AND LOCALITY

3.1 Site Description

The subject site is comprised of 2 contiguous rectangular allotments located at 23-29 Market Street, Adelaide and is formally described in the following table:

Lot No	Plan No	Street	Suburb	Hundred	CT Reference
A15	D450	Market	Adelaide	Adelaide	5120/821
A15	D450	Market	Adelaide	Adelaide	5721/378

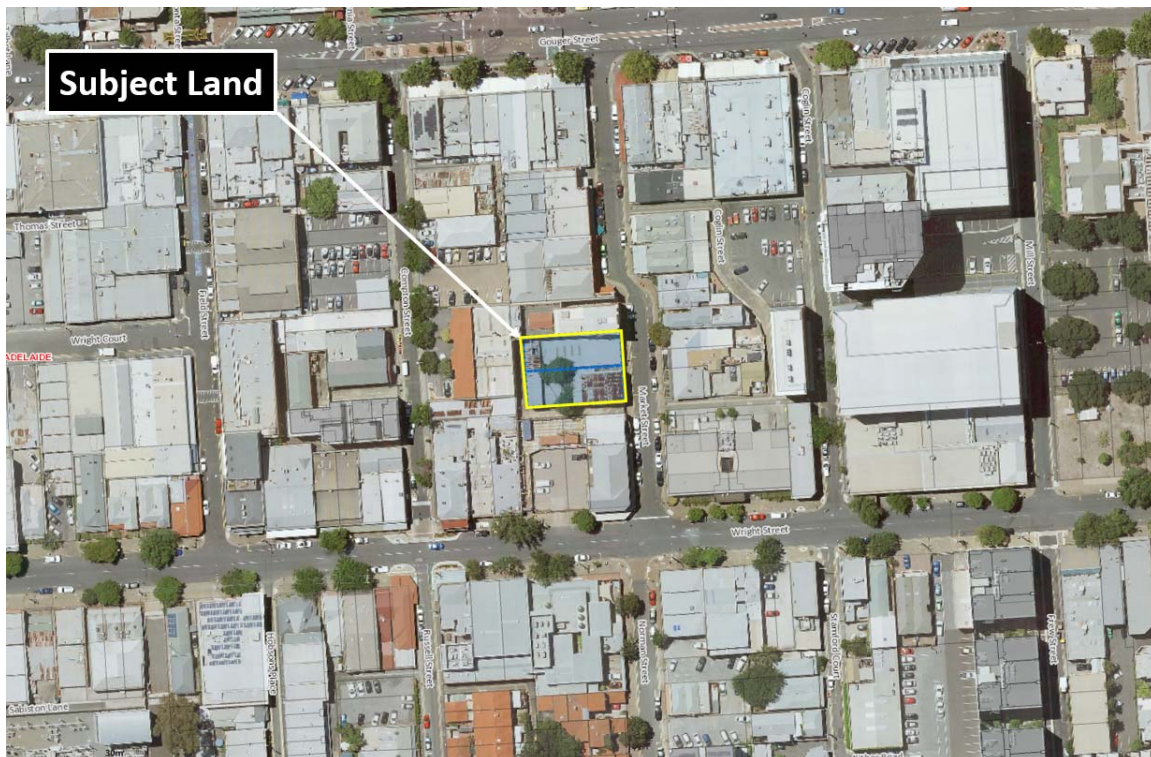


Figure 1 – Site Location

The subject land is rectangular in shape and comprises a total site area of approximately 650 square metres with a frontage of approximately 22 metres to Market Street, and a depth of approximately 29 metres. Two established trees exist on allotment 16 although neither are classified as regulated or significant specimens.



Figure 2 – 23-29 Market Street, East Elevations

A secured, private road running along the south and west of the subject land provides secondary access to it and adjoining properties. An informal review of tenure associated with the road by the Lands Titles Office has indicated the subject land is likely to be entitled to an implied right of way over the private road, although this has yet to be independently confirmed.

In December 2012 the former Development Assessment Commission granted planning approval for a 13 storey hotel (tourist accommodation) on the subject land subject to conditions and reserved matters. That development has not eventuated.

3.2 Locality

The locality is characterised by development of one to 3-storeys in scale, accommodating various uses including restaurants, shops, offices and consulting rooms. Market Street is a relatively narrow one way public road featuring an irregular angle towards the east at the street's midpoint before reorienting back to the City's typical north-south street grid.

On-street parking exists on each side of the roadway, with permit zones and periodic controls restricting parking at various points. A variety of Local Heritage places exist in proximity to the subject land, identified by the property parcels shaded in blue in Figure 3, overleaf.



Figure 3 – Adjacent Local Heritage Places

Adjacent development consists of the following:

North: The 3-storey (former) Adelaide Democratic Club building, comprising a substantial red brick Local Heritage place accommodating the Migrant Health Service. The 2-storey 'Haselgrove' building, another Local Heritage place, and combined restaurant and office buildings continue further to the north towards Gouger Street and the Adelaide Central Market precinct.

East: A row of 6 single storey houses are located at 20-30 Market Street to the east and north east of the subject land. These Local Heritage places are designated on Development Plan Table Adel/3 as contributing to townscape character. A residential dwelling is located at the rear (east) of 24 Market Street in the form of a multi-level building addition.

More substantial development exists further east along Coglein Street in the form of the 5-storey Australian Migrant Resource Centre, 9-storey Wilson car parking facility and the 13-storey Eynesbury College and Espresso Apartment building.

South: A 2-storey office building accommodating a financial services provider is located to the south across the private roadway. Private car parking associated with Edmund Barton Chambers, a Local Heritage place at 72 Wright Street is located adjacent an occasional open air licensed venue (known as Kenny Wang) to the south / south west.

West: The rear portion of a 2-storey red brick building accommodating various commercial and retail uses is located to the west across the private roadway.

4. COUNCIL COMMENTS or TECHNICAL ADVICE

4.1 City of Adelaide

The City of Adelaide was consulted and provided generally positive feedback on the application. Council considers the development proposal is supportable in terms of heritage impact and that it is reasonably consistent with relevant development plan policy pertaining to heritage and conservation, subject to confirmation of the heights of the proposed podium and adjacent local heritage building are closely related.

A series of conditions have been recommended to ensure the development is compatible with Council's standards as they relate to technical matters and potential public realm modifications.

5. STATUTORY REFERRAL BODY COMMENTS

Referral responses are contained in the **Attachment 5**.

5.1 Government Architect

The Government Architect is a mandatory referral in accordance with Schedule 8 of the Development Regulations 2008. The Commission must have regard to the advice received.

The Associate Government Architect (AGA) is generally supportive of the proposal, recognising the opportunity it presents to contribute to city activation whilst bearing a responsibility to deliver a high quality design outcome. The AGA recommends:

- review of painted concrete finishes;
- further development of upper level façade treatments to provide high residential amenity, quality outlook and access to light and ventilation;
- preparation of a rooftop garden maintenance strategy;
- review of western façade solar loads;
- preparation of signage and wayfinding strategies integrated with façade design; and
- high quality external materials supported by a material sample board.

5.2 Adelaide Airport Limited

Adelaide Airport Limited assessed the proposed building height of RL101.96 metres Australian Height Datum, penetrating the Obstacle Limitation Surface (OLS) by 10.4 metres and requiring an approval in accordance with the *Airports Act 1996* and the *Airports (Protection of Airspace) Regulations 1996*.

Any associated building lighting and crane operations during the construction phase would also be subject to a separate application.

6. PUBLIC NOTIFICATION

The application is a Category 1 development pursuant to PDC 40(a) of the Capital City Zone. No public notification was required.

7. POLICY OVERVIEW

The subject site is within the Capital City Zone as shown below in Figure 4 and as described within the Adelaide (City) Development Plan Consolidated 20 June 2017. Relevant planning policies are contained in **Attachment 7** and are summarised below.

7.1 Capital City Zone

The Capital City Zone is recognised as the principal focus for economic, social and political life of metropolitan Adelaide and the State. A wide range of employment, community, educational, entertainment, tourism and residential land uses are envisaged to reinforce the City as a place of diversity and vibrancy.

The Capital City Zone is intended to be active during the day, evening and night. Development in minor streets and laneways with a high value character will respond to important character elements and provide a comfortable pedestrian environment; Market Street is specifically identified among others considered to exhibit high value character.

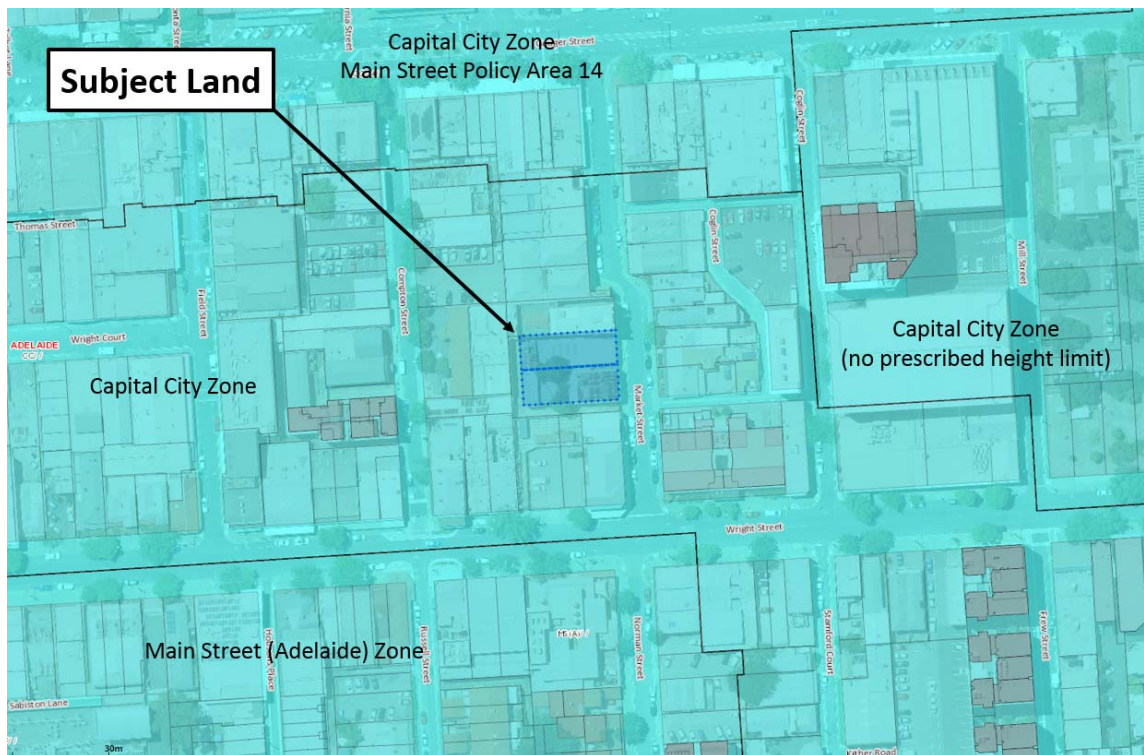


Figure 4 – Zoning Map

7.2 Council Wide

The Council Wide provisions provide direction on the desire for increased levels of activity and interest at ground level; safe and convenient servicing of sites; a high standard of design; appropriate bulk and scale of buildings and positive contribution to streetscapes.

7.3 Overlays

7.3.1 Affordable Housing

Whilst the proposal is located in an area subject to the affordable housing overlay, the residential portion of the development does not include affordable housing products.

7.3.2 Adelaide (City) Airport Building Heights

The proposal penetrates the OLS depicted in Development Plan Map Adel/1 (Overlay 5) by some 10.4 metres and Adelaide Airport Limited has indicated further assessment and approval are required under the *Airports Act 1996* and the *Airports (Protection of Airspace) Regulations 1996*.

8. PLANNING ASSESSMENT

The State Commission Assessment Panel is the relevant authority as per Schedule 10(4) of the *Development Regulations 2008*:

4B (1) Development in the area of the Corporation of the City of Adelaide where the total amount to be applied to any work, when all stages of the development are completed, exceeds \$10 000 000

The application has been assessed against the relevant provisions of the Adelaide (City) Development Plan, which are contained in **Attachment 7**.

8.1 Quantitative Provisions

	Development Plan Guideline	Proposed	Guideline Achieved	Comment
Land Use	A mix of commercial, retail, professional services, hospitality, entertainment, educational facilities, and medium and high density living	Tourist accommodation, café, residential apartments	YES	Affordable housing excluded
Building Height	43 metres (approximately 13 levels)	58.1 metres to top of lift overrun (17 levels)	NO	Eligible for additional height in accordance with Capital City Zone PDC 21 (refer to section 8.3)
Car Parking	No minimum or maximum provision identified in Development Plan Table Adel/7	12 car parking spaces (4 reserved for tourist accommodation use, 8 reserved for residential use)	YES	
Bicycle Parking	Residential – 1 for every dwelling <150m ² +1 for every 10 dwellings (for visitors) Café – 1 per 20 employees +1 per 50 seats Tourist Accommodation (Motel): 1 per 20 employees, 2 for the first 40 rooms	20	NO	Refer to section 8.7

	Development Plan Guideline	Proposed	Guideline Achieved	Comment
	+1 for additional 40 rooms Total: 27 spaces			
Boundary setbacks	Habitable room windows, balconies, roof gardens, terraces or decks should be set-back from boundaries with adjacent sites at least 3 metres	North boundary: 3.4 metres East boundary: 200mm to 1.19 metres South boundary: between 250mm to 300mm West boundary: between 770mm to 1.51 metres	PARTIAL	Private laneway to the west and south contributes towards greater separation
Apartment Area (excluding balconies)	1 b/r dwellings: 50m ² 2 b/r dwellings: 65m ² 3 b/r dwellings: 80m ²	1 b/r dwellings: vary between 50m ² and 52m ² 2 b/r dwellings: vary between 73.5m ² and 78.5m ² 3 b/r dwellings: 125m ²	YES	Tourist accommodation unit areas vary between 26.5m ² to 38.5m ²
Private Open Space	1 b/r dwellings: 8m ² 2 b/r dwellings: 11m ² 3 b/r dwellings: 15m ²	1 b/r dwellings: 8m ² 2 b/r dwellings: 11 m ² to 11.5m ² 3 b/r dwellings: 16m ²	YES	

8.2 Land Use

The proposed mixed-use development will contain a café, accommodation entry points and service areas at the ground floor with tourist accommodation, residential apartments and rooftop bar at upper levels, all of which are encouraged to provide increased levels of activity and interest, employment opportunities and a variety of living options within the City Living Zone.

Affordable housing is not included in the proposal and although this constitutes a deficiency against Development Plan policy, the combination of land uses is supported.

8.3 Building Height

Development on the subject land should not exceed 43 metres in height unless it is demonstrated the development reinforces the City form anticipated in Concept Plan Figure CC/1 and 2, and only if at least 2 discretionary and all 4 compulsory triggers listed in Capital City Zone PDC 21 have been satisfied.

The proposal seeks to exceed the maximum recommended height by some 15.1 metres, which in the existing and future context of Adelaide's CBD is considered modest and is not likely to compromise the conceptual City form and scale advocated by Development Plan policy.

Of the 8 discretionary triggers listed in PDC 21, the application will provide:

- on-site car parking at a rate less than 0.5 spaces per residential dwelling; and
- a range of dwelling types that includes at least 10 percent of 3+ bedroom apartments.

Actively occupied uses are proposed along the street-facing side of the building with the exception of a pad-mounted transformer and fire services infrastructure positioned to suit access and servicing requirements, and delineate the residential and tourist accommodation entry points.

Furthermore, on-site car parking in the form of a car stacking system is concealed from the street frontage at the western boundary of the subject land and as such, the discretionary triggers of PDC 21 are satisfied.

The application addresses the 4 compulsory triggers listed in PDC 21 by providing:

- a rooftop garden and bar encompassing approximately 50 percent of the roof area integrated with maintenance services, weather protection and solar photovoltaic panels;
- greenwalls incorporated over the ground and mezzanine levels and incorporated in the vertical blade element at the building's south east corner beginning at Level 12;
- shading devices over all elevations integrated with the applicant's articulation strategy; and
- higher amenity through provision of private open space exceeding minimum requirements in some circumstances, and access to natural light and ventilation to all habitable spaces.

Although all common circulation areas will not have access to natural light and ventilation and the majority of apartment balconies are designed to achieve minimum dimensions recommended by Council Wide policy, occupant amenity will be supplemented by the addition of communal space and shared facilities in the form of a gymnasium, hanging lounge area, sun deck, 'infinity' swimming pool and landscaping exposed to open air at level 4, in combination with the rooftop garden and bar. On balance, the compulsory triggers of PDC 21 are considered to have been adequately satisfied.

The AGA has provided in-principle support for the proposed building height contingent on the proposal achieving high quality design outcomes, and the Council does not object to the applicant's aspirations for height and scale. The proposed building height of 58.1 metres (17 levels) is considered acceptable.

8.4 Design and Appearance

Development in the Zone should be of a high standard of architectural design and finish which is appropriate within the State's capital. A very high standard of external appearance is anticipated through considered use of quality materials and finishes, articulation of form and integration with the public realm.

The AGA considers that development of the scale proposed on the subject land has a responsibility to deliver high quality design outcomes particularly in terms of form, massing, residential amenity and architectural expression relative to the building's current and future context.

The applicant's design approach defines the building into distinct base, middle and top elements intended to reduce bulk and provide a suitable contextual response. The open-air communal space at Level 4 demarcates the base from the middle section and pronounces the podium element which references the height and geometry of the adjacent Adelaide Democratic Club (ADC) building, a prominent Local Heritage place and landmark in Market Street.

The development's upper level façade is setback 3 metres from Market Street providing continuity of frontage, reinforcing the scale of the streetscape and responding appropriately to site context in accordance with Capital City Zone PDC 12. A separation of 3.4 metres beginning above the mezzanine level between the podium section and the ADC building to the north will further contribute to the positive spatial relationship created between the development and the existing building.

Differentiation in expression of the tourist accommodation and residential apartments beginning at Level 12 provides a second horizontal emphasis defining the building's 'crown' or top section, highlighted by lightweight aluminium blade elements aligned vertically over 5 building levels and framing the rooftop garden providing strong modelling, vertical composition and consistent detailing at the corners of the building as desired by Capital City Zone PDC 15.

The roof form is oriented to the north to increase the efficiency of solar photovoltaic panels installed above rooftop shelters, and are integrated with equipment provided to maintain and operate the rooftop garden and bar area to be made available for all building occupants.

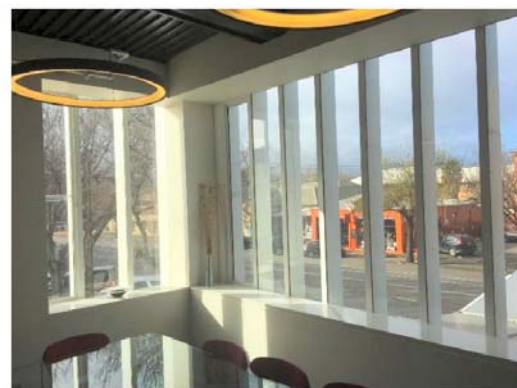
The building is well articulated with horizontally expressed slab edges, aluminium fin elements of varying colours and a composition of sandstone and concrete over the podium level. The AGA's measured support for the proposal is qualified by concerns related to occupant amenity, signage strategies and selection of materials including review of painted concrete finishes as discussed in further detail below.

8.4.1 Occupant Amenity

Residential apartments are designed to achieve or exceed minimum dimensions recommended by Council wide (Medium to High Scale Residential/Serviced Apartment) policy and allocations of private open space and storage area per dwelling unit are acceptable. The dimensions of proposed tourist accommodation vary from 26.5 to 38.5 square metres which is considered suitable for spaces of this nature.

The AGA's concerns relate to potential for compromised amenity of the Level 4 communal area including limited solar access and the applicant's approach to landscape design. Also, the vertical blade elements proposed over upper levels are believed to have the potential to diminish the quality of residential outlook and access to light and ventilation.

The applicant has responded to residential amenity concerns by presenting examples of similar blade features in existing CBD development as shown overleaf, which the applicant claims are not detrimental to interior amenity.



Interior views of 276 Flinders Street, Adelaide

In combination with the provision of communal facilities described earlier, amenity levels available to building residents and tourist accommodation occupants is considered sufficiently high.

The applicant has also described its intended landscaping maintenance strategy provided material specification and has indicated a willingness to substitute coloured concrete in lieu of painted feature elements such as slab edges or columns at articulation levels.

The applicant's responses are considered to adequately address the AGA's concerns regarding occupant amenity, maintenance strategies and materiality. A condition requiring provision of a final, detailed material sample board prior to commencement of superstructure works is recommended to provide greater confidence in material quality and finishes proposed at the construction stage.

8.4.2 Signage Strategy

The AGA anticipates further development of the applicant's signage and wayfinding strategy as detailed design proceeds, and prefers that this strategy be integral to overall architectural expression with consideration given to night-time presentation.

The applicant asserts that whilst its current signage concept integrates with the development's architectural design, specific signage details will not be available until a future operator of the tourist accommodation contractually commits to managing the facility, which would be likely to occur after confirmation of planning consent.

The applicant's efforts to nominate likely signage 'zones' over the building's exterior are reasonable under these circumstances and further developed concepts or substantial departures from the currently proposed strategy could be considered as variations to any consent granted, subject to consultation with referral agencies and the City of Adelaide.

Overall, the proposal is considered to respond well to Development Plan policy guiding design and appearance of medium to high scale development in Adelaide's CBD.

The development is expected to make a positive contribution to the City skyline without imposing unfavourably on anticipated City form or on Market Street's intimate scale and historic setting.

8.5 Local Heritage

Council wide Heritage and Conservation policy encourages design approaches and built form qualities that complement and integrate carefully with adjacent Local Heritage places with regard given to siting, boundary setbacks, materiality and the scale of elements comprising principal façades.

Whilst noting the proposed development's height exceeds the maximum recommended for the subject land, the City Council considers the relationship between the podium element and the adjacent and nearby Heritage Places to be of principal importance in considering the impact of the development on the historic significance of those places.

In the Council's view, the horizontal emphasis of Level 4's east-facing slab edge and the setback of the upper level façade emphasise the podium's streetscape

prominence and its scale relationship with the ADC building, whilst providing a transition to the lower scale of the historic cottages across Market Street.

The composition of the podium's structural elements frame areas of glass and void space in a rhythmic arrangement the Council considers to be compatible with the proportion and geometry of the ADC building's structure without mimicking its finer grain detail.



Streetscape perspective and relationship with existing buildings

Provided the heights of the ADC building and the proposed podium are as closely related as indicated in the application plans, the Council advises the development is supportable in terms of heritage impact and that it is reasonably consistent with the Development Plan's Heritage and Conservation policy.

A condition seeking confirmation of building levels is not considered necessary in this regard, as the applicant has confirmed it made use of a pre-existing survey of the ADC building façade during design development in order to establish the exact heights and locations of its prominent elements.

8.6 Public Realm

Development in minor streets and laneways will reinforce a sense of enclosure and an intimate and comfortable pedestrian environment with buildings sited and composed in a way that responds to the building's context. A strong emphasis is placed on ground level activation through frequent window openings and introduction of land uses that spill out onto the footpath.

Market Street is specifically identified as exhibiting high value character and is considered as an opportunity for a proposed pedestrian link between the Central Market precinct and Sturt and Gilbert Streets as indicated on Development Plan Map Adel/1 (Overlay 2A).

The proposal responds appropriately to the Zone's desire for buildings positioned regularly and built to the street frontage except where a setback is required to accommodate outdoor dining or provide a contextual response to a heritage place.

The AGA considers the proposal makes positive contributions to the streetscape with indoor and outdoor dining areas at ground floor, well defined entrances for the tourist accommodation and residential apartments and positioning car parking to the rear of the site as encouraged by Capital City Zone PDC 32.

Canopies over the separate entrances to each accommodation type will provide pedestrian shelter and mitigate impacts of wind downdraft. The City of Adelaide has advised the canopies satisfy Council's encroachment policy achieving a minimum of 3 metres above the footpath and 600 millimetre setback from the face of the kerb.

Although the location of the pad-mounted transformer and fire services infrastructure at the Market Street frontage is not considered ideal, this equipment will be concealed from view through the use of timber screening which will assist in reinforcing the legibility of entry and sense of address for each of the accommodation types.

Council has no objection to the proposal subject to a series of matters related to public lighting, waste management and potential for streetscape and roadway alterations being addressed. A series of conditions has been recommended to ensure the Council's interests are protected.

8.7 Traffic, Access and Parking

Development Plan policy anticipates access arrangements for vehicle parking, servicing or deliveries and pedestrian movements to be designed to ensure safety and convenience whilst minimising potential for traffic hazards and vehicle queuing on public roads. Pedestrian movement in the Capital City Zone should be based on a network of malls, arcades and lanes complemented by parking facilities located away from primary street frontages promoting safety, convenience and street level activity.

8.7.1 Vehicle Parking

A car stacker system comprising 12 parking spaces is to be located along the subject land's western boundary accessible via the private road; the applicant intends to reserve 4 spaces for use by the operator of the tourist accommodation and the remaining 8 will be retained for residential apartments with the intent to encourage sustainable transportation options. As no minimum or maximum car parking allocation is anticipated in this location, the applicant's car parking arrangement is acceptable.

The proposal includes a total of 20 bicycle parking spaces located in the mezzanine storage area, a shortfall of some 7 spaces although it should be noted the actual number of employees associated with the tourist accommodation and café uses may influence overall bicycle parking demand.

As the Council has advised that Market Street's limited footpath width will preclude additional bicycle parking adjacent the subject land, an alternative means of providing additional on-site bicycle parking to address the shortfall and conveniently cater for visitors and café patrons is desirable.

8.7.2 Site Access

Deliveries to the development are expected to occur through the use of vans or small commercial vehicles capable of manoeuvring to the service area at the

building's south west corner via the private laneway before reversing out and exiting the site towards Market Street in a forward direction.

The applicant's traffic consultant Phil Weaver & Associates recommends installation of a mirror at the south west corner of the laneway adjacent the subject land to alert users of the car stacker system of the presence of an oncoming vehicle.

Should 2 vehicles meet at the private road's turning point, a passing opportunity is available beyond the building's south west corner where the width of the north-south portion of road increases to over 6.1 metres.

The proposed mirror and wayfinding signage establishing right of way along the single-lane east-west portion of the private road are proposed to be incorporated in the development as a condition of any consent granted.

8.7.3 Traffic Assessment

An assessment by Phil Weaver & Associates has concluded the development will generate a low level of traffic movements to and from the subject land including up to 4 peak hour vehicle movements, infrequent movements by delivery vehicles and undefined levels of traffic generated through tourist accommodation operations, although the latter is not expected to have a significant impact on the local road network.

The applicant also aspires to modify on-street parking controls through further collaboration with the Council to better cater for deliveries, waste management and tourist accommodation operations, although direct modification to the streetscape adjacent the subject land is not proposed within the application.

Discussions with Council administration in this regard are well advanced and a concept design has been prepared identifying preferred amendments to vehicle parking / standing controls adjacent the eastern kerbside of Market Street, for which the Council has given its in-principle support.

Overall and subject to the application of appropriate conditions requiring implementation of safety measures and traffic controls discussed above, the applicant's proposed traffic, car parking and site access strategies are considered reasonable and effective.

8.8 Environmental Factors

Development in the Council area should be designed to ensure public safety and security are maintained, essential services are provided without unreasonable disruption or disturbance to the community, micro-climatic impacts are minimised and that the development is compatible with the long term sustainability of the environment.

8.8.1 Interface

The subject land is surrounded by commercial and retail uses and although a residential dwelling exists to the east at 24 Market Street in the form of multi-level addition to a Local Heritage place, unreasonable interface impacts caused by instances of overlooking, overshadowing, noise and light spill associated with tourist accommodation operations or the occupation of the residential apartments are not considered likely.

The applicant also modified the proposed building setbacks relative to the southern and western boundary above Level 12 to increase distances between habitable room windows and balconies and adjacent boundaries which, combined with the additional separation provided by the private road, is not expected to restrict reasonable development of adjacent sites in accordance with Council Wide (Visual Privacy) PDC 69.

8.8.2 Noise Emissions

The applicant commissioned BESTEC to prepare an acoustic services report to review proposed acoustic design criteria, consider the results of a traffic noise assessment and provide preliminary recommendations for acoustic treatments which include nomination of:

- appropriate building façade and glazing construction to sufficiently attenuate traffic noise and potential for disturbance from the adjacent Wright Street Hotel, and
- suitable wall and floor construction separating the residential apartments to ensure compliance with sound insulation requirements of the Building Code of Australia.

Standard recommendations for acoustic treatment of mechanical services were provided, as was an assessment of noise impact on the nearby residential development likely to be generated by waste collection and operation of pump infrastructure and car stacker systems.

A condition requiring acoustic attenuation is proposed to be assigned to any consent granted to ensure building occupants and adjacent noise-sensitive uses are not unreasonably disturbed by noise generated through the operation of the development.

8.8.3 Waste Management

A waste management plan has been prepared by Veolia Environmental Services in consultation with Council administration. An estimated total of 9 weekly collections will be required to remove general waste, dry recycling and organic waste generated by the combined uses within the development. Infrequent servicing would also be required for hard / e-waste collection and servicing the grease arrestor.

Bins will be stored at the ground floor adjacent the service and deliveries bay; the tourist accommodation operator would arrange for transfer of associated waste from accommodation units to the service area daily, with residents at upper levels transferring their waste to enclosed bin storage rooms provided adjacent the lifts and southern stair over Levels 12-15, which would be periodically transferred to the ground floor by a facility management service.

Veolia anticipates the volume of waste generated to be in the order of 9 collections per week with additional infrequent collections, which the applicant's traffic consultant estimates would equate to a requirement to service waste and recyclables twice daily, on average.

Collection of waste would occur from the Market Street frontage by medium-rigid vehicle before 8AM. The tourist accommodation operator and residential apartment facility manager would be responsible for transferring waste from the ground floor service area to the collection point.

Alternatives have been considered during the pre-lodgement phase in consultation with Adelaide City Council including waste collection direct from the ground floor service area via the private road, however the 3.66 metre width of the east-west portion of the road would prevent manoeuvring by typical waste collection vehicles and necessitate a reversing movement to enter or exit the road, presenting a safety hazard at its junction with Market Street.

Accordingly, an advisory note concerning modifications to on-street parking controls through further collaboration with the Council will be included in any consent granted to ensure the development's waste management needs can be serviced as efficiently as possible as determined during pre-lodgement discussions.

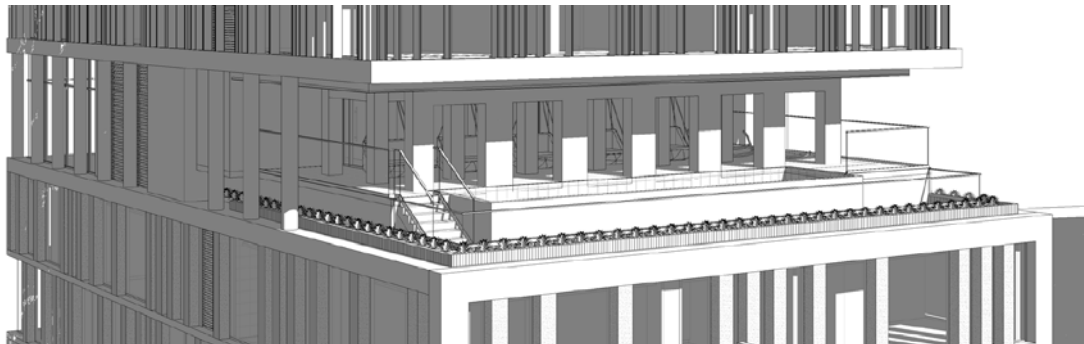
8.8.4 Wind Impacts

Through BESTEC, the applicant commissioned Global Wind Technology Services (GWTS) to undertake an assessment of pedestrian level wind conditions for the proposal with regard to the development's form and exposure to the local wind climate, existing development nearby and proposed uses at ground level.

The study concluded that localized increases in ground level wind conditions caused by the development are considered unlikely, as the design is expected to alleviate significant adverse wind effects at pedestrian level.

GWTS also noted the greater degree of exposure to wind conditions of the rooftop garden and bar, selected balconies and communal facilities and Level 4 and the consequential likelihood of occupant discomfort during strong wind conditions.

GWTS' recommendations have informed specifications of proposed design features including minimum 1.5 metre balustrades, a 1.5 metre parapet above the podium edge at Level 4, a free-standing wall of over 3 metres at the rooftop area and temporary parapet and wind screen for use by the ground floor outdoor café area.



Level 4 communal facilities – balustrades integrated with feature planting

Shelters integrated with the rooftop garden and bar are also expected to provide refuge opportunities for users in the event of strong wind conditions.

8.8.5 Energy Efficiency

Lucid Consulting has provided a statement outlining the ecologically sustainable development features intended to reduce energy consumption beyond the Building Code of Australia's deemed to satisfy approach to energy efficiency, leading to further reduction of carbon dioxide emissions.

The applicant advises it will investigate the following features during design development to be considered for inclusion subject to feasibility and cost effectiveness:

- Solar photovoltaic panels integrated with the roof form;
- High performance insulation in all walls, floors and roof areas to meet National Construction Code minimum requirements;
- High efficiency inverter driven low-static air conditioning systems;
- LED lighting throughout integrated with motion sensors for common areas and daylight sensors for external lighting;
- Master shutdown switches allowing occupants of the tourist accommodation to convenient control of energy use; and
- Use of low-flow water fixtures and fittings.

In response to the AGA's recommendation to review western façade solar loads, the applicant also commissioned Sustainability House to perform energy audits and provide design advice.

Specified materials related to insulation, glazing, sealing and general building fabric are selected to satisfy Section J of the Building Code of Australia and achieve a NatHERS energy rating of at least 5 stars for each individual apartment, and 6 stars for the overall development.

Overall the sustainability initiatives proposed by the applicant are considered appropriate and in accordance with Development Plan policy.

8.8.6 Crime Prevention

The development will introduce a 24-hour 7-day use in the form of tourist accommodation which will introduce a continual presence and potential for passive surveillance of the public realm, to complement the activity levels generated by the ground floor café and residential living component of the application.

Active surveillance and security systems and lighting anticipated within the development are considered to provide a suitable means of deterring anti-social behaviour, and the development is expected to generally improve community perceptions of safety in an important pedestrian area of the City.

8.8.7 Site Contamination

Previous investigation into the subject land by AECOM concluded there is no gross or widespread soil contamination present on the subject land and although insignificant traces of contamination exist in shallow soils, concentrations are unlikely to preclude the proposed land uses.

A soil management plan is recommended to assist with the demolition and removal process to ensure any residual issues are properly addressed; this is intended to be included as a condition of any consent granted.

9. CONCLUSION

The applicant seeks approval for construction of a multi-level mixed-use development at the approximate centre of Market Street, a relatively narrow, high value character street

in close proximity to Adelaide's Central Market precinct. The combination of uses proposed is strongly supported in this location.

The applicant has responded positively to advice provided during the application of the pre-lodgement service and to feedback provided in the assessment phase, such that the final proposal is considered to respond well to Development Plan policy guiding design and appearance of medium to high scale development in Adelaide's CBD.

Although the proposal would exceed the maximum building height recommended for the subject land by 15.1 metres, it is considered eligible to do so in accordance with amended over-height provisions of the Capital City Zone, and the additional scale sought is unlikely to impose unfavourably on anticipated City form or on Market Street's intimate scale and historic setting.

The applicant's responses to concerns raised by the AGA have adequately addressed the relevant matters and various conditions are recommended to protect the integrity of desired material finishes and other issues related to site access, servicing and technical matters.

The City of Adelaide considers the proposal to be supportable in terms of its impact on and interface with adjacent Local Heritage places, and overall the proposal achieves a sufficiently high level of quality to warrant conditional Development Plan Consent.

10. RECOMMENDATION

It is recommended that the State Commission Assessment Panel:

- 1) RESOLVE that the proposed development is NOT seriously at variance with the policies in the Development Plan.
- 2) RESOLVE that the State Commission Assessment Panel is satisfied that the proposal generally accords with the related Objectives and Principles of Development Control of the Adelaide City Council Development Plan.
- 3) RESOLVE to grant Development Plan Consent for the demolition of existing buildings and construction of a mixed use building comprising tourist accommodation, residential apartments, rooftop garden and bar, café and ancillary car parking by Primefield Properties Pty Ltd at 23-29 Market Street, Adelaide subject to the following conditions of consent.

PLANNING CONDITIONS

1. That except where minor amendments may be required by other relevant Acts, or by conditions imposed by this application, the development shall be established in strict accordance with the following details and plans submitted in Development Application 020/A052/17.

Architectural Plans by Loucas Zahos

Drawing Number	Drawing Name	Issue	Plot Date
DA01	Title Sheet & Development Summary	P5	28/06/17
DA02	Location, Site Plan & Perspective Views	P5	28/06/17
DA03	Ground, Mezzanine & Levels 1, 2 & 3 + Views	P6	01/08/17
DA04	Levels 4, 5 to 11 + Views	P6	01/08/17
DA05	Level 12, 13 to 15, Rood & Perspective View	P6	01/08/17
DA06	Streetscape Elevation & Perspective Views	P5	28/06/17

DA07	South & West Elevation	P5	28/06/17
DA08	North Elevation & Section	P5	28/06/17
DA09	Inspirational Images + Existing & Future Massing	P5	28/06/17
DA10	Contextual Drawings	P5	28/06/17
DA11	Building Sectioned Plan + Perspective View Finishes	P5	28/06/17
-	Market Street Development	-	-
DA13	Sun Diagrams & Height Analysis	P5	28/06/17
-	Rooftop Garden Level P1	-	-
-	Market Hotel (material sample board)	-	-

Reports

- Traffic and Parking Assessment (reference 200-16) dated 30 June 2017 by Phil Weaver & Associates
- Acoustic Services Preliminary Report dated June 2017 by BESTEC
- Desktop Pedestrian Level Wind Report (reference GWTS-DKPR-10130-2017-0) dated 29 June 2017 by Global Wind Technology Services
- Submission for Waste Collection Services dated June 2017 by Veolia Environmental Services

External Materials

2. Prior to Development Approval being issued for superstructure works, a final detailed schedule of materials shall be submitted in consultation with the Associate Government Architect to the satisfaction of the State Commission Assessment Panel.

Vehicle Parking

3. All vehicle car parks, driveways and vehicle entry and manoeuvring areas shall be designed and constructed in accordance with Australian Standards (AS/NZS 2890.1:2004 and AS/NZS 2890.6:2009) and be constructed, drained and paved with bitumen, concrete or paving bricks in accordance with sound engineering practice and appropriately line marked to the reasonable satisfaction of the State Commission Assessment Panel prior to the occupation or use of the development.
4. All bicycle parking spaces shall be designed and constructed in accordance with Australian Standard 2890.3-2015.

Site Access

5. An appropriate mirror shall be installed within the south east corner of the private road adjacent the subject land in order to identify the presence of an oncoming vehicle.
6. Appropriate signage shall be displayed in clear view adjacent the entry to the private road to indicate right of way is to be provided to east-bound vehicles.

Acoustics

7. Air conditioning or air extraction plant or ducting shall be screened such that no unreasonable nuisance or loss of amenity is caused to residents and users of properties in the locality to the reasonable satisfaction of the State Commission Assessment Panel.

Lighting

8. All external lighting on the subject land shall be designed and constructed to conform to Australian Standard (AS 4282-1997).
9. Lighting integrated within the proposed canopies shall be installed in accordance with the City of Adelaide's under verandah lighting requirements.
10. A lighting calculation grid detailing property boundary lines shall be prepared and provided to the City of Adelaide prior to occupation of the development.

Construction Management

11. A Construction Environment Management Plan (CEMP) shall be prepared and implemented in accordance with current industry standards – including the EPA publications "Handbook for Pollution Avoidance on Commercial and Residential Building Sites – Second Edition" and "Environmental Management of On-site Remediation" – to minimise environmental harm and disturbance during construction.

The management plan must incorporate, without being limited to, the following matters:

- 1) Air quality, including odour and dust;
- 2) Surface water including erosion and sediment control;
- 3) Soils, including fill importation, stockpile management and prevention of soil contamination;
- 4) Groundwater, including prevention of groundwater contamination;
- 5) Noise;
- 6) Construction traffic; and
- 7) Occupational health and safety.

A copy of the CEMP shall be provided to the State Commission Assessment Panel prior to the commencement of site works. For further information relating to what Site Contamination is, refer to the EPA Guideline: '*Site Contamination – what is site contamination?*': www.epa.sa.gov.au/pdfs/guide_sc_what.pdf

Infrastructure

12. All Council, utility or state-agency maintained infrastructure (i.e. roads, kerbs, drains, crossovers, footpaths, public lighting, street furniture, underground ducting etc.) that is demolished, altered, removed or damaged during the construction of the development shall be reinstated to Council, utility or state agency specifications. All costs associated with these works shall be met by the proponent.

Soil Contamination

13. A soil management plan shall be prepared by an appropriately qualified environmental engineer to assist with the demolition and soil removal process to provide assurance/s that any residual soil contamination issues will be appropriately addressed to the reasonable satisfaction of the State Commission Assessment Panel. A copy of the management plan shall be provided to the State Commission Assessment Panel prior to the commencement of demolition works.

Advisory Notes:

- a. This Development Plan Consent will expire after 12 months from the date of this Notification, unless final Development Approval from Council has been received within that period or this Consent has been extended by the State Commission Assessment Panel.

- b. The applicant is also advised that any act or work authorised or required by this Notification must be substantially commenced within 1 year of the final Development Approval issued by Council and substantially completed within 3 years of the date of final Development Approval issued by Council, unless that Development Approval is extended by the Council.
- c. The applicant has a right of appeal against the conditions which have been imposed on this Development Plan Consent. Such an appeal must be lodged at the Environment, Resources and Development Court within two months from the day of receiving this notice or such longer time as the Court may allow. The applicant is asked to contact the Court if wishing to appeal. The Court is located in the Sir Samuel Way Building, Victoria Square, Adelaide (telephone number 8204 0289).
- d. No additional advertising signage shall be displayed upon the subject land other than those identifying the parking area access points and those shown on the approved plans. If any further signs are required, these shall be the subject of a separate application.
- e. The applicant should ensure there is no objection from any of the public utilities in respect of underground or overhead services and any alterations that may be required are to be at the applicant's expense.
- f. As work is being undertaken on or near the subject land boundary, the applicant should ensure that the boundaries are clearly defined, by a Licensed Surveyor, prior to the commencement of any building work.
- g. Any proposed works with the public realm adjacent to the site, including the installation of street furniture, planting of street trees, roadway modifications or changes to temporary parking controls shall be undertaken in consultation with the City of Adelaide. Improvements to the adjacent public realm areas outside of the identified subject land are not part of this planning consent.
- h. The applicant is reminded of its general environmental duty, as required by Section 25 of the *Environment Protection Act 1993* to take all reasonable and practical measures to ensure that the activities on the whole site, including during construction, do not pollute the environment in a way which causes or may cause environmental harm.
- i. You are advised of the following requirements of the *Heritage Places Act 1993*.
 - (a) If an archaeological artefact believed to be of heritage significance is encountered during excavation works, disturbance in the vicinity shall cease and the SA Heritage Council shall be notified; and
 - (b) Where it is known in advance (or there is reasonable cause to suspect) that significant archaeological artefacts may be encountered, a permit is required prior to commencing excavation works.
- j. If Aboriginal sites, objects or remains are discovered during excavation works, the Aboriginal Heritage Branch of the Aboriginal Affairs and Reconciliation Division of the Department of the Premier and Cabinet (as delegate of the Minister) should be notified under Section 20 of the *Aboriginal Heritage Act 1988*.



Ben Scholes

**PROJECT OFFICER
PLANNING AND DEVELOPMENT DIVISION
DEPARTMENT OF PLANNING, TRANSPORT and INFRASTRUCTURE**

ATTACHMENT 1

APPLICATION PLANS AND MATERIAL SAMPLES



DA DRAWING LIST_P5 Issue			
Sheet Number	Sheet Name	Sheet Issue Date	P ISSUE
DA01	Title Sheet & Development Summary	28/06/17	P5
DA02	Location, Site Plans & Perspective Views	28/06/17	P5
DA03	Ground, Mezzanine & Levels 1, 2 & 3 + Views	28/06/17	P5
DA04	Level 4, 5 to 11 + Views	28/06/17	P5
DA05	Level 12, 13 to 15, Roof & Perspective View	28/06/17	P5
DA06	Streetscape Elevation & Perspective Views	28/06/17	P5
DA07	South & West Elevation	28/06/17	P5
DA08	North Elevation & Section	28/06/17	P5
DA09	Inspirational Images + Existing & Future Massing	28/06/17	P5
DA10	Contextual Drawings	28/06/17	P5
DA11	Building Sectioned Plan + Perspective View Finishes	28/06/17	P5
DA12	Building Comparison + Building Height Comparison	28/06/17	P5
DA13	Sun Diagrams & Height Analysis	28/06/17	P5

23-29 Market Street

Market Street Development

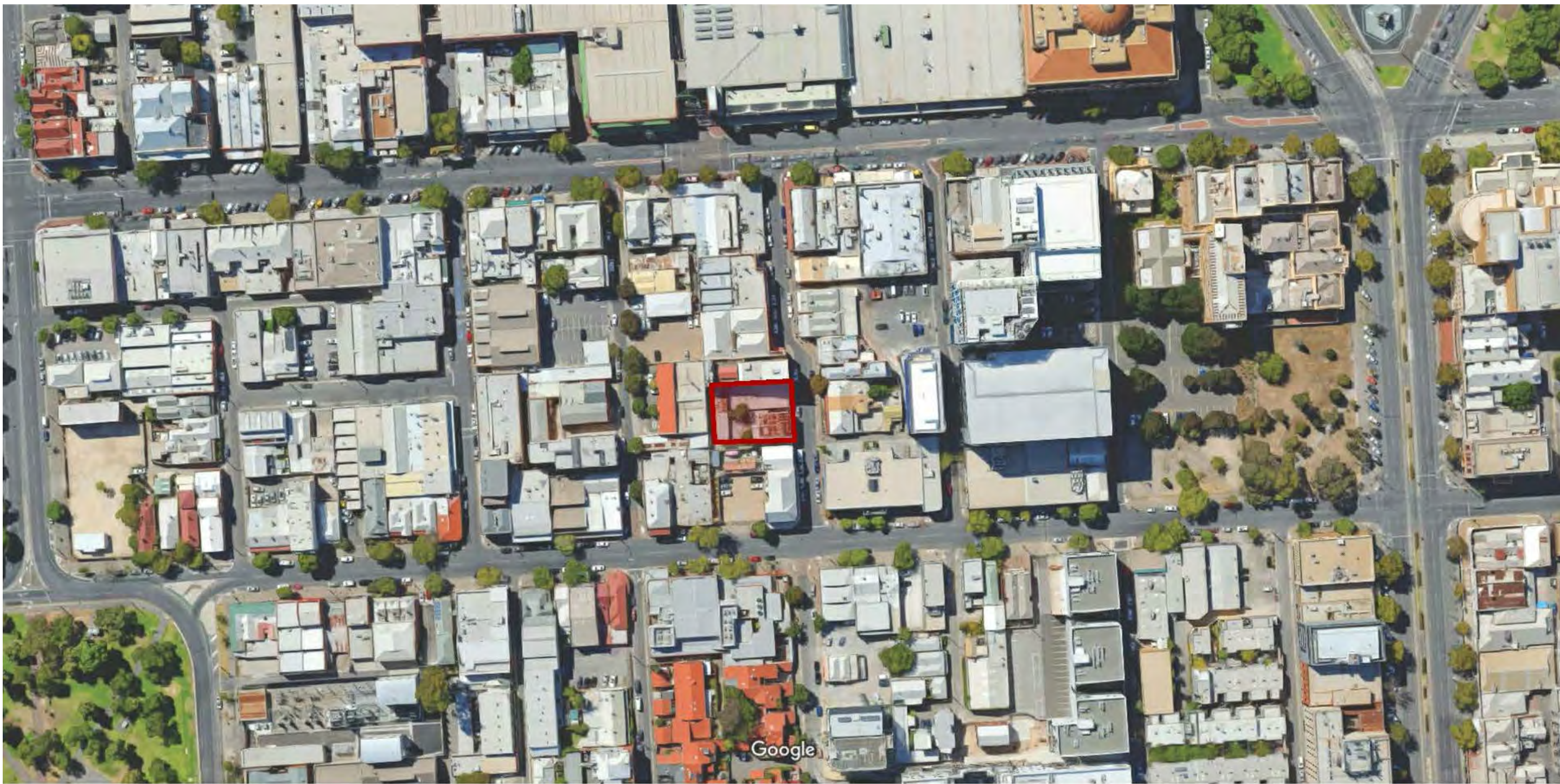


PRELIMINARY

OPTION 1F
June 2017

P5 Issue

DEVELOPMENT SUMMARY (OPTION 1E)	
SITE AREA	645m2
PRIVATE ROAD	202m2
FLOOR AREA (SQM)	
GROUND - ENTRIES, HOTEL AMENITIES, SERVICES, CARPARK	645m2
MEZZANINE LEVEL- HOTEL AMENITIES, SERVICES & VOIDS	645m2
LEVEL 1 TO 3 - HOTEL ROOMS (545m2 L1 & 543m2 L2 & 3 EACH)	1631m2
LEVEL 4 - POOL + GYM AREA, SERVICES	542m2
LEVELS 5 TO 11- HOTEL ROOMS (488m2 EACH)	3416m2
LEVEL 12 - APARTMENT LEVEL	490m2
LEVEL 13 TO 15 - APARTMENT LEVELS (476m2 EACH)	1428m2
ROOF - ROOF PLANT, SERVICES, LOCKERS & BIKE PARKS	476m2
TOTAL FLOOR AREA (EXCLUDES ROOF)	8797m2
NUMBER OF FLOORS	
GROUND	1
MEZZANINE	1
HOTEL ROOMS	11
APARTMENTS	4
TOTAL	17
APARTMENT AREAS - NET SQM	
LEVEL 12 - INCL BALCONIES	347.0m2
LEVEL 13 TO 15 (357.0 SQM EACH FLOOR)- INCL BALCONIES	1071.0m2
TOTAL APT. AREA (NET SQM) L 11 TO 15 - INCL BALCONIES	1418.0m2
APARTMENTS	
No OF APARTMENTS	LEVEL 12 - 15 (5 PER FLOOR) 20 TOTAL 20
No OF BEDROOMS	LEVEL 12 - 15 (7 PER FLOOR) 28 TOTAL 28
No OF HOTEL ROOMS	LEVEL 1 - 3 (13 PER FLOOR) 39 LEVEL 4 (No Hotel Rooms) 0 LEVEL 5 TO 11 (11 PER FLOOR) 77 TOTAL 116
CARPARKS	12
BICYCLE PARKS	20
STORAGE LOCKERS	20



DA - Overall Location Plan



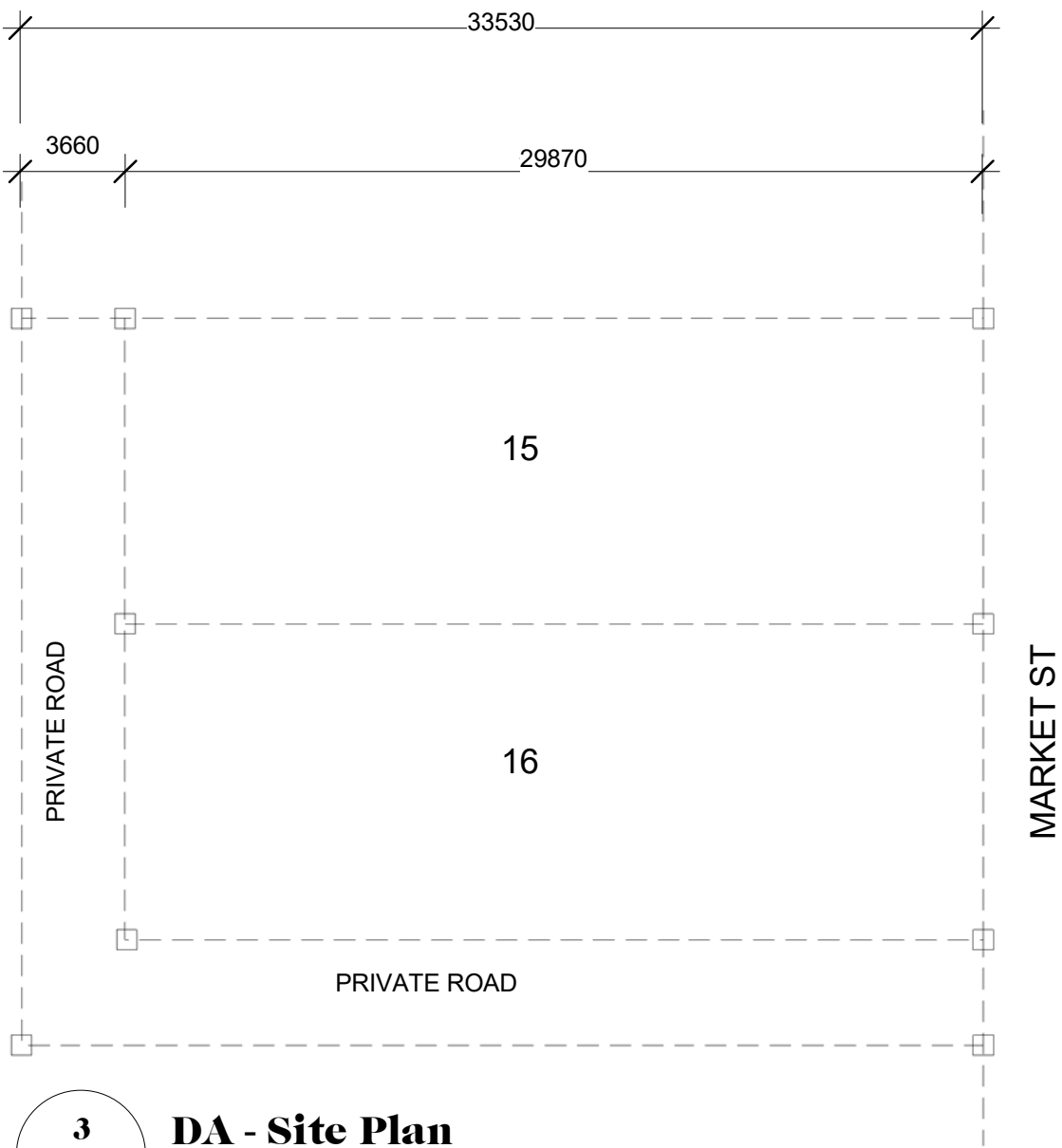
DA - View of Top of Building



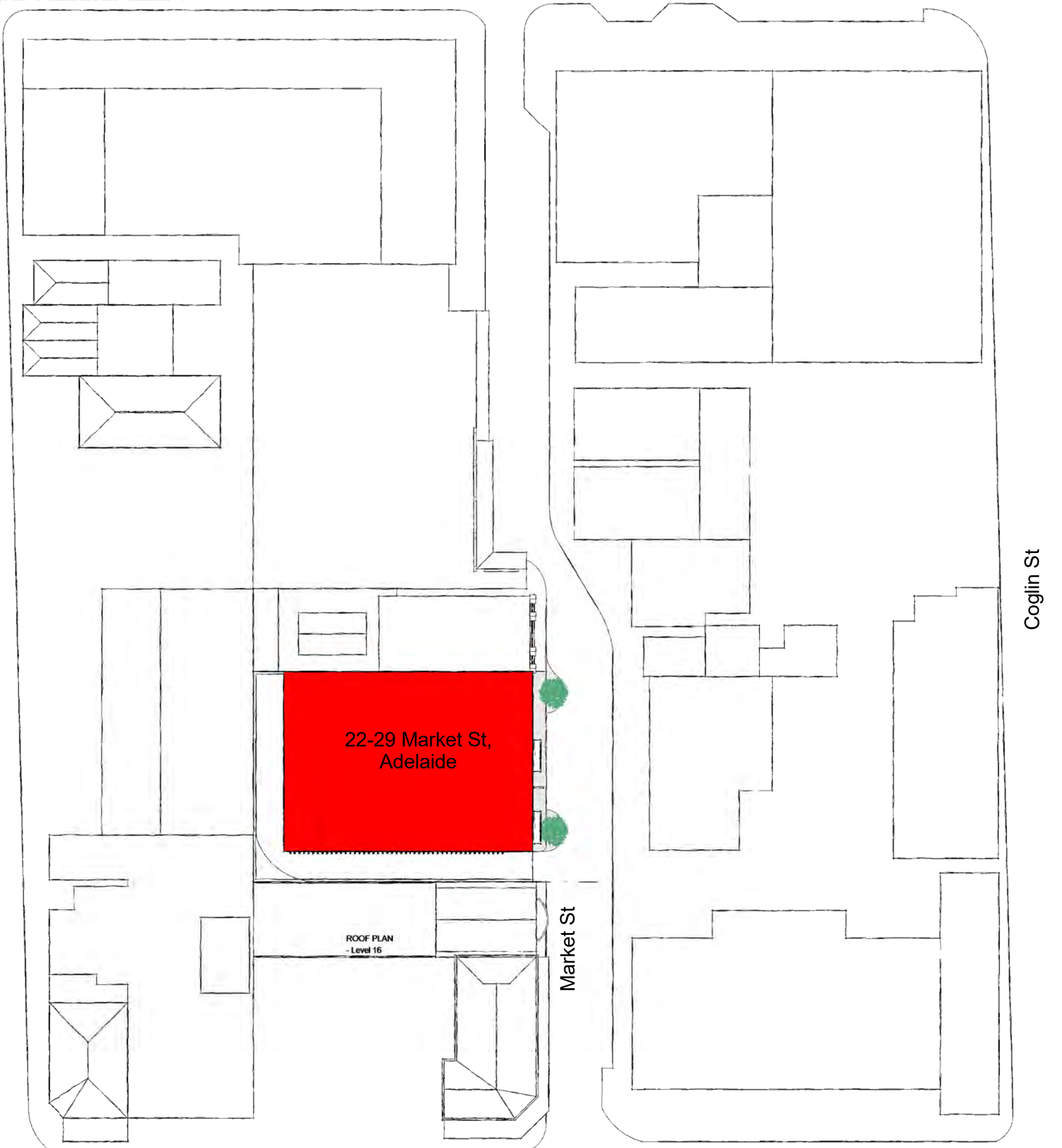
1 DA - Location Plan
Scale 1 : 1250



DA - Street View of Podium



3 DA - Site Plan
Scale 1 : 250



2 DA - Site Context Plan
Scale 1 : 500



LOUCAS ZAHOS
ARCHITECTS

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Scale
As
indicated

Drawing No.
DA02

Issue
P5

Plot Date
28/06/17

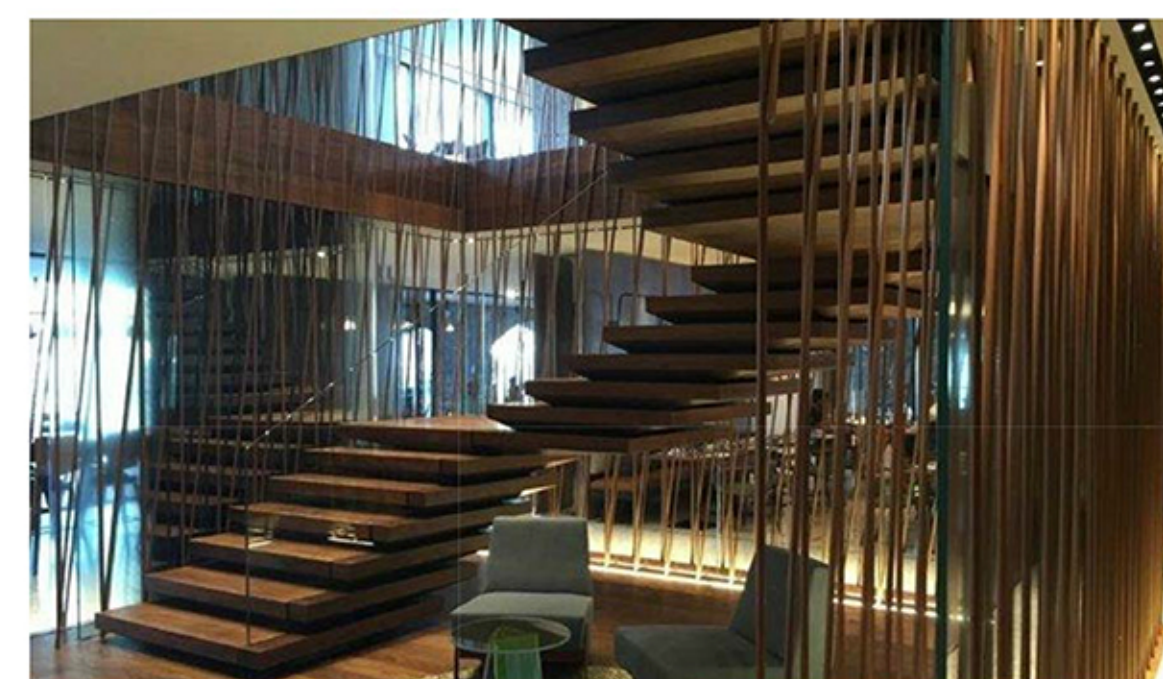
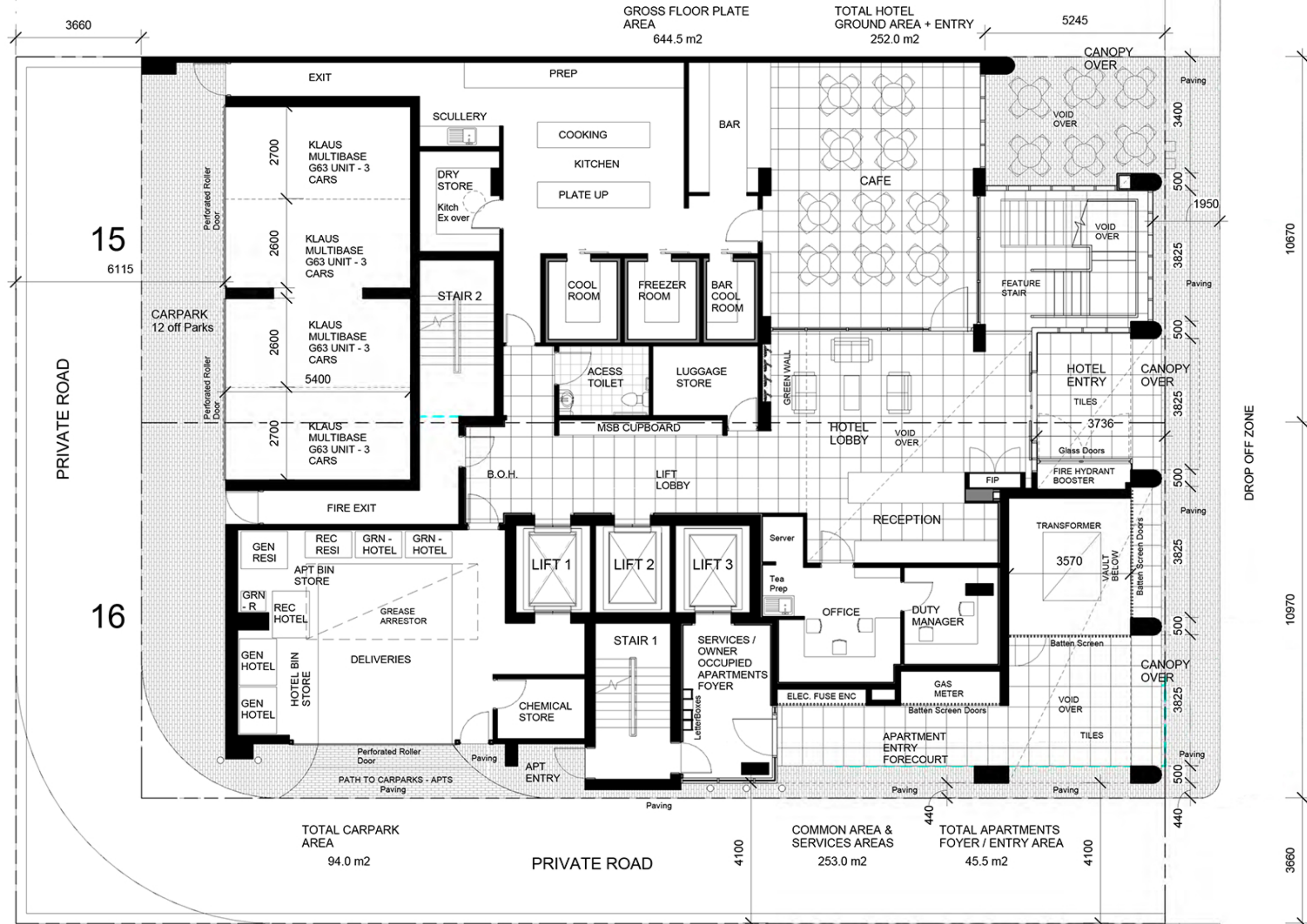
Primefield
Property

OPTION 1F
June 2017

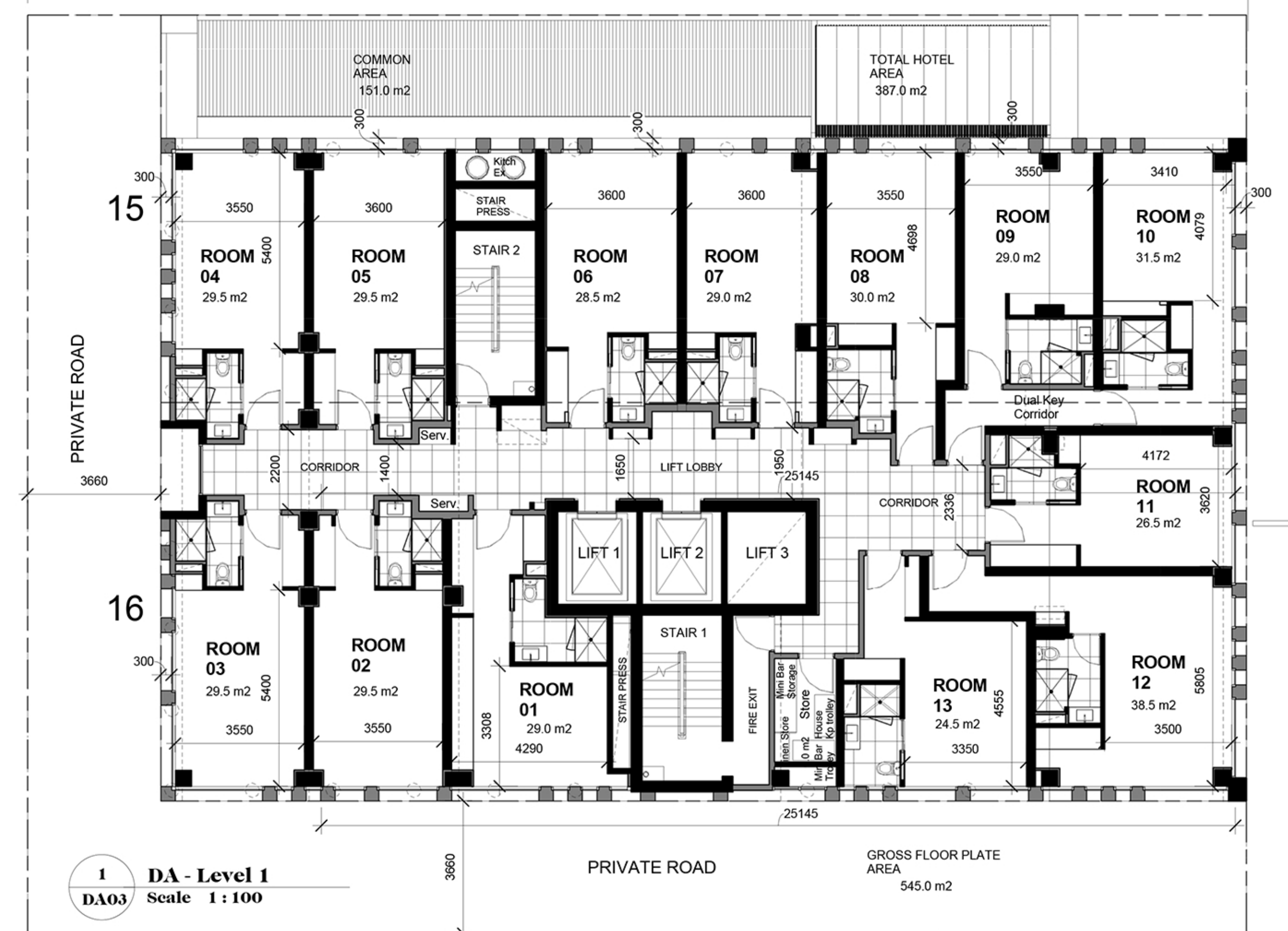
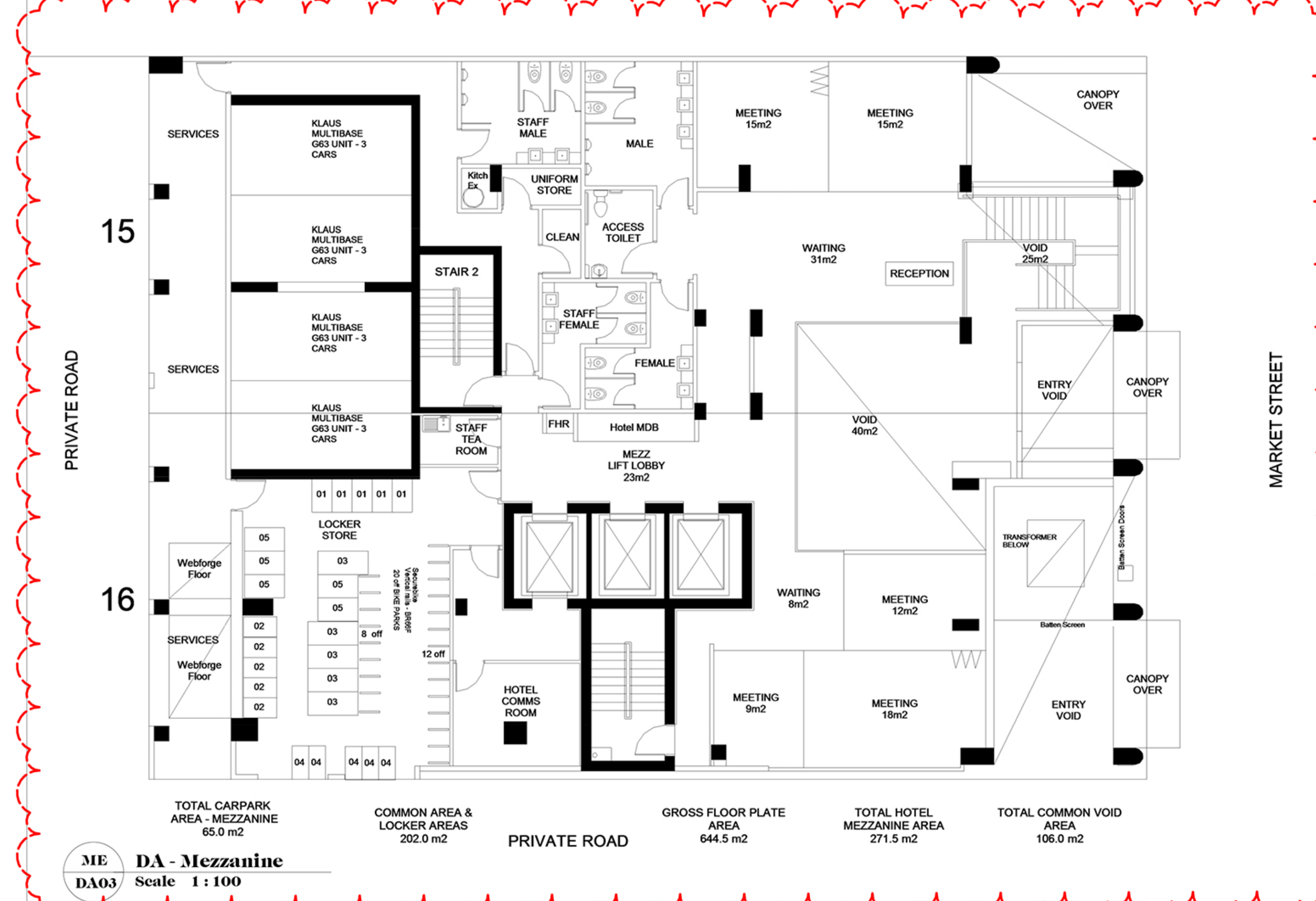
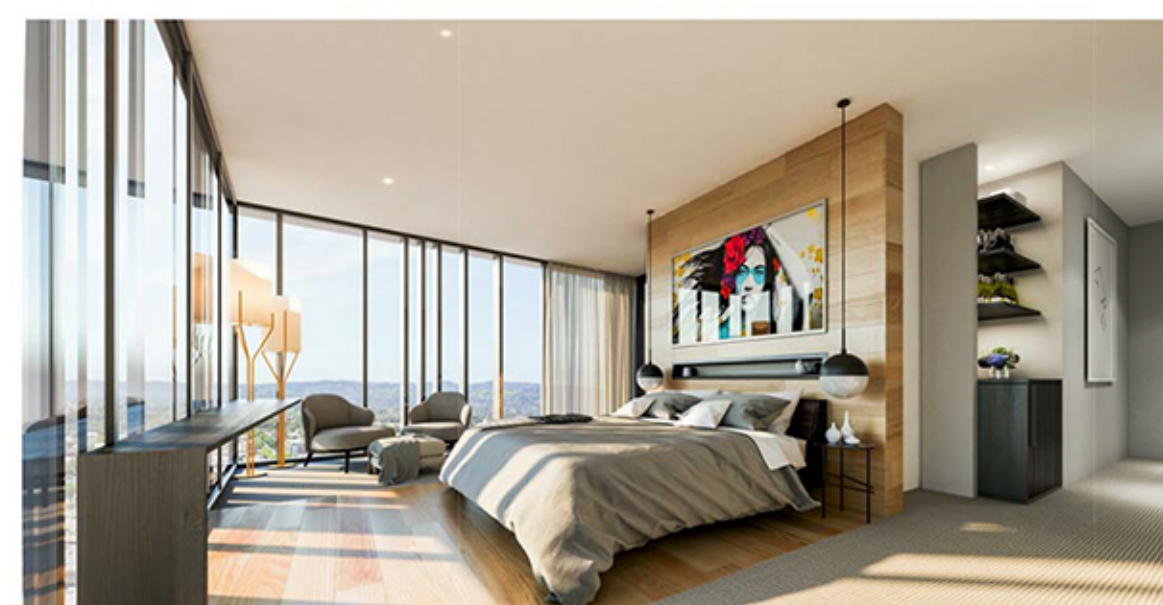
P5 Issue

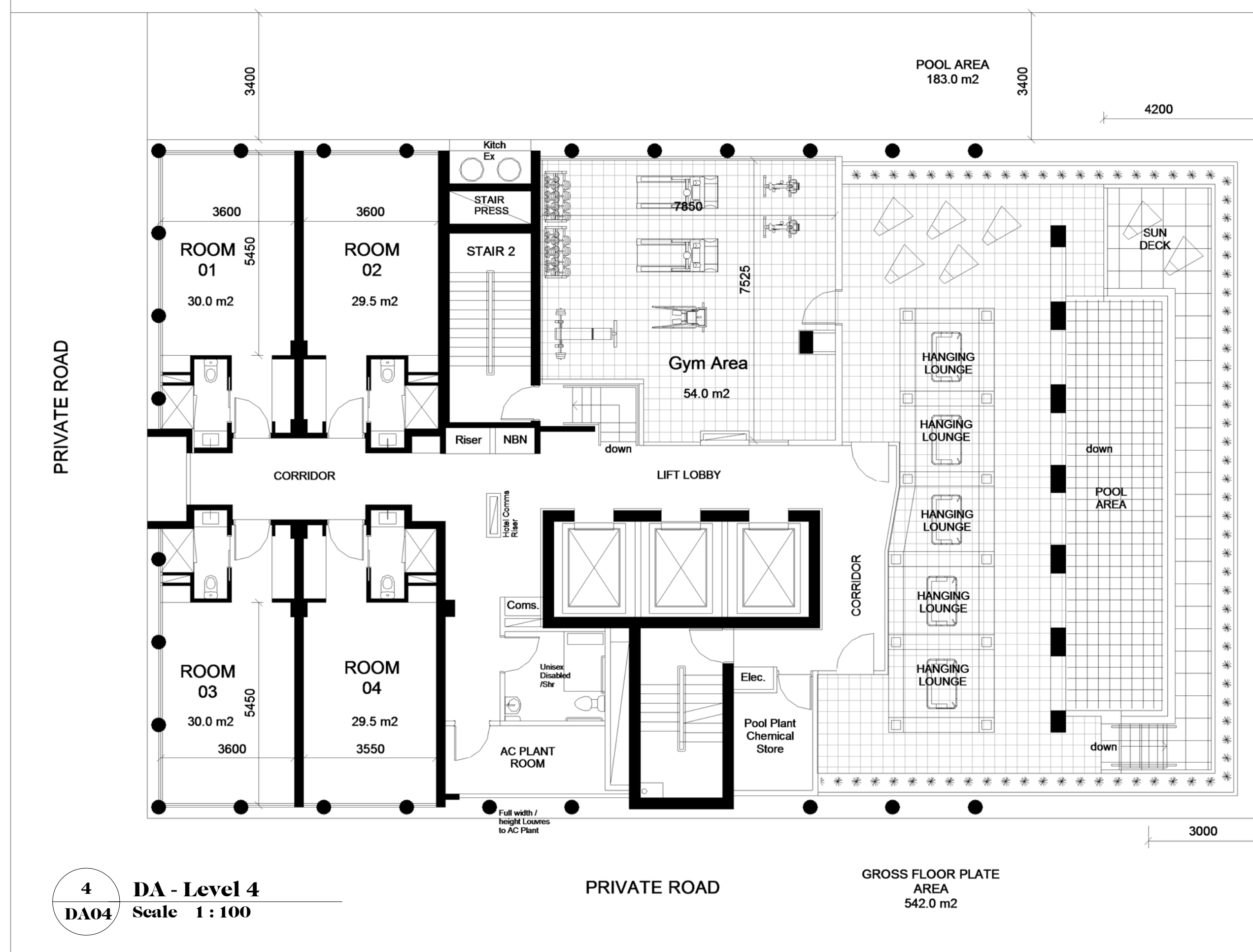
DA02 Location, Site Plans
& Perspective Views

23-29 Market Street

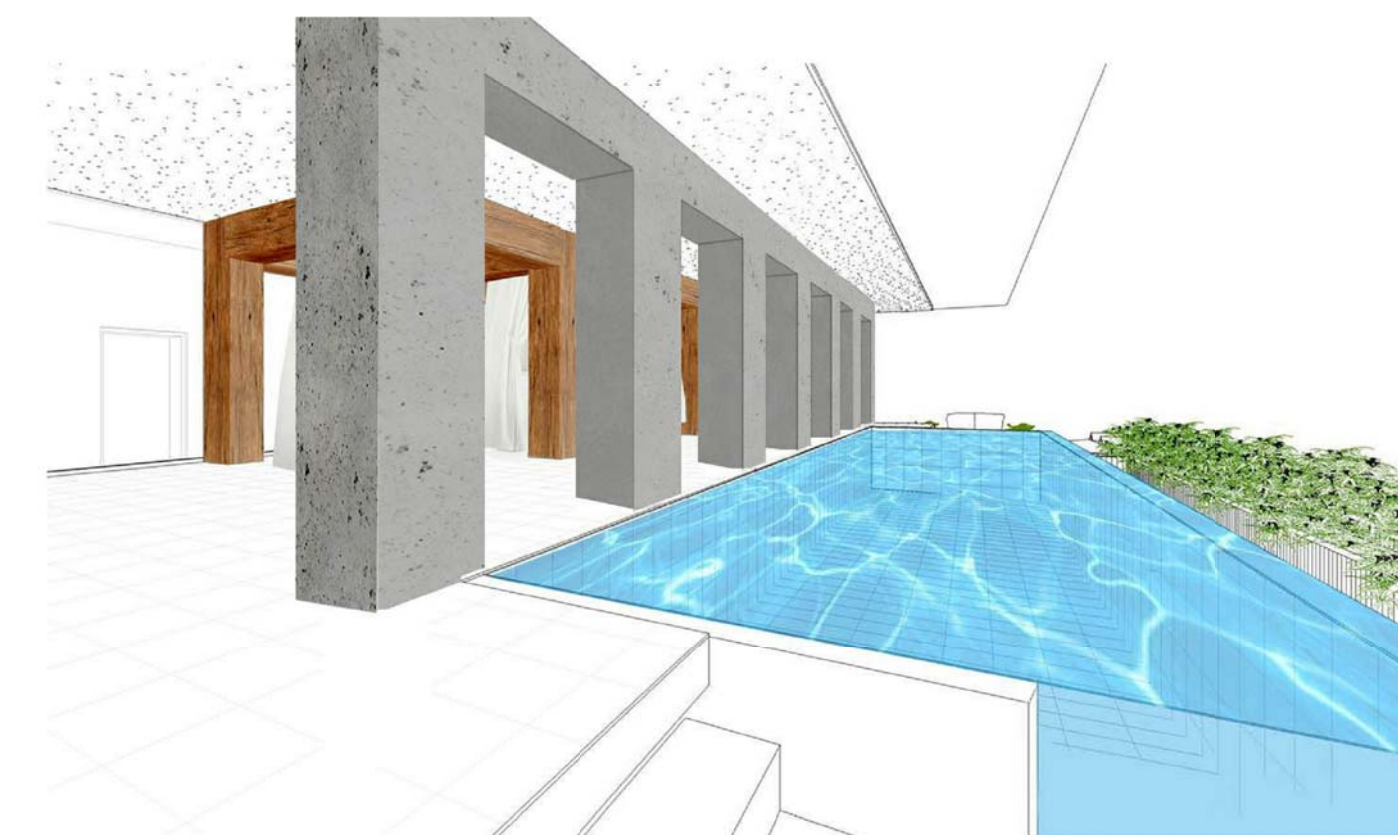


DA - View of Feature Staircase





DA - Market St View of Level 4 Pool Area



DA - South View of Level 4 Pool Area



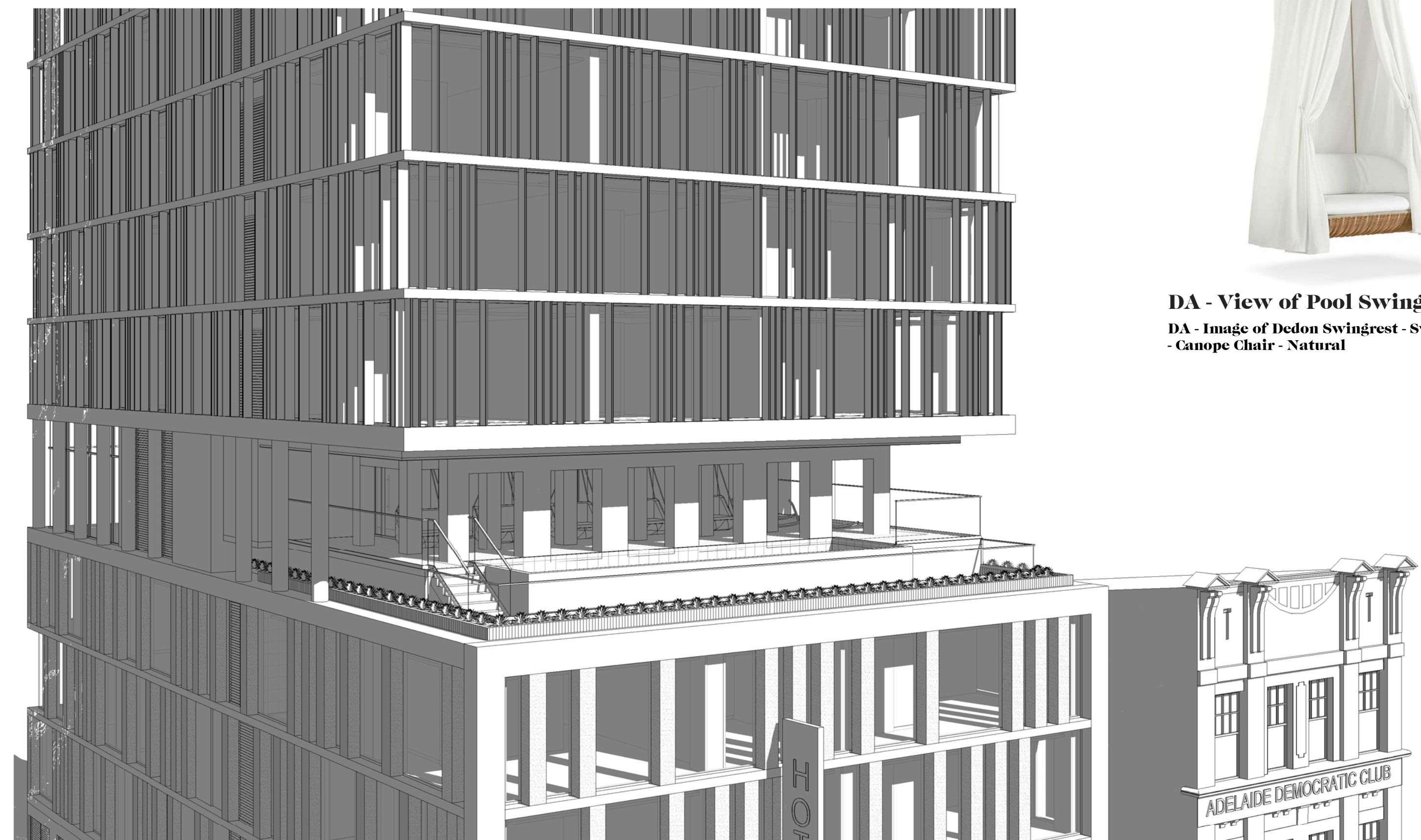
DA - View of Negative Edge Pool

DA - Image of Ultramodern House with View of Negative Edge Pool
Modern Glass Pool Photo by Norfolk Pools
Brisbane QLD



DA - View of Overflowing Pool

DA - Image of Ultramodern Beach House with View of Overflowing Pool
Longhi Architects - Beach House in Resort Community on the Pacific coast of Peru

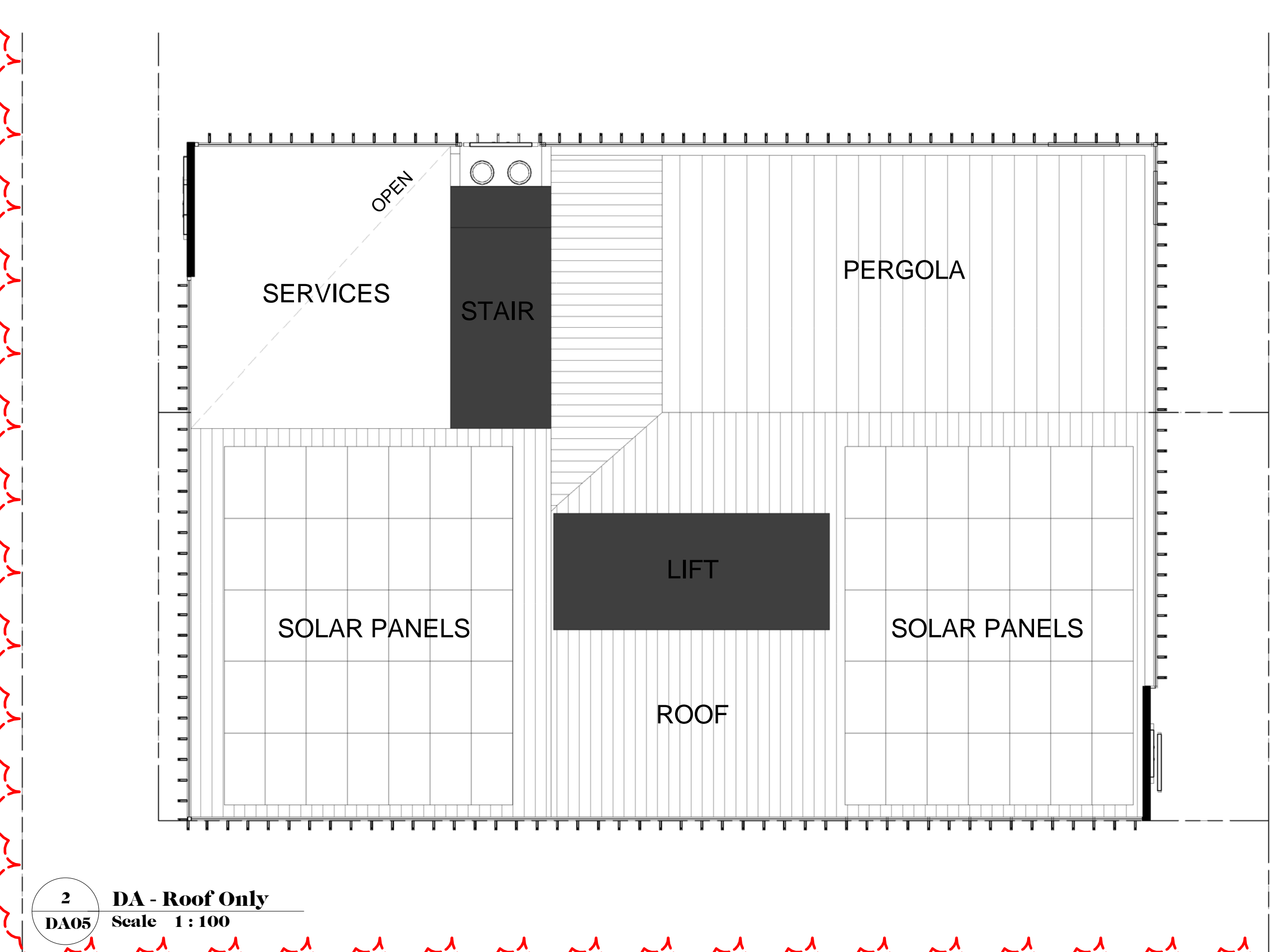
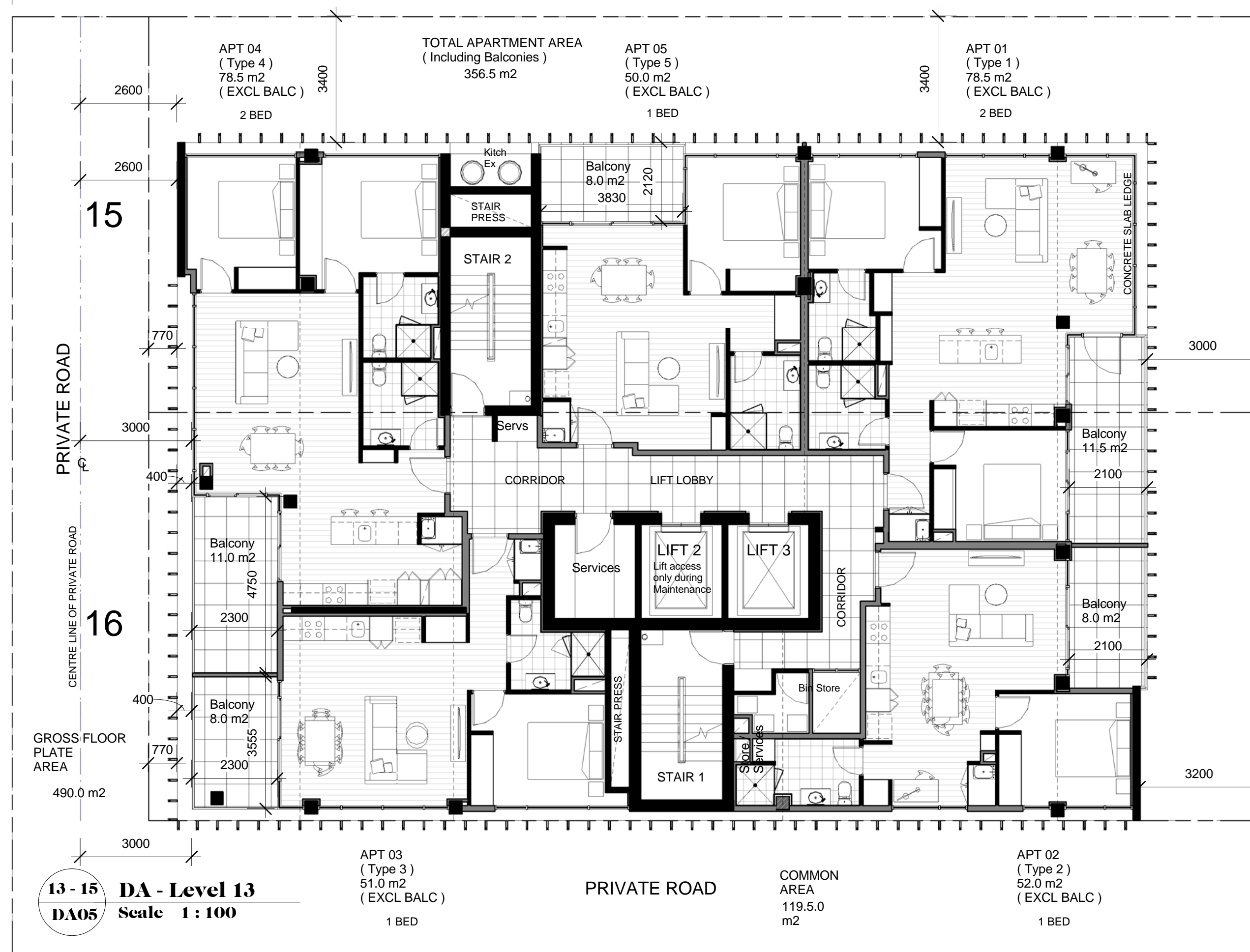
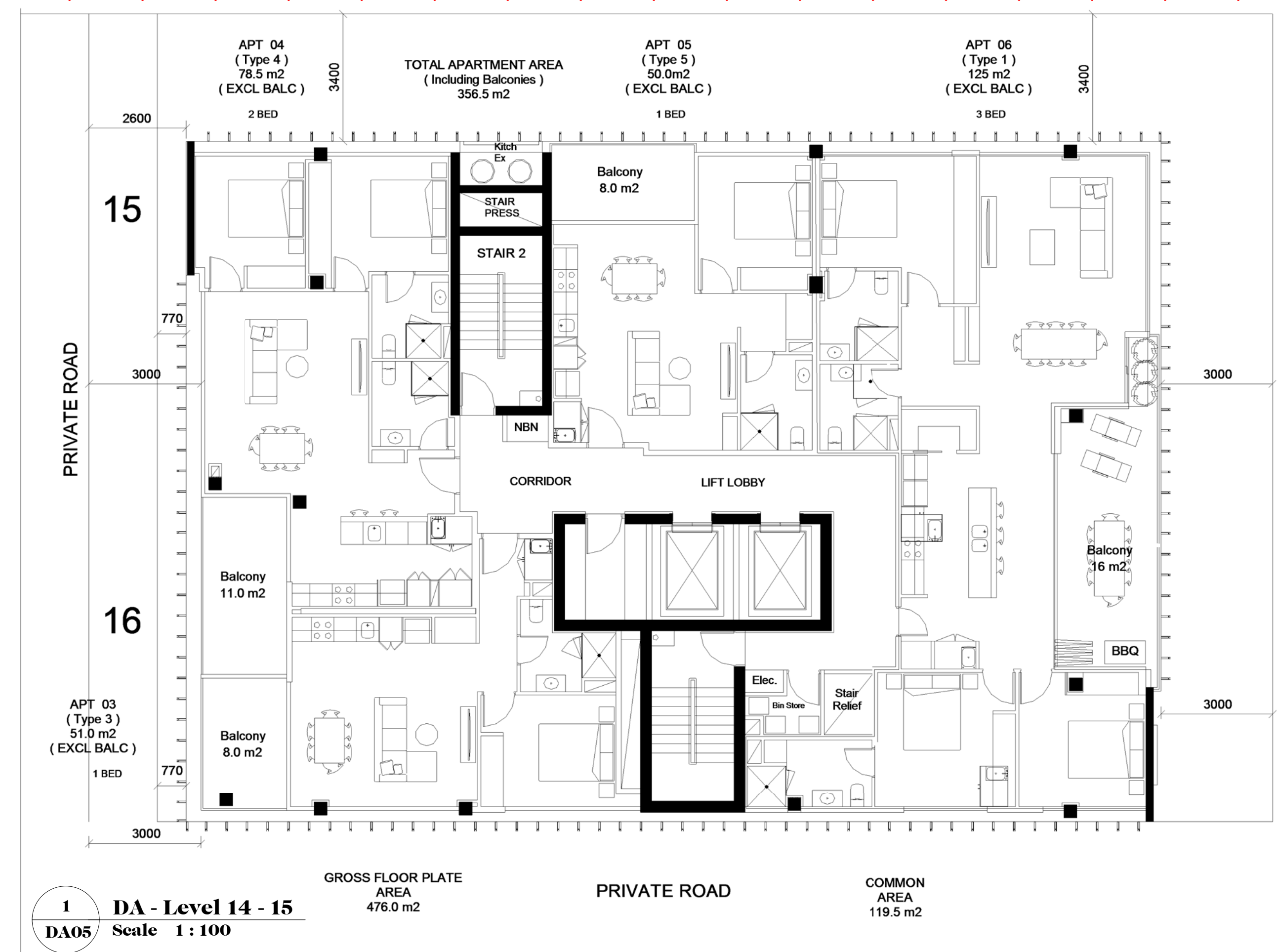
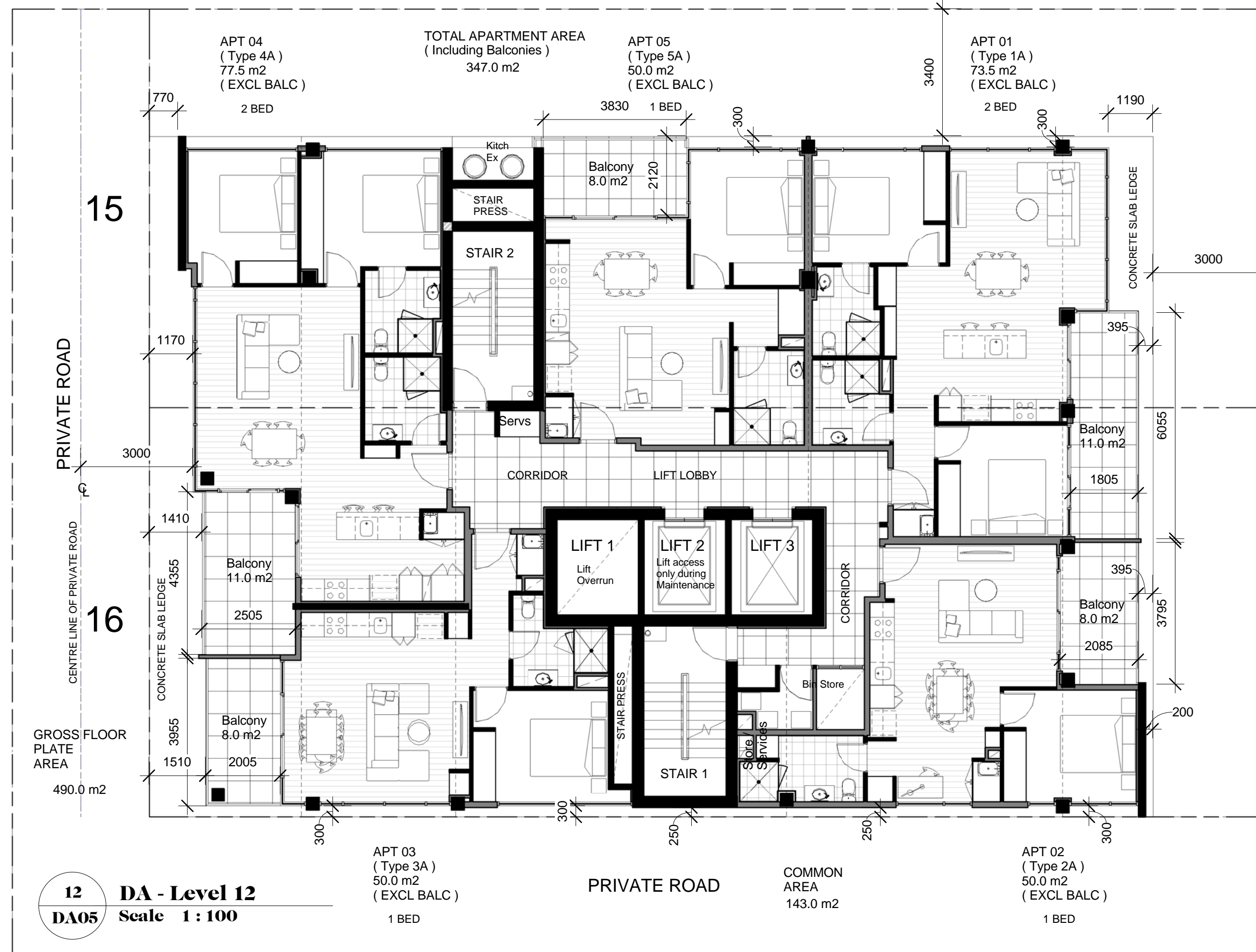


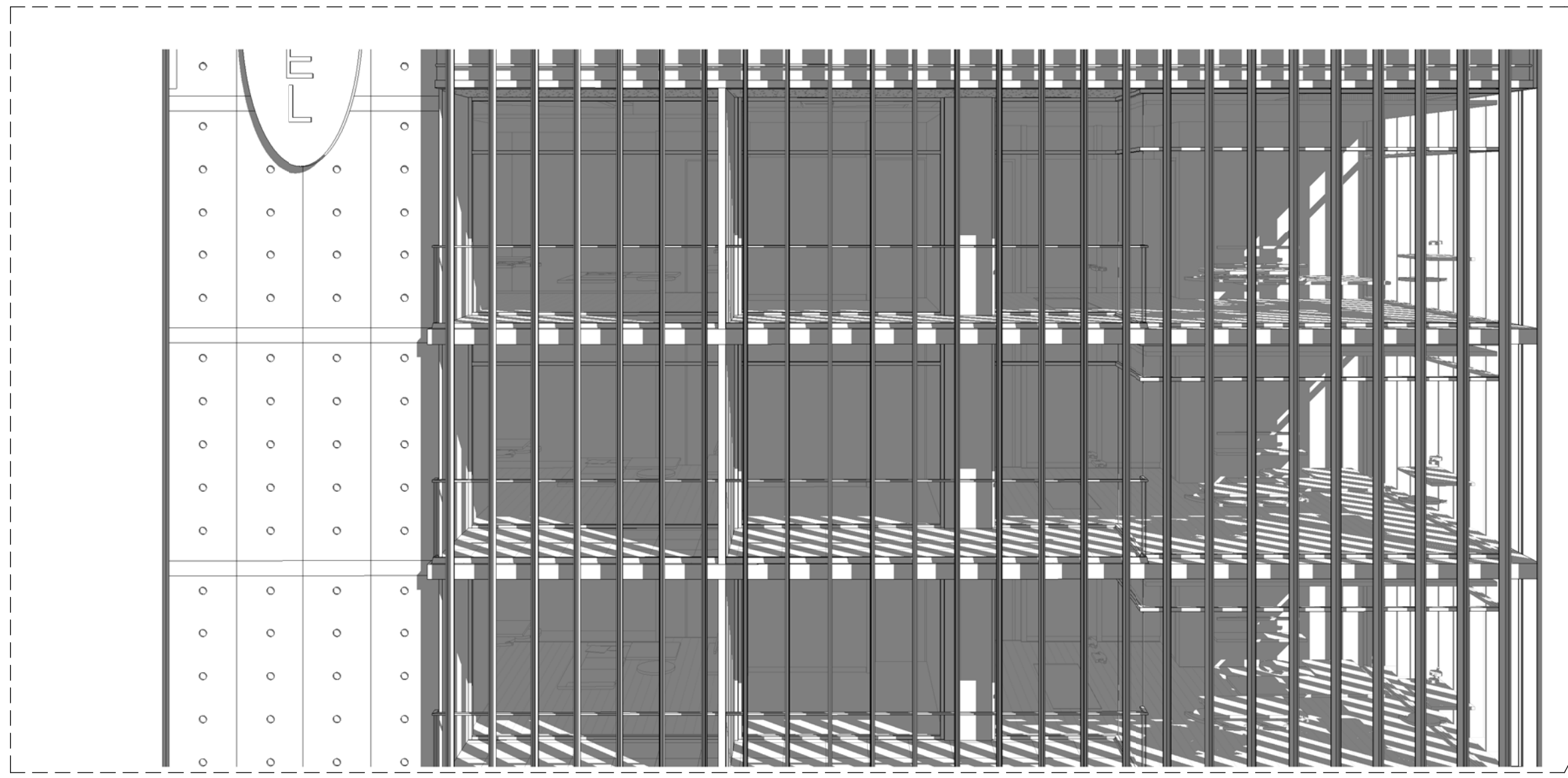
DA - View of Building above Top of Podium Level
- at Level 4 Pool Area



DA - View of Pool Swing Chair

DA - Image of Dedon Swingrest - Swings
- Canope Chair - Natural

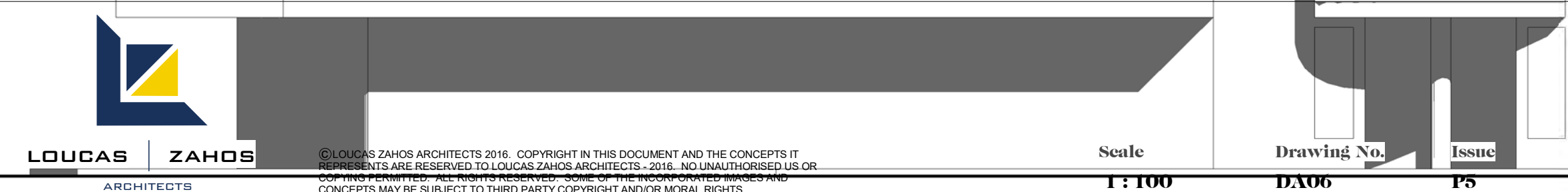
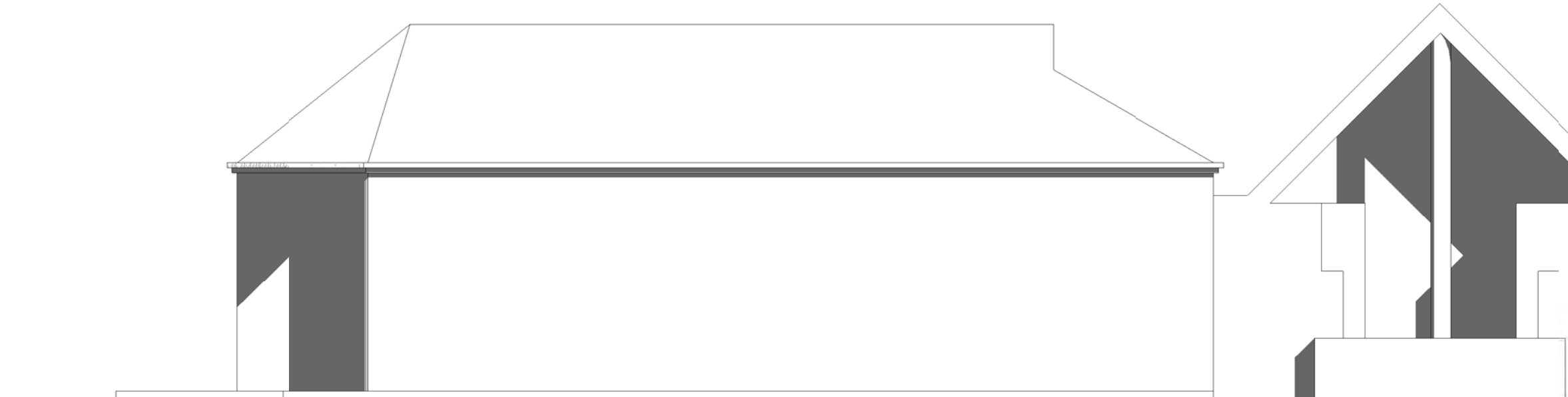




1D DA - Building Top View
DA06 Scale



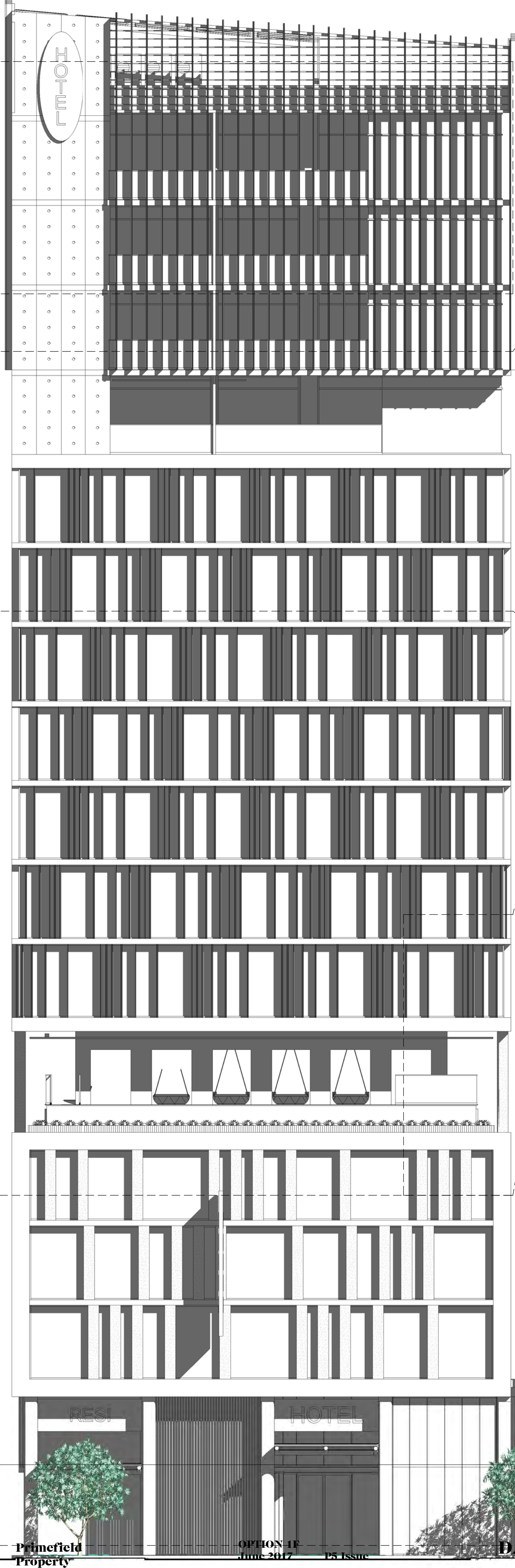
1A DA - Podium Base View
DA06 Scale



TOP OF BUILDING

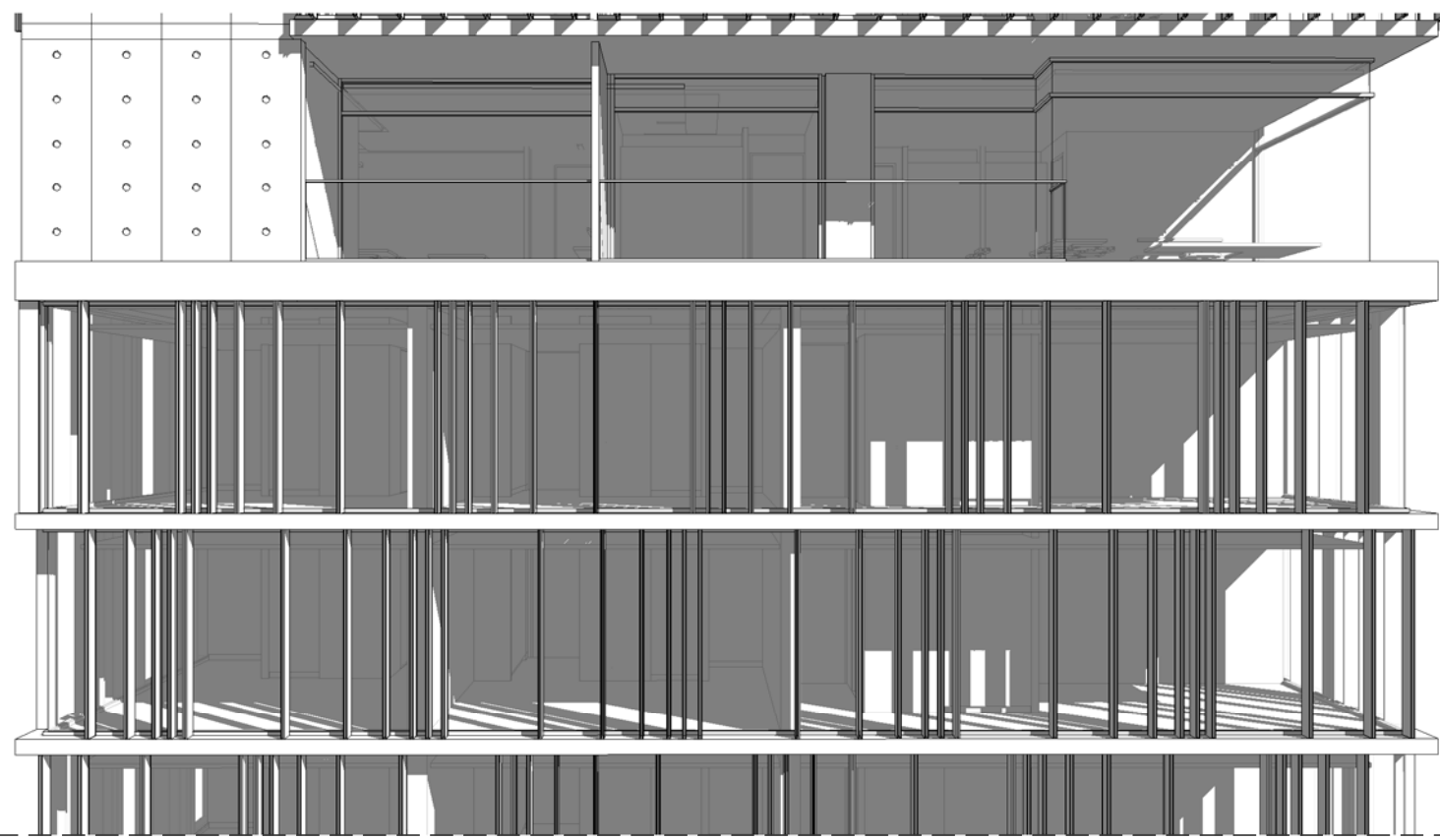
MIDDLE SECTION

PODIUM BASE

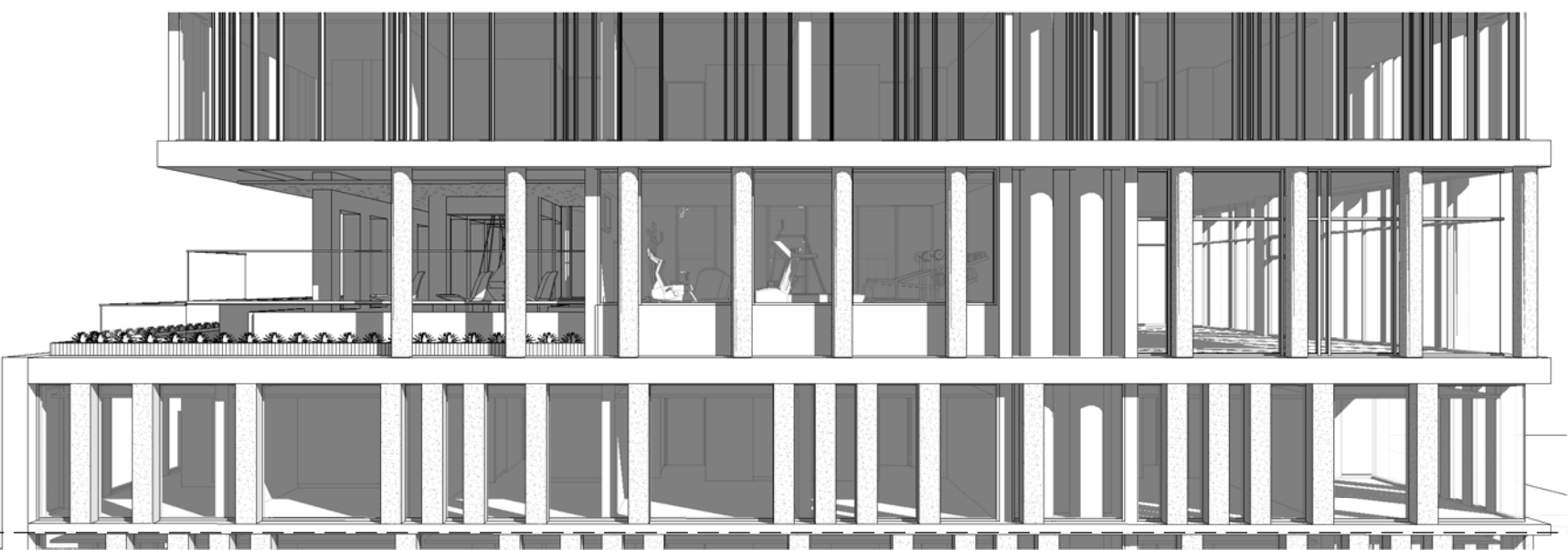


The top - The top of the building aims to significantly move away from the rationale of the lower "hotel levels". It provides identity to the residential element of the building, a different use. Gone is the random articulation which is the hotel. The upper residential levels are about providing a veil, which is repetitive, rather than random, that protects the residential facade, and provides and contrasts in materiality and detail from the heavier masonry hotel facade. The plan aims to maximise views and compliment the frequent occupancy of the apartment residences. The differing articulation aims to accentuate the distinctive functions of the two building segments.

1C DA - Middle Building View
DA06 Scale

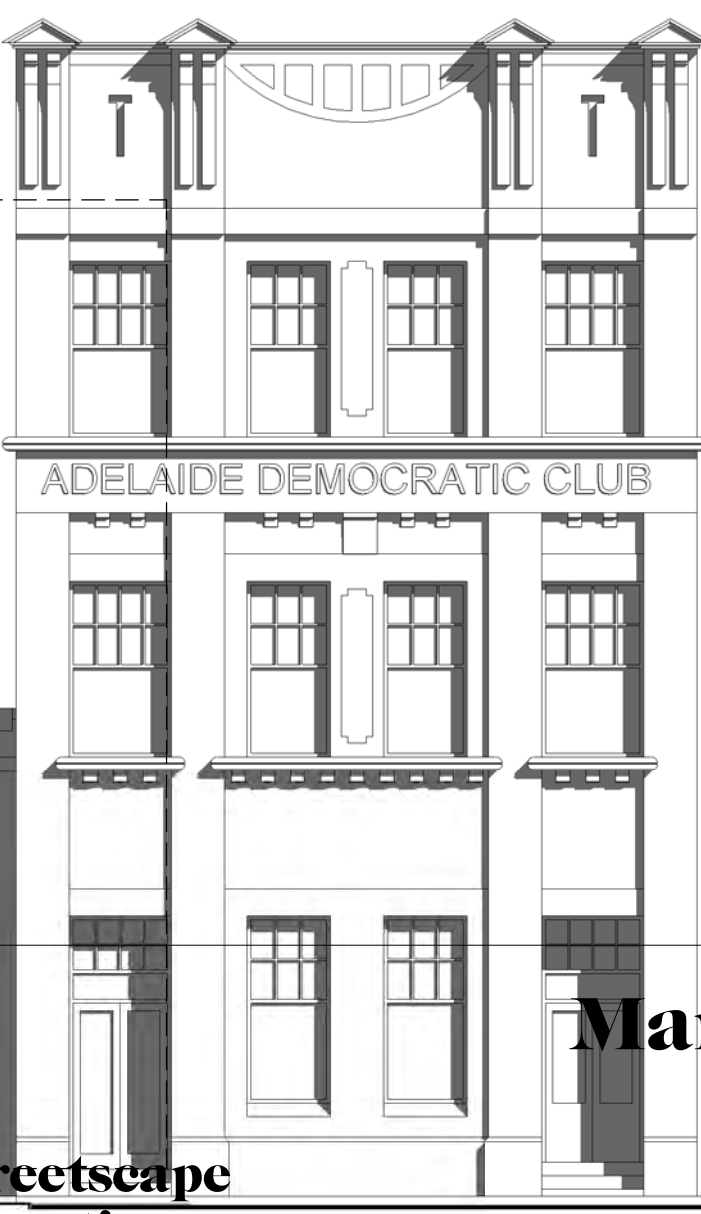


The middle - Articulated facade with Fibonacci relates to hotel component of the site. The series simply provides a mathematical approach to providing vertical articulation that does not appear repetitive. More importantly the random articulation provides solidity to what would otherwise be a glazed hotel facade. It provides a level diversity within the hotel rooms and plays/complements the infrequent occupancy evident in hotel rooms. It represents the random use and occupancy of hotel rooms. The fins which form this pattern also provide shading to the West and East facades. The tower is setback 3.4m from the Adelaide Democratic club as a mark of respect to the current context of the area, allowing the Adelaide Democratic Club to "breathe".



1B DA - Podium Top View
DA06 Scale

Podium - The podium helps to create a sense of enclosure for the street. The massing of the building relates to the adjoining heritage building. The use of strong horizontal and vertical masonry elements grounds the building at those levels and reflects a contemporary interpretation of the adjoining building with its vertical and horizontal projections, without mimicking the building form of the Adelaide Democratic Club. The recessed Resident entry and set back restaurant facade borrow from the adjacent intimate spaces and alleyways of the precinct. The large panels of butt jointed glass help to create a visually permeable and transparent facade increasing visual interest at street level. The outdoor restaurant dining area helps to create a more active and vibrant frontage that contributes to visual interest in the Market street, and is open to the sky allowing glimpses of the adjacent red brick wall and a fine grained junction between new and old.



1 DA - Streetscape Elevation
DA06 Scale 1:100

Market Street Development

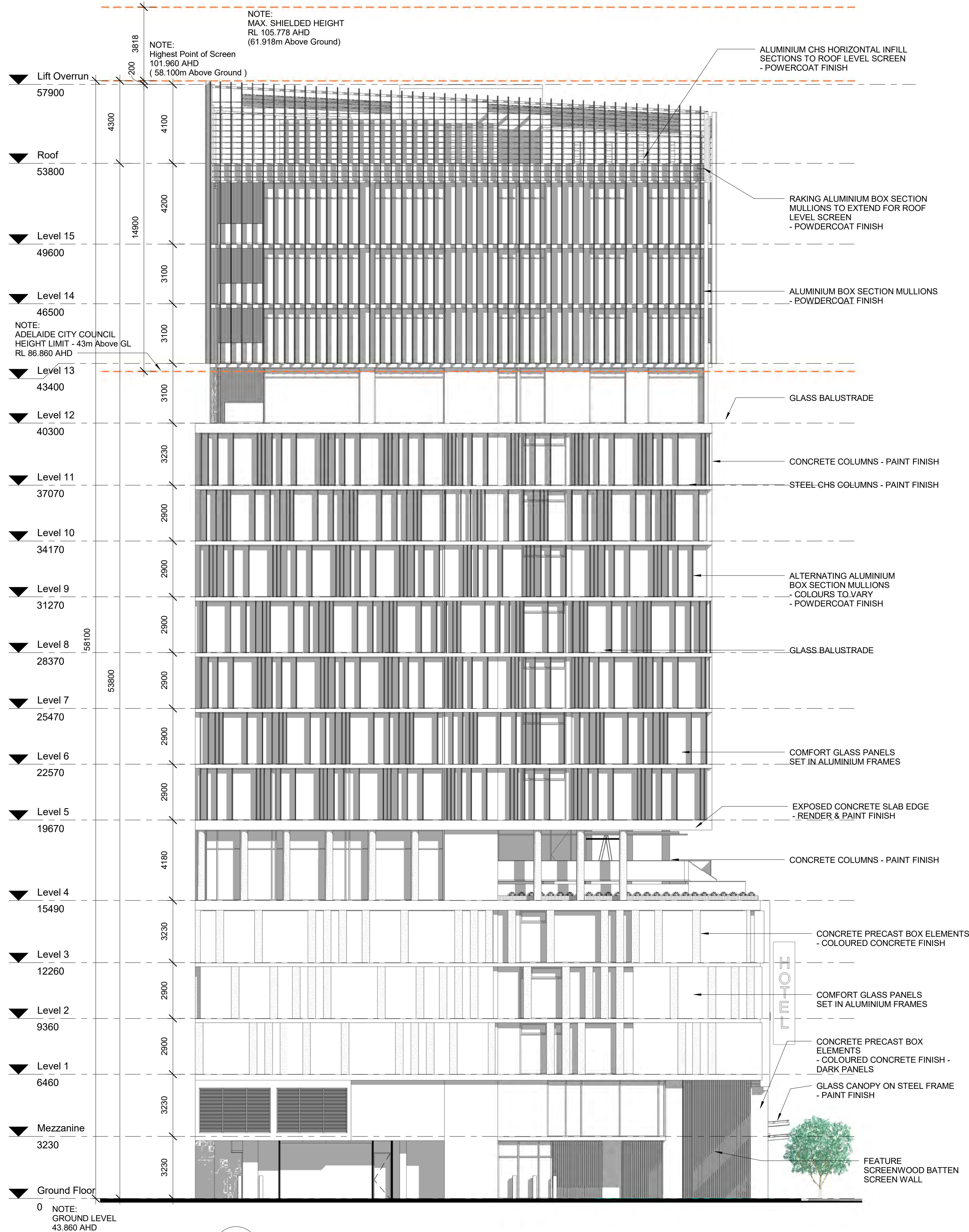
23-29 Market Street

Primerfield Property

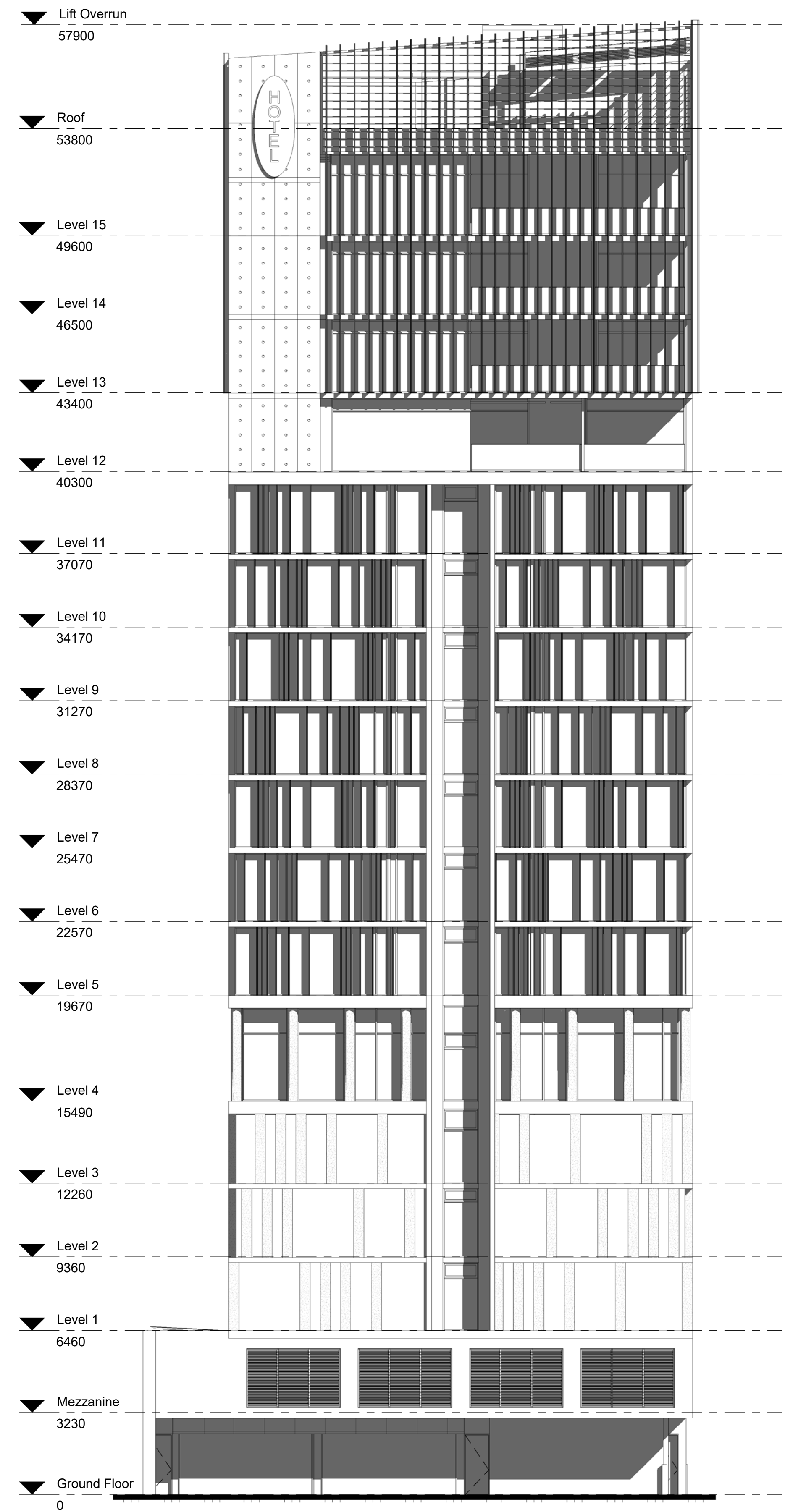
OPTION 1F June 2017 P5 Issue

DA06

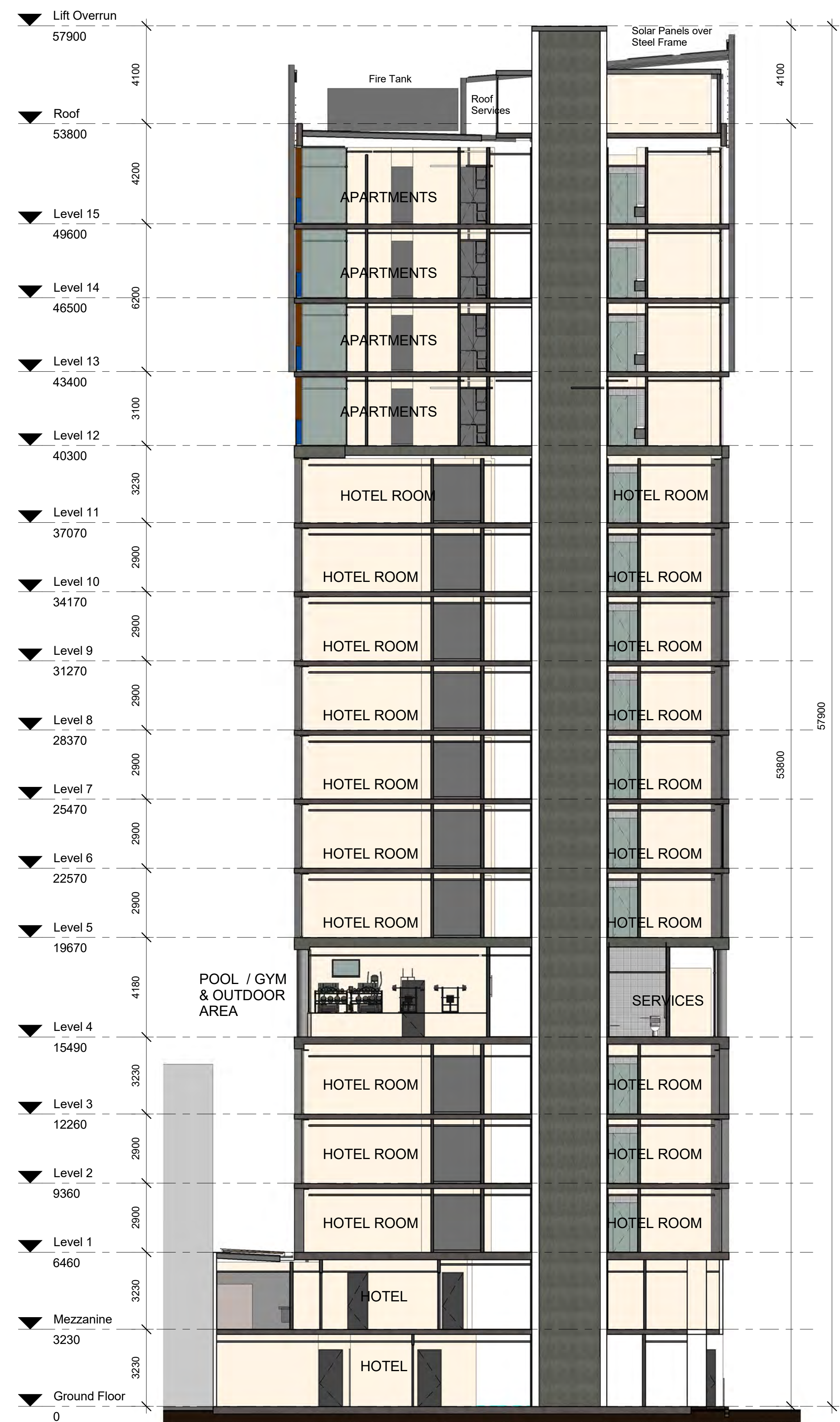
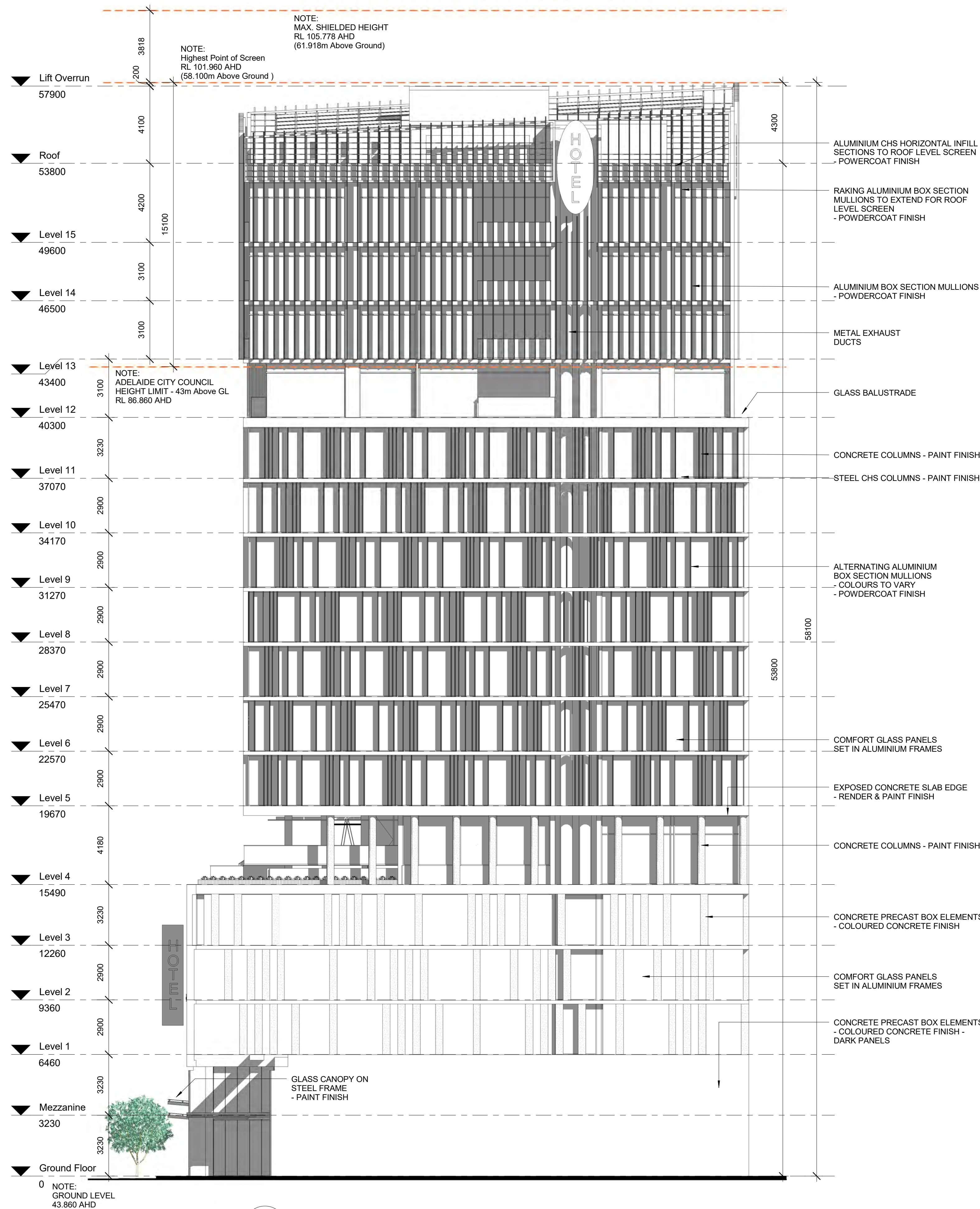
Streetscape Elevation & Perspective Views



1 DA - South Elevation
Scale 1 : 125



2 DA - West Elevation
Scale 1 : 125





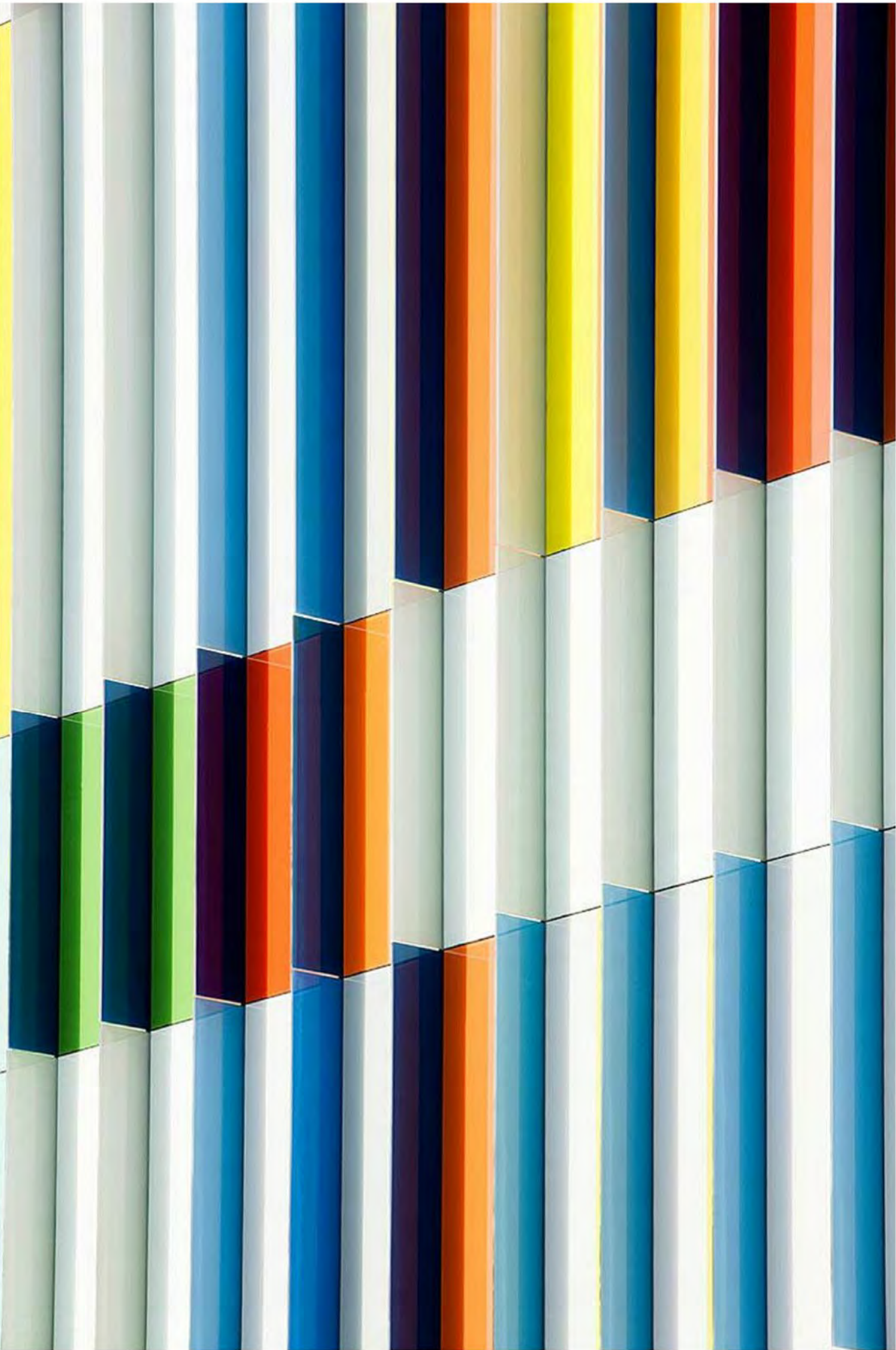
Oxford Biochemistry Center by Hawkins Brown



AHL Headquarters by Candalepas Associates



PINC Pavilion by Clínica de Arquitectura



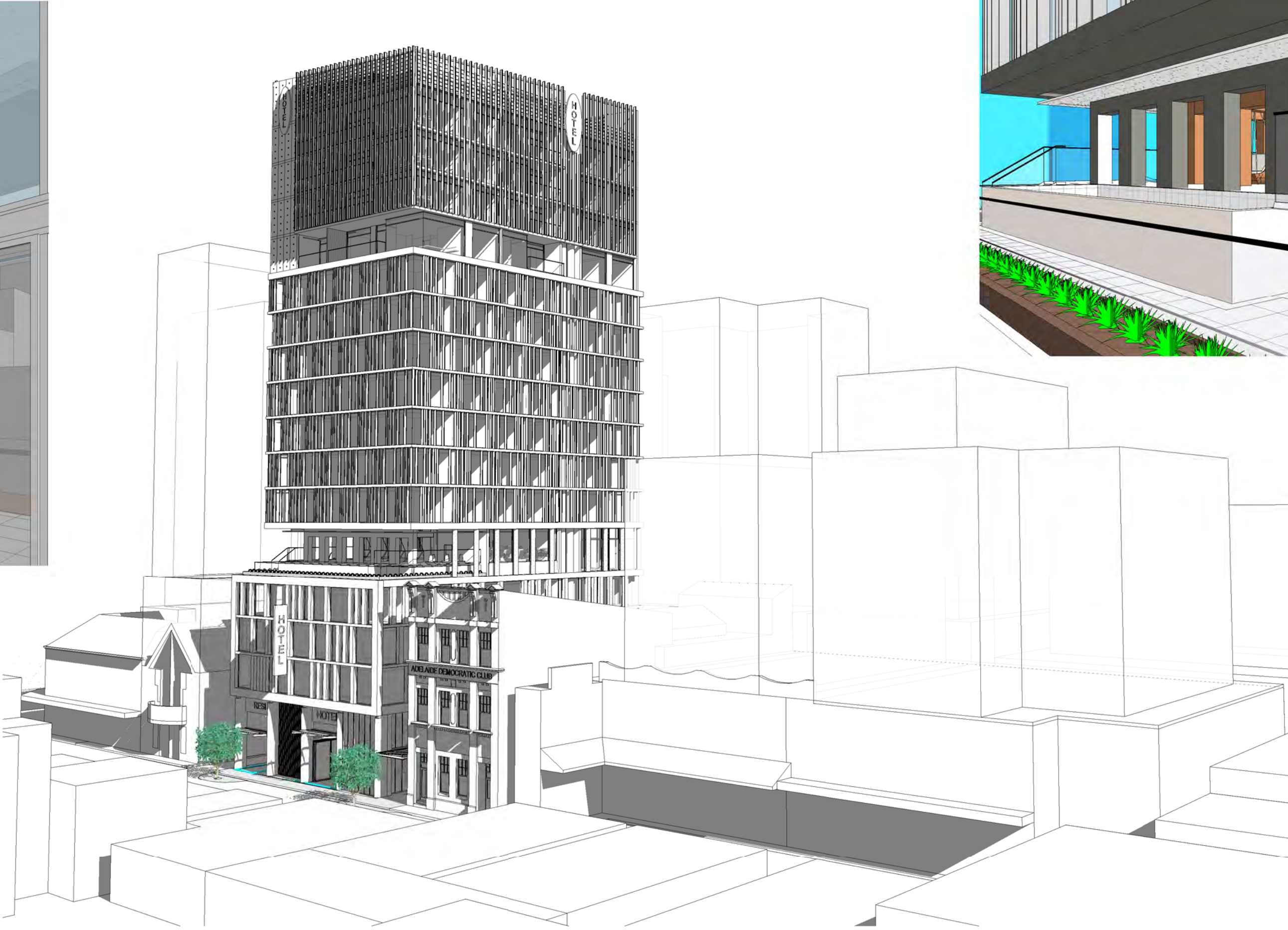
The Academie MWD by Carlos Arroyo



1 Current Massing - DA Scale



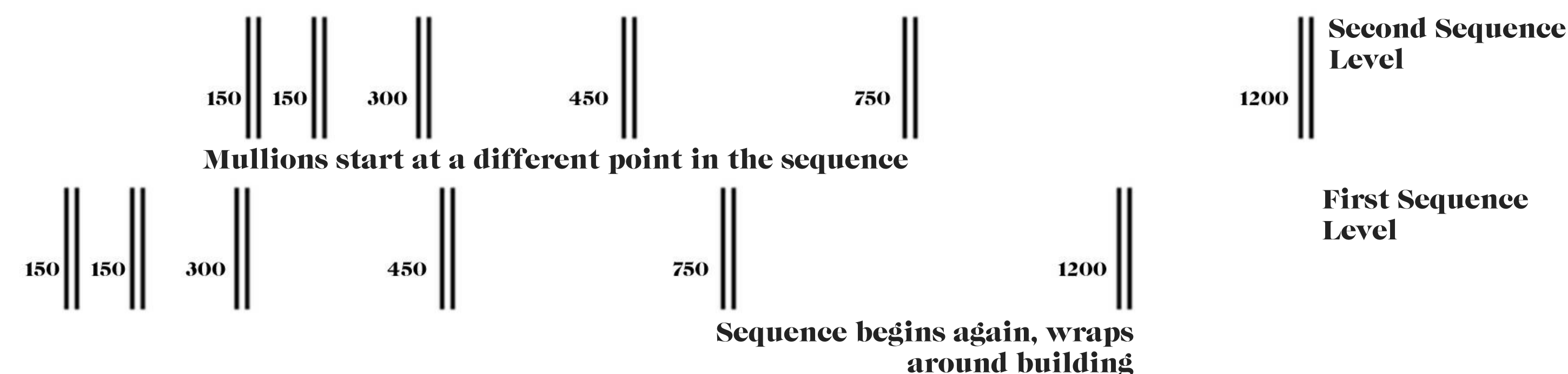
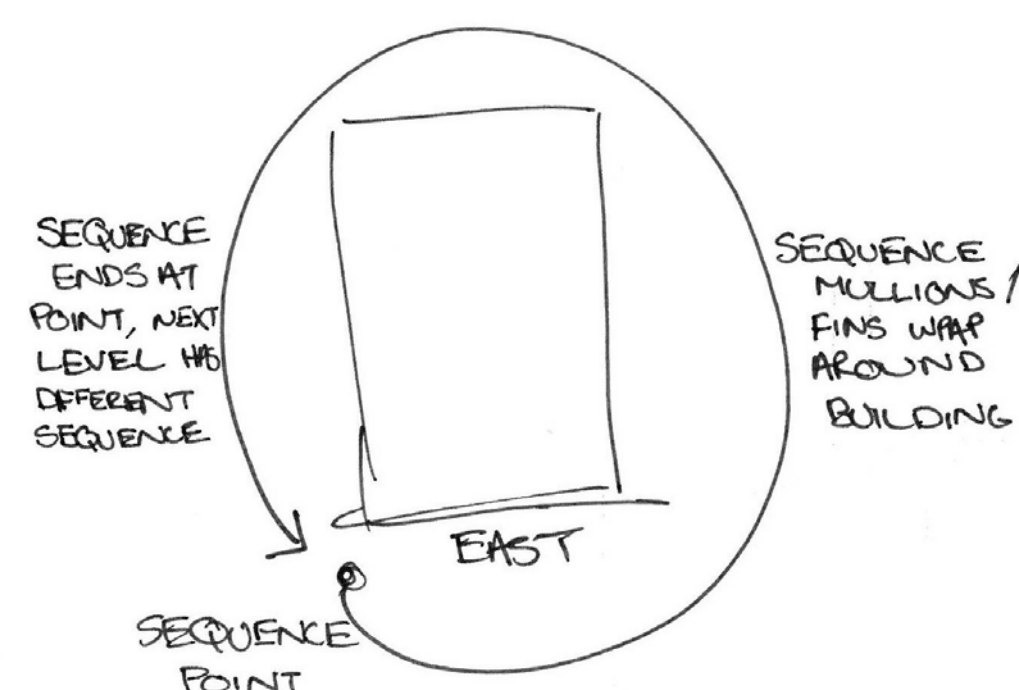
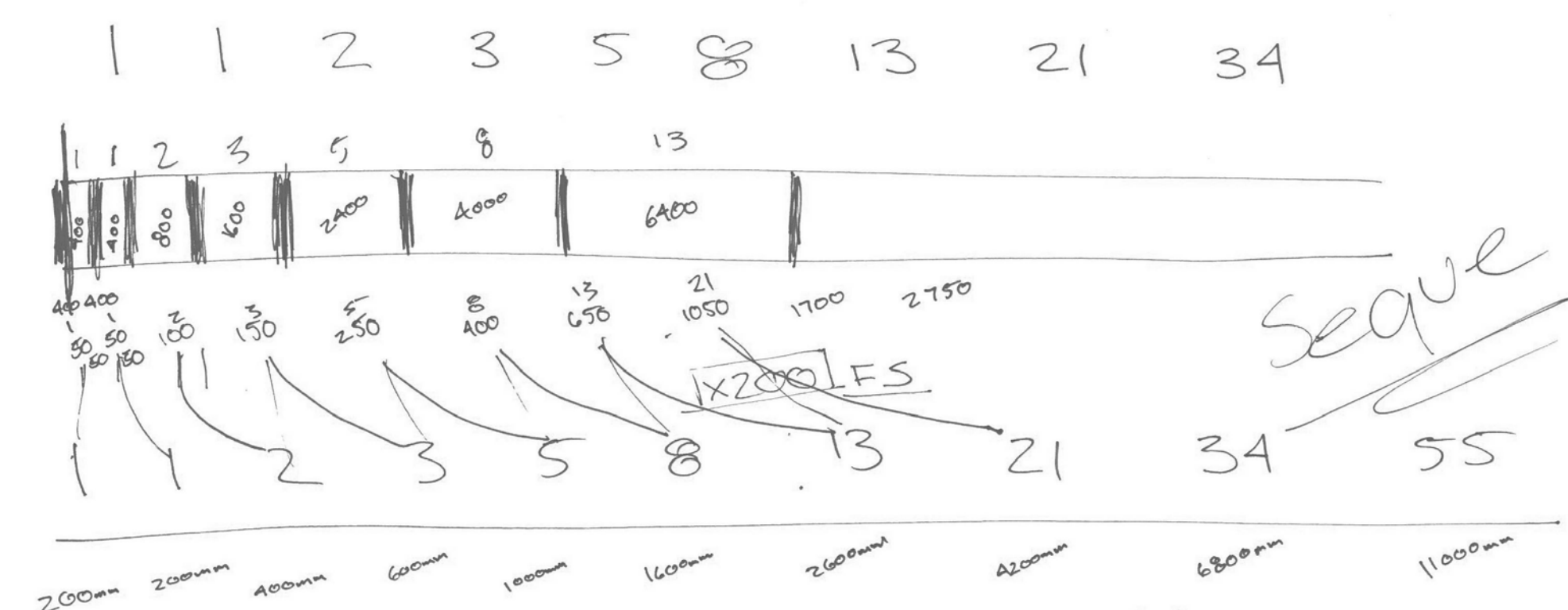
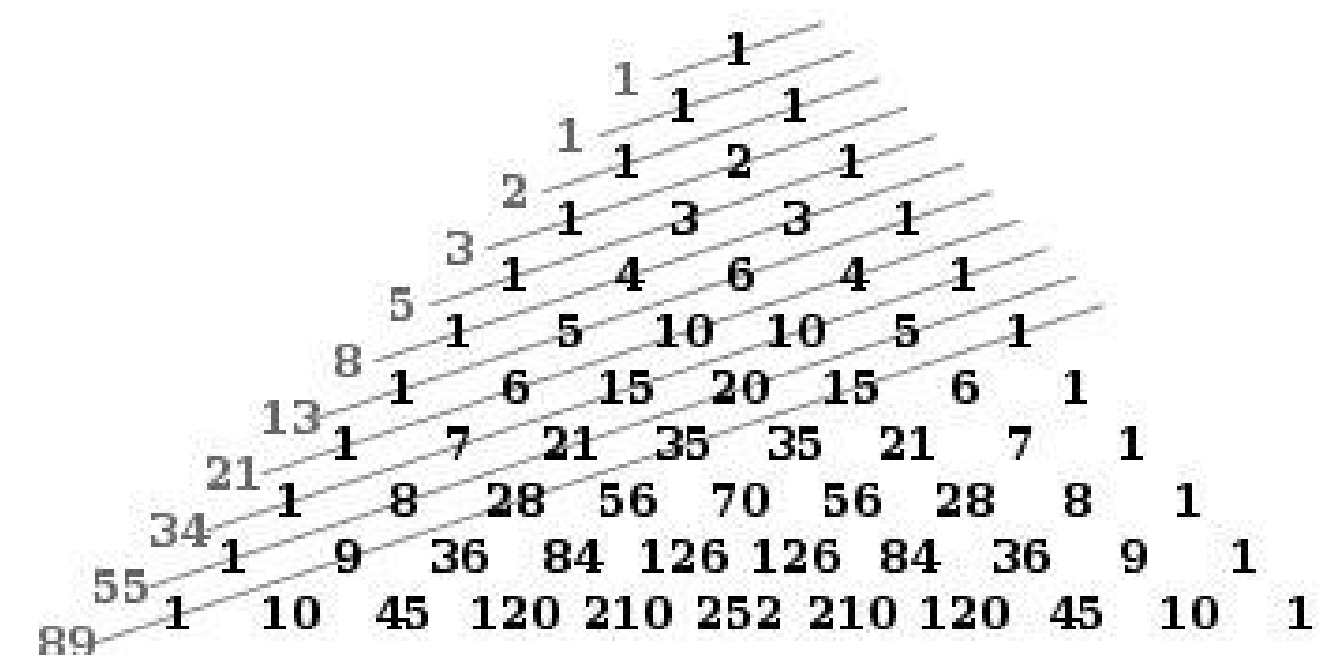
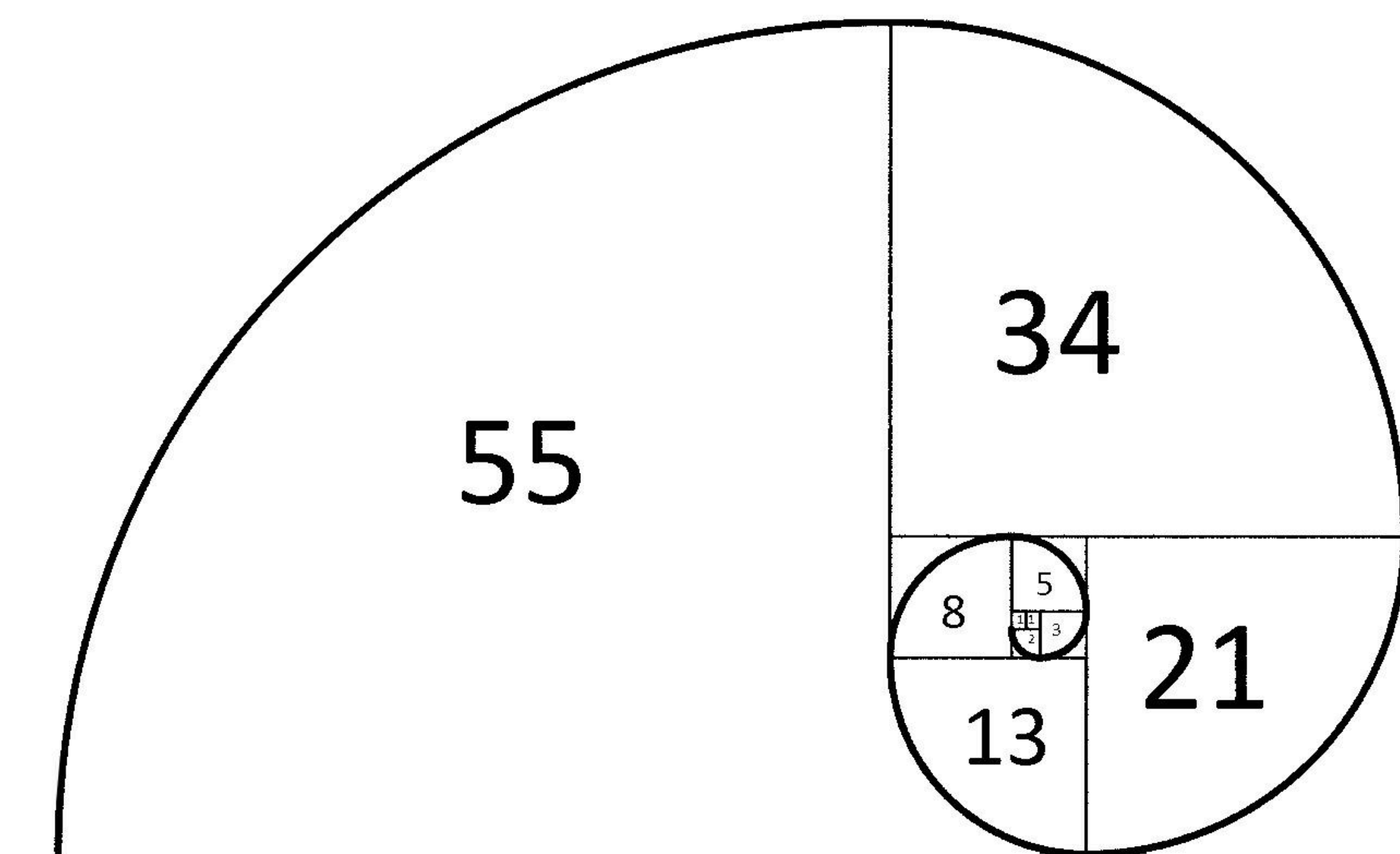
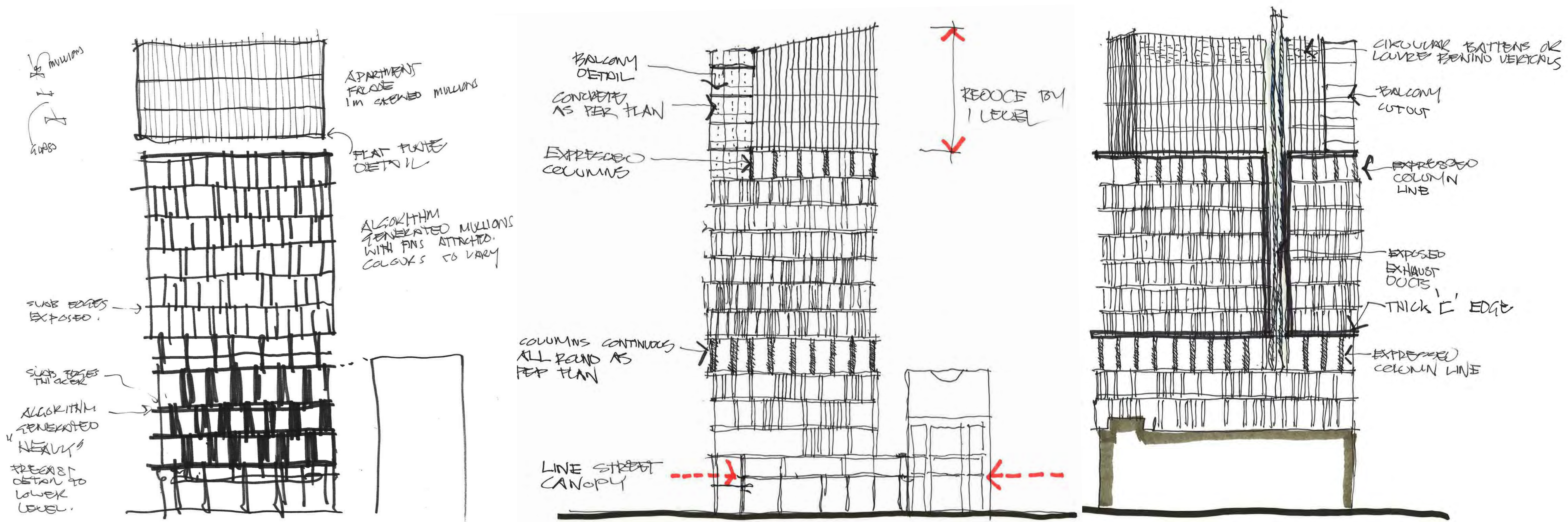
3 18 - Feature Stair View Scale



2 Future Possible Massing - DA Scale

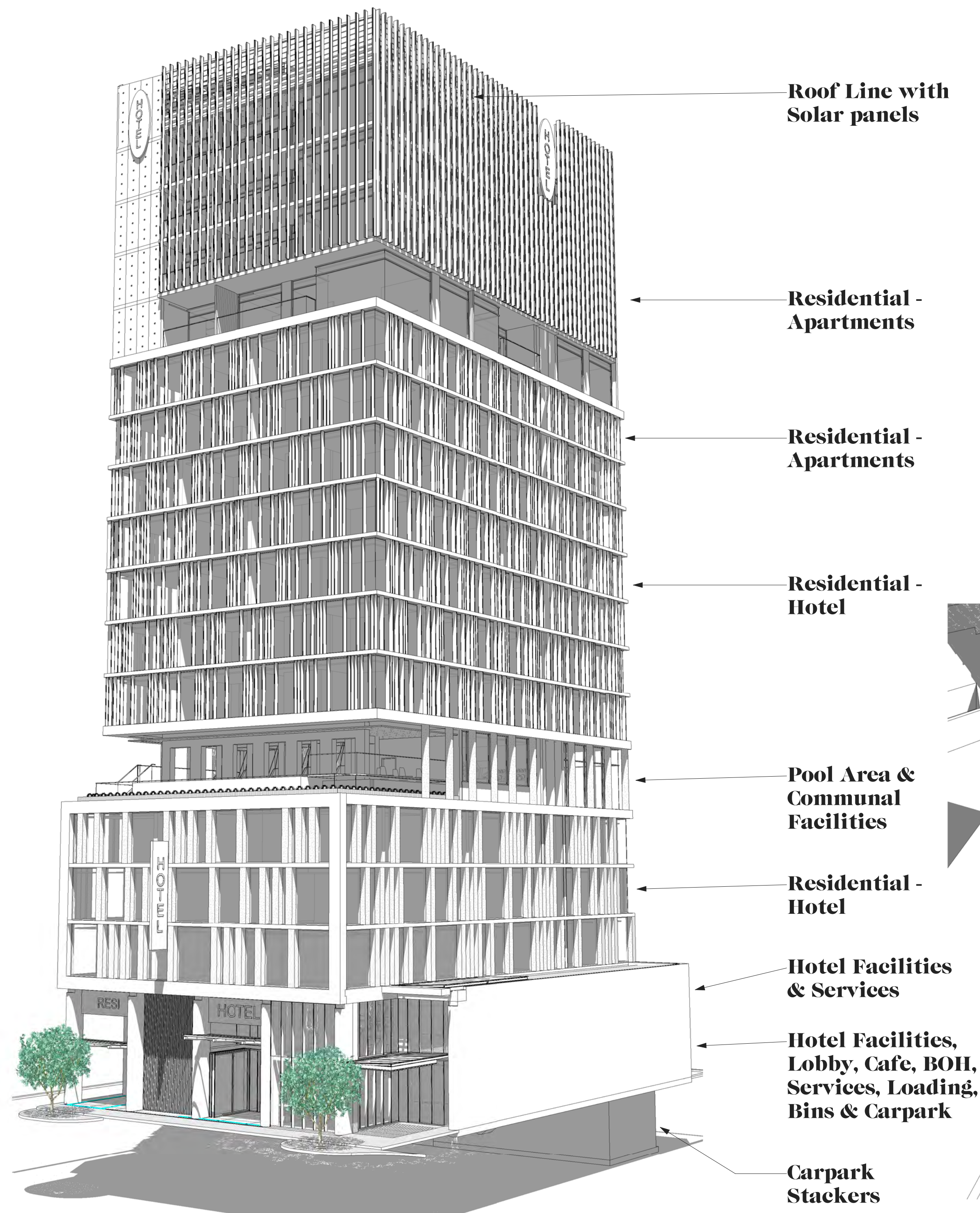


4 17 - NE Pool View Scale



Six sequence number.

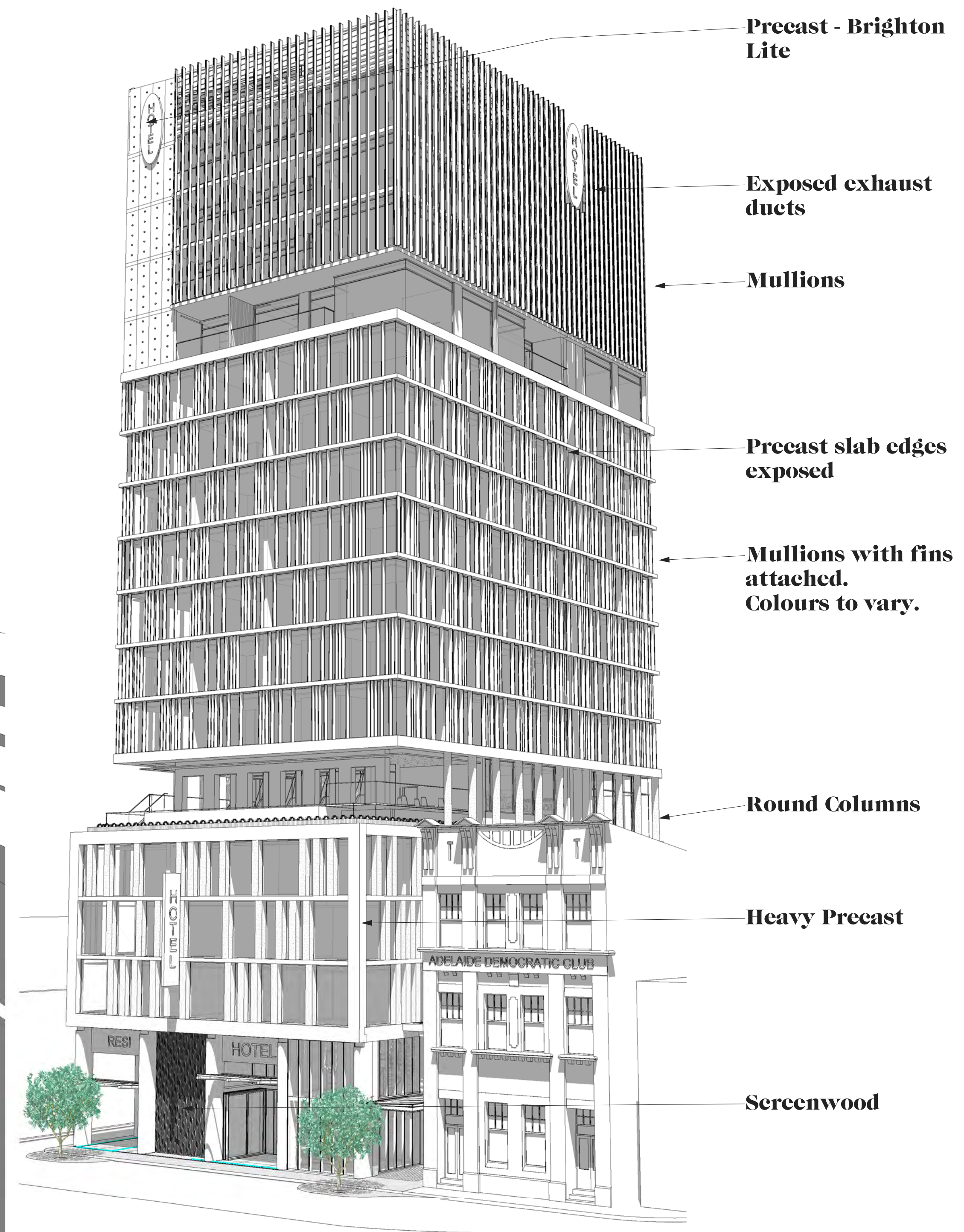
Sequence begins again, wraps around building



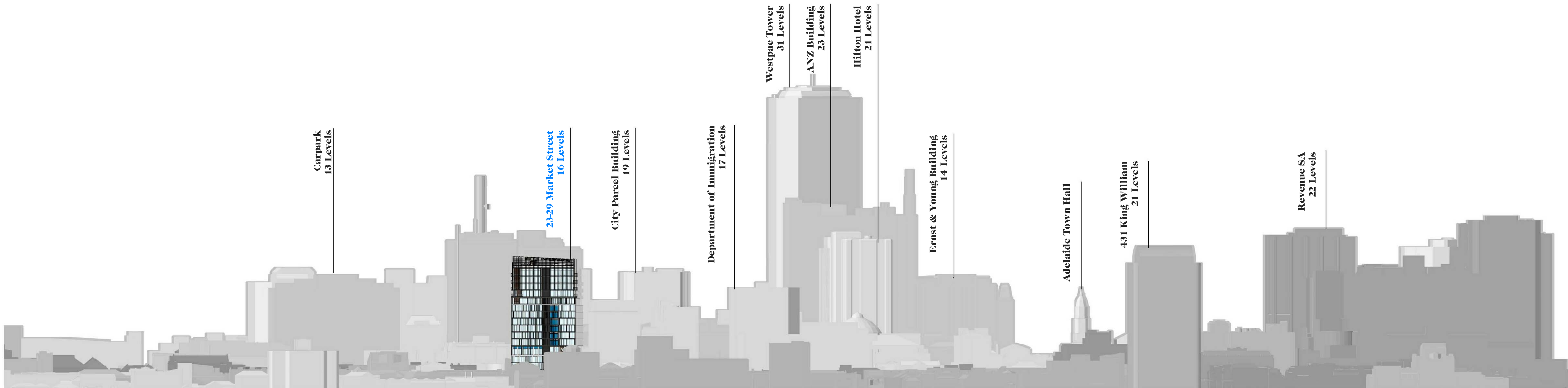
3 Building Sections
DA11 Scale

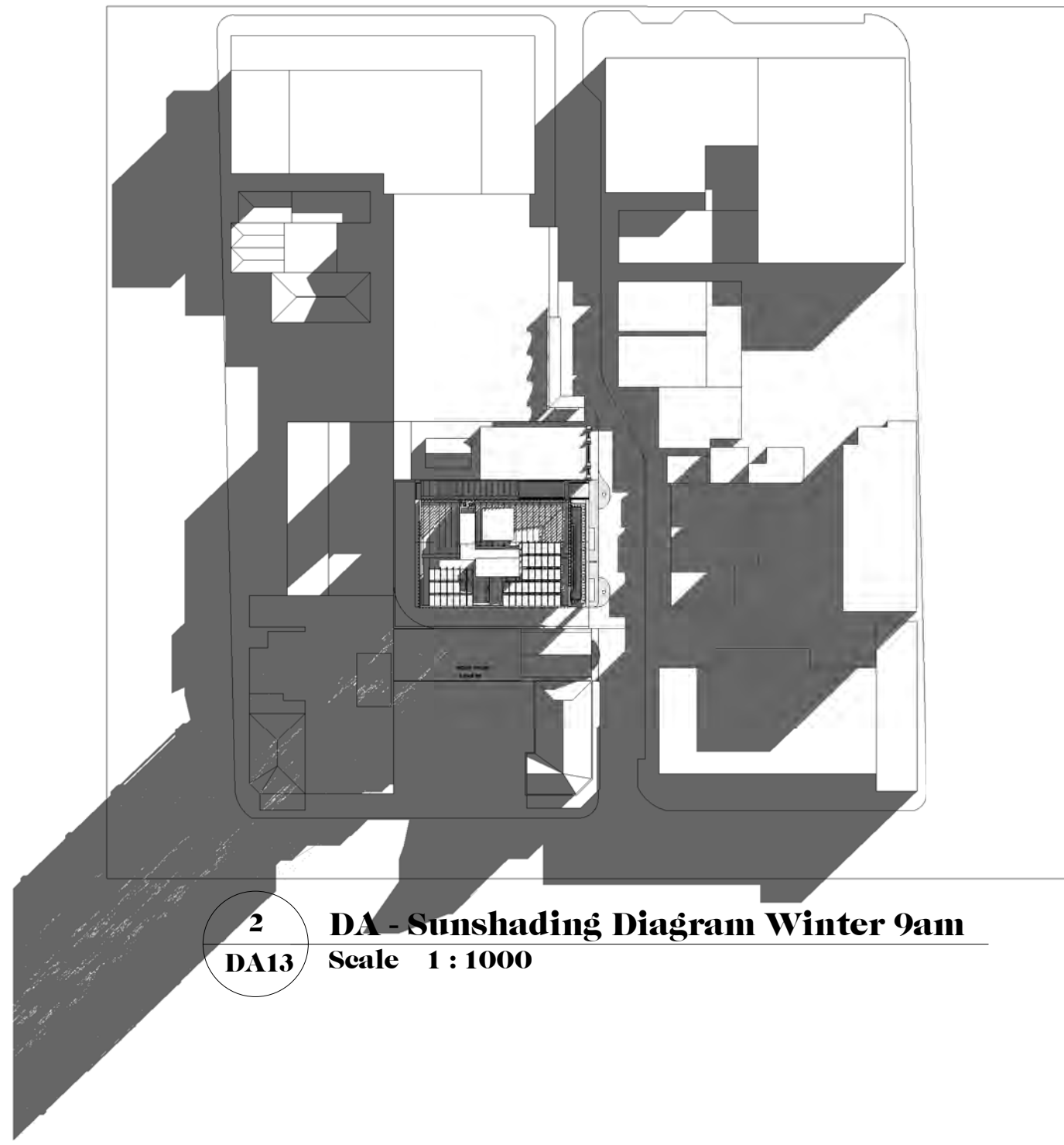


2 - 3D View - SE Birdseye View
DA11 Scale

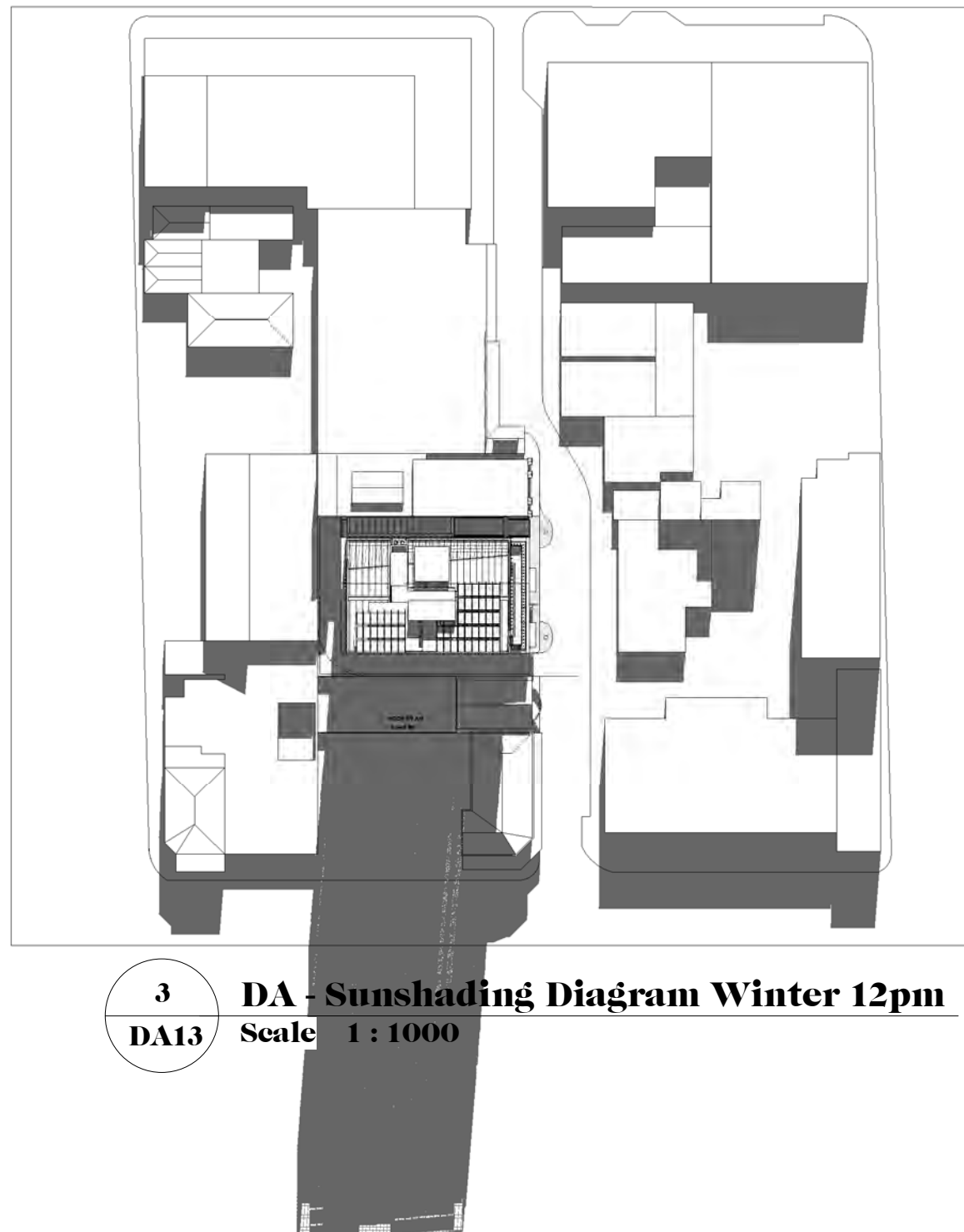


1 North East View - Finishes
DA11 Scale

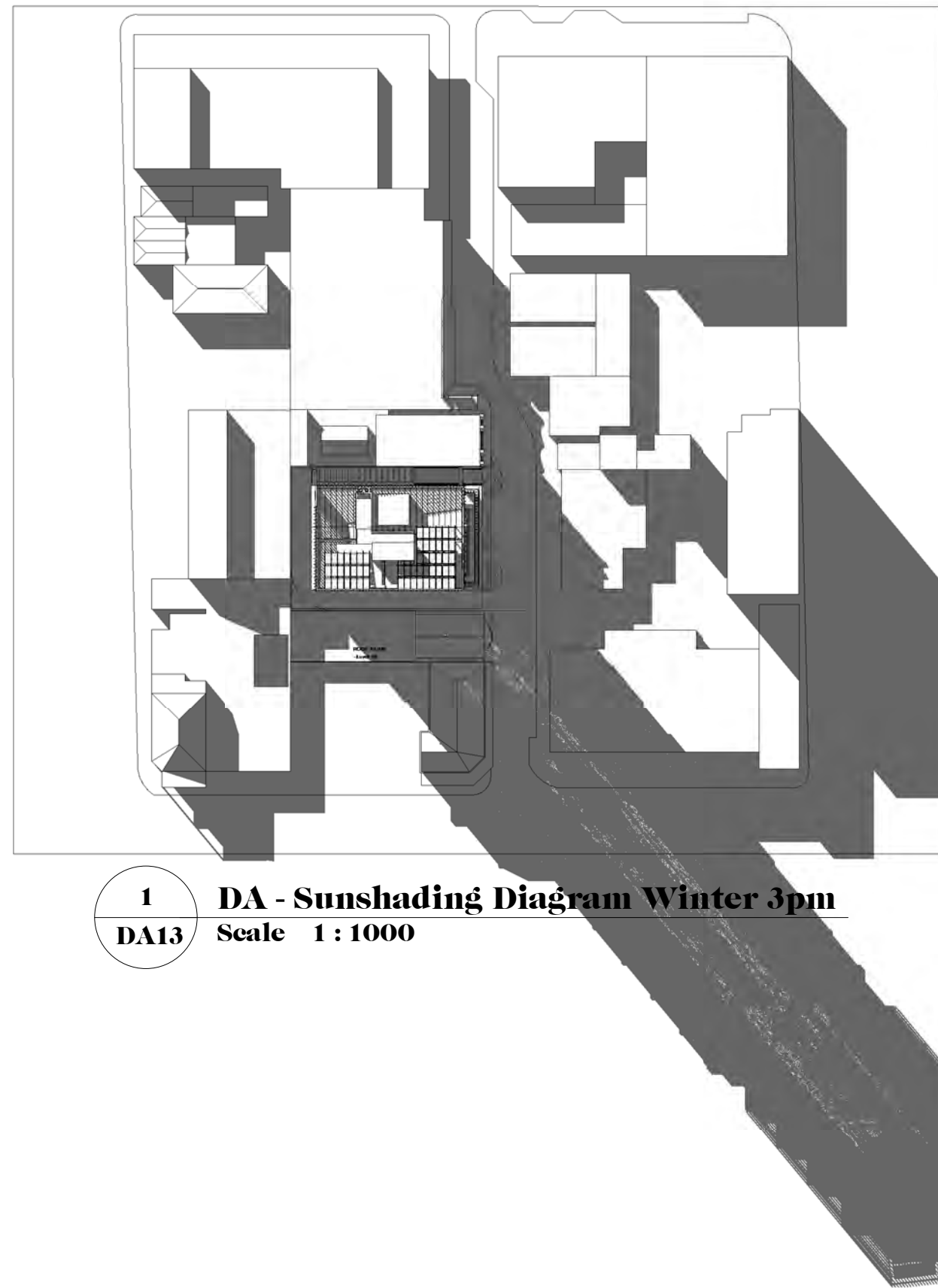




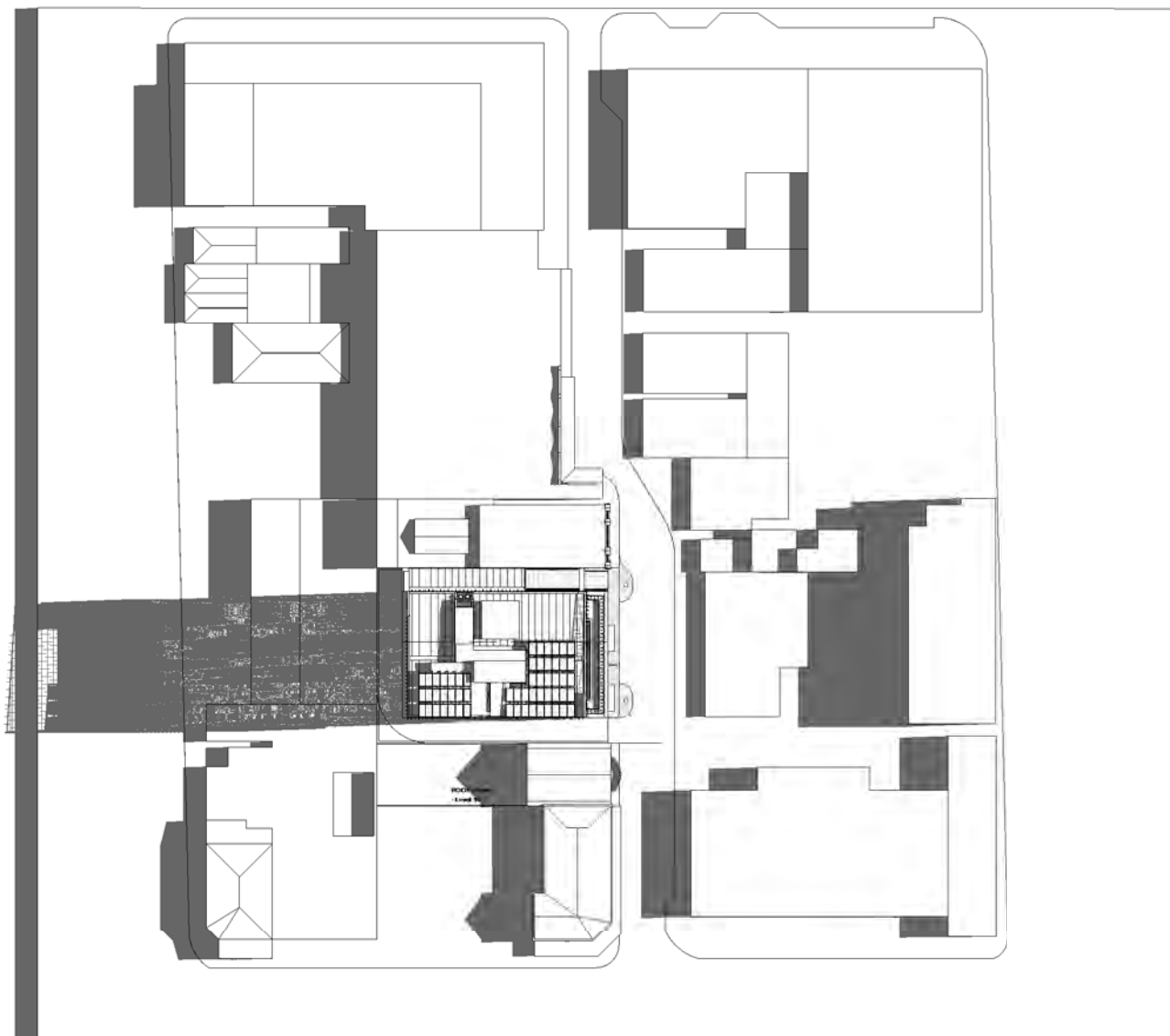
2 DA - Sunshading Diagram Winter 9am
DA13 Scale 1 : 1000



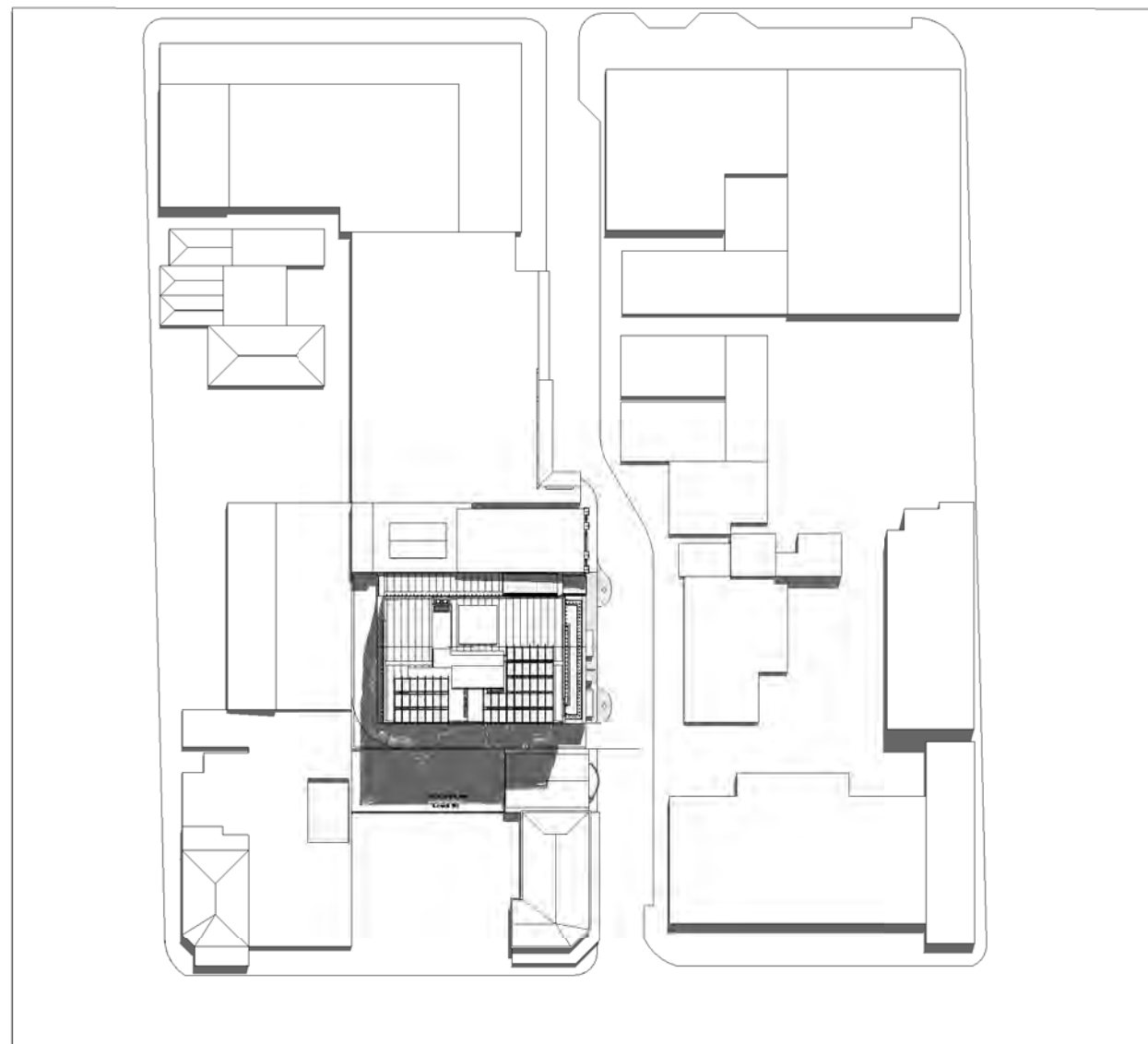
3 DA - Sunshading Diagram Winter 12pm
DA13 Scale 1 : 1000



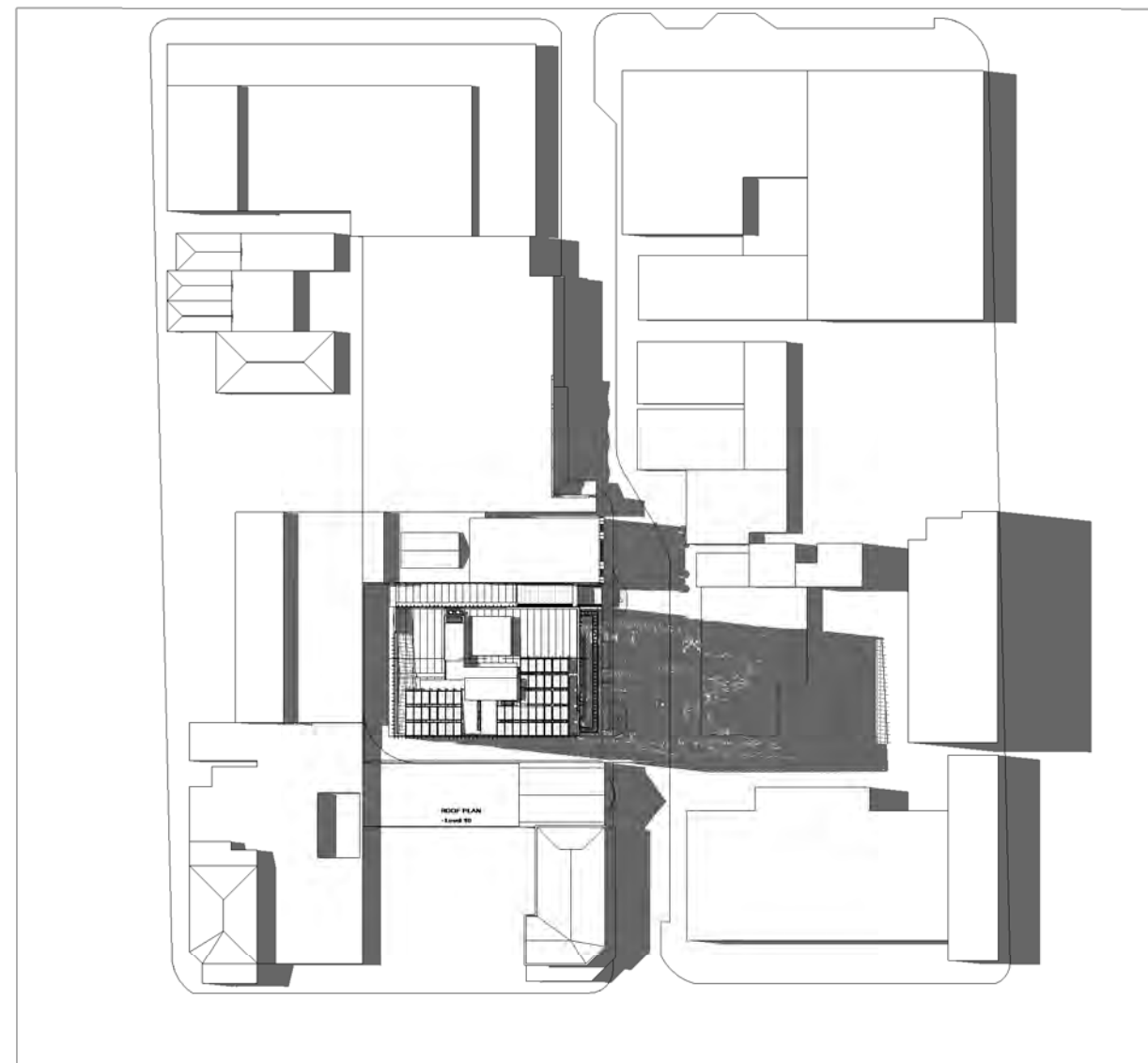
1 DA - Sunshading Diagram Winter 3pm
DA13 Scale 1 : 1000



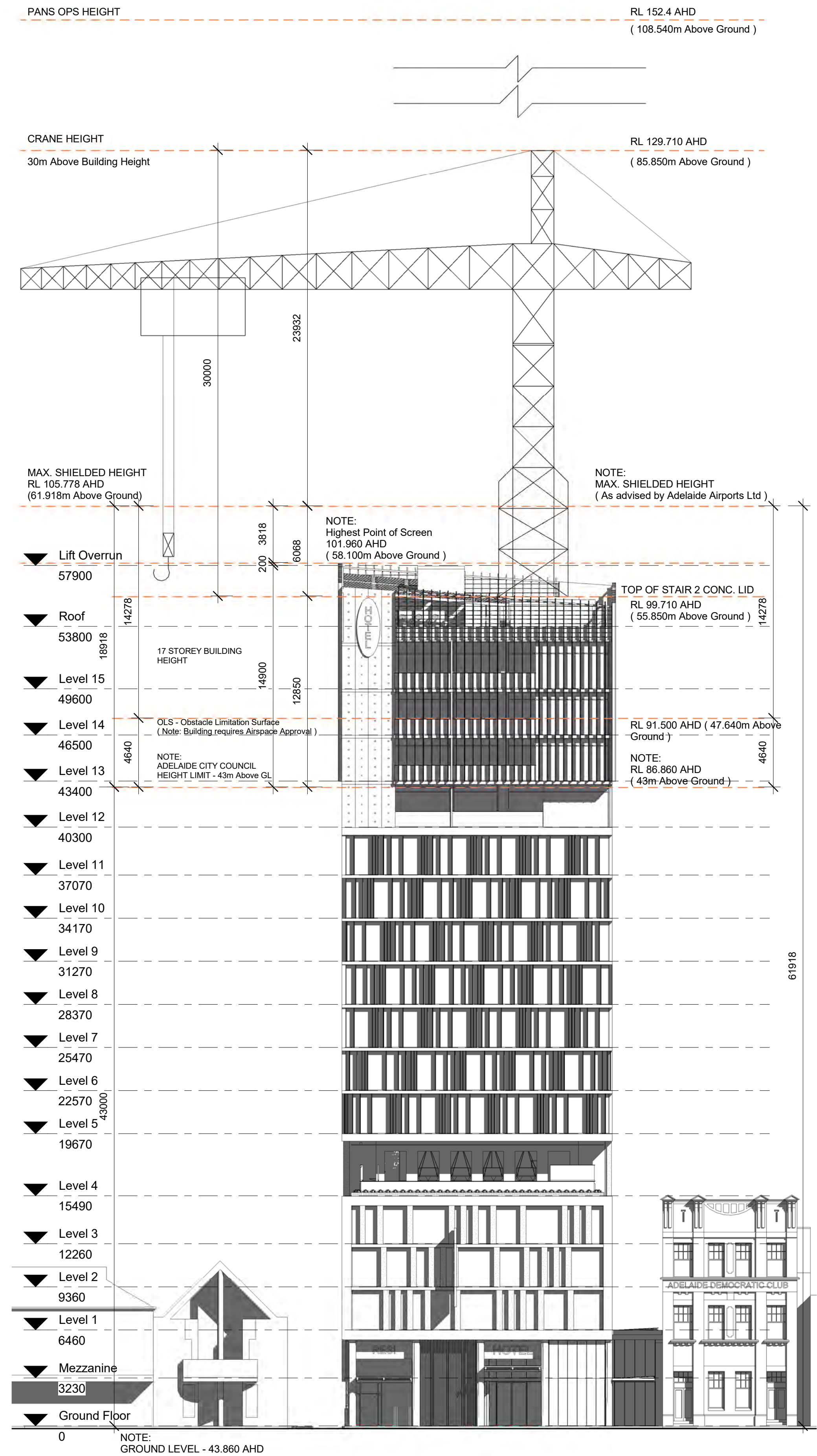
4 DA - Sunshading Diagram Summer 9am
DA13 Scale 1 : 1000



5 DA - Sunshading Diagram Summer 12pm
DA13 Scale 1 : 1000



6 DA - Sunshading Diagram Summer 3pm
DA13 Scale 1 : 1000



7 DA - Height Limitation Analysis - East Elevation
DA13 Scale 1 : 200



Fully Operating Bar with undermount fridges, sinks, storage and joinery

Flooring
Large format porcelain tiles with R10 slip rating

Timber floor to step platform under fixed seating

Amenities fixtures and finishes to match public amenities

A space that is set to soar to the next level, a rooftop Bar at Market St Hotel and residence. This bar will inject new life and meaning into the term 'hot spot'.

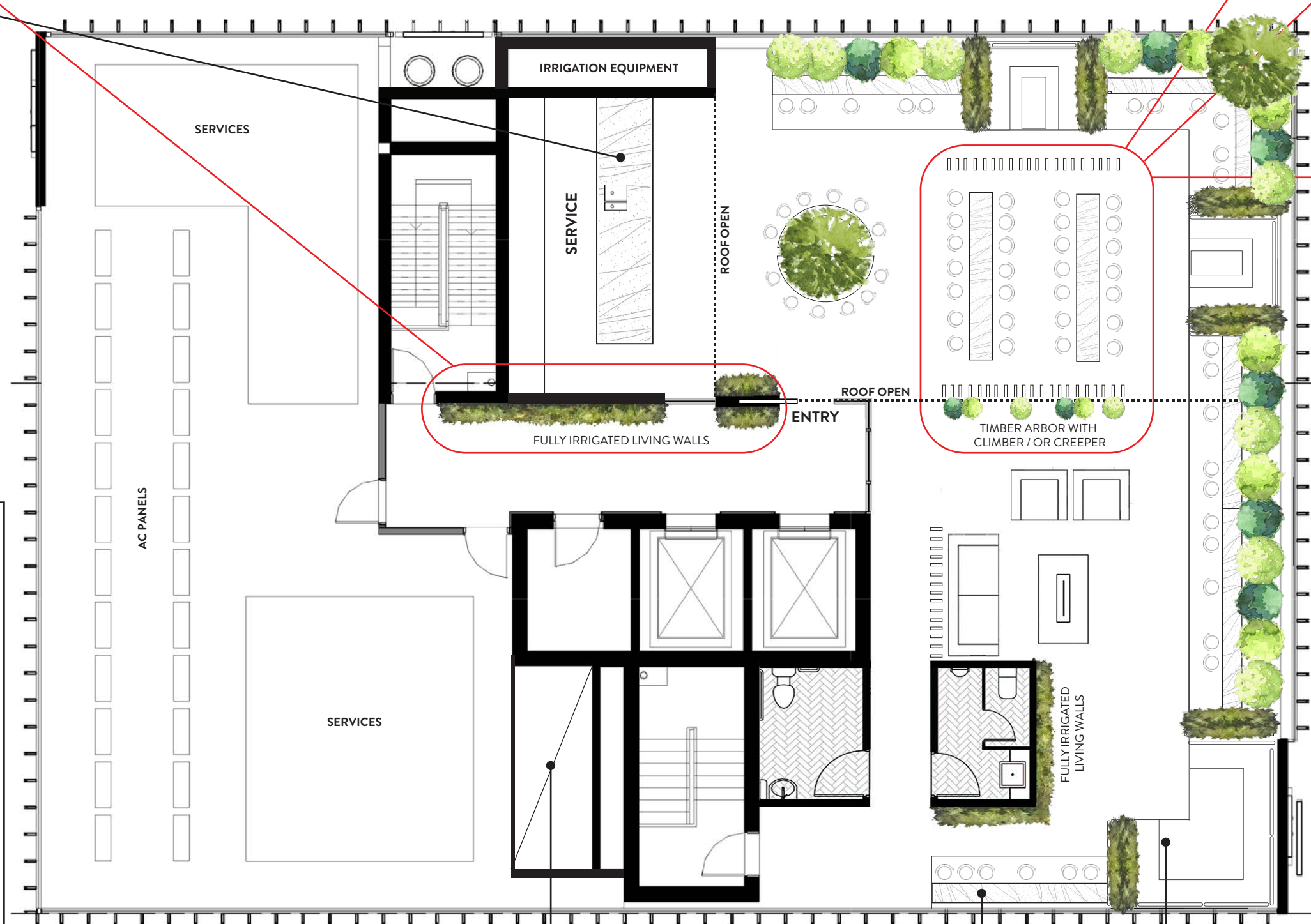
This incredible, alluring space will be 'the' place to be seen in Adelaide's CBD, with potential for events held, including films and live sports screening on a state of the art, open air screen.

A Bar area providing plenty of space to enjoy alfresco drinking and eating, making it easy to while away an entire evening with wine and nibbles, in one of the rooftop's many comfortable, private seating pods or communal tables.

Featuring lush plantings with the option of plenty of shade or be open to the sky, think of the rooftop as a chic and happening extension of either your living area or short term stay.

A flexible, cutting edge space to enjoy the sunshine or the stars while socialising, mingling and making the most of city life living and visiting.

Born of the type of progressive thinking that runs through every aspect of this popular address, Market St Hotel and Residence's rooftop will be unlike anything you've seen in other hotel or apartment buildings and will truly be its crowning glory.

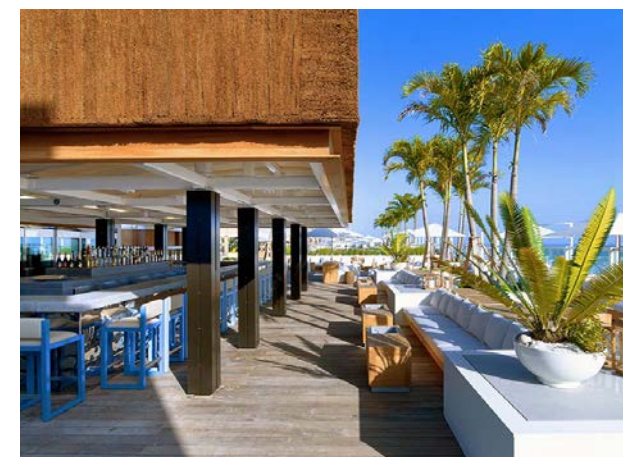
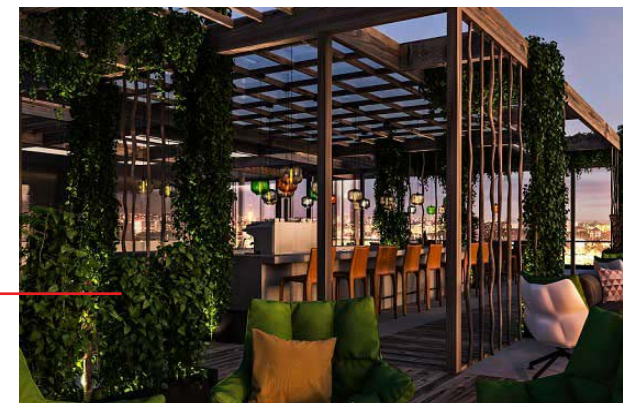


ROOFTOP GARDEN LEVEL P1

Battery Back up.
Invertors for Rooftop
Solar Panel System

Fixed standing benches
with stools

Timber constructed
seating.
Fully intergrated plater
boxes.
Removable seat pads
with outdoor upholstery.



1

MULLIONS / FINS

DULUX 'ELECTRO'
BLACK ACE
POWDERCOATED ALUMINIUM
RESIDENCE LEVEL

2

FINS

DULUX 'ELECTRO'
BURNISHED COPPER
GOLDEN TOUCH
CANARY
BLACK ACE
POWDERCOATED ALUMINIUM
HOTEL LEVEL

3

SCREENING

TIMBER SCREENWOOD
GROUND LEVEL
TRANSFORMER
ENCLOSURE

4

PLANTING

NUMEROUS SPECIES
IN PLANTER BOXES AS SPECIFIED

FOYER, POOL AREA, ROOFTOP
and CROWN VERTICAL BLADE

5
SLAB
COLOURED CONCRETE
POOL and HOTEL LEVEL

6
BOOTHES / ARBOUR
'AMERICAN
WALNUT' OR
SIMILAR
ROOFTOP ARBOUR
and
POOL LEVEL
BOOTHES

7
COLUMNS / BLADE
SANDSTONE
CONCRETE
PODIUM LEVEL and
CROWN VERTICAL
BLADE



Markins Technology Centre, Bedia Berger Architects
George St, Candellapas Architects

Hinders Loft, Adelaide by Loucas Zahos Architects
The Accademia MWD by Carlos Amorós
Oxford Biochemistry Centre by Haskins Brown
Maison du Batiment d'Aquitaine, Bordeaux France renders by Motive Studio



ATTACHMENT 2

SITE PHOTOGRAPHS



Market Street – View from south (taken across Wright Street)



Market Street – View from south



Subject Land at 23-29 Market Street



Local Heritage Places at 20-30 Market Street (opposite subject land)



Market Street - View from south



Adelaide Democratic Club Building



Market Street midpoint – view from south



Market Street midpoint – view from north



Market Street midpoint – view from north



Market Street – view toward Gouger Street / Central Market



Market Street midpoint and HaselGrove Building – view from north



Haselgrove Building – view from north

ATTACHMENT 3

APPLICATION DOCUMENTS

DEVELOPMENT APPLICATION FORM

Please be advised that if insufficient or inadequate plans/information is submitted, this will delay the assessment of your application.

A guide to the required documentation is available online at:
adelaidecitycouncil.com/planning-development/building-renovating/development-approvals/lodging-application



OFFICE USE ONLY

Zone:

Heritage:

TRIM:

DA #:

APPLICATION TYPE *

☒ Development Plan Consent

(Planning only & includes removing/pruning a significant tree)

☐ Building Rules Consent

Required: Building Rules Issued by: ☐ Private Certifier ☐ Council Building Surveyor

☐ Development Approval

(Tick for Development Plan Consent AND Building Rules Consent issued by Council)

LOCATION OF PROPOSED DEVELOPMENT *

Unit/Level/Street Number: 22-29

Street Name: MARKET STREET

Adelaide ☒ North Adelaide ☐

Volume:

Folio:

Certificate of Title attached ☐ *

DEVELOPMENT ON COUNCIL LAND *

If you have not obtained landlord consent, you will need to seek this from the relevant area within Council prior to lodging your Development Application. Council Land includes: Footpaths, within the Park Lands, and Council owned buildings.

Contact the Duty Planner on 8203 7185 for information regarding the relevant contact person within Council to assist in the granting of Landlord Consent.

☒ Development located wholly within Private Land

(Landlord Consent not required)

☐ Development on Council Land

☐ Landlord Consent Granted AND copy attached

DETAILS OF PARTIES

APPLICANT *

Title: Mr ☐ Miss ☐ Ms ☐ Mrs ☐ Dr ☐

Name: PRIMEFIELD PROPERTIES PTY LTD

Address: C/O LOUIS PETRIDIS ARCHITECTS

LEVEL 1, 276 FLINDERS STREET, ADELAIDE

Contact Number: 0427 108 787

E-mail: louis@l2.com.au

CONTACT * (Preferred by E-mail ☐ Phone ☐ Post ☐

Title: Mr ☒ Miss ☐ Ms ☐ Mrs ☐ Dr ☐

Name: LOUIS PETRIDIS

Address: LEVEL 1, 276 FLINDERS STREET,
ADELAIDE

Contact Number: 0427 108 787

E-mail: louis@l2.com.au

OWNER *

Title: Mr ☐ Miss ☐ Ms ☐ Mrs ☐ Dr ☐

Name: PRIME

Address:

Contact Number:

E-mail:

BUILDER ☐ ARCHITECT ☒ DESIGNER ☐

Title: Mr ☐ Miss ☐ Ms ☐ Mrs ☐ Dr ☐

Name: LOUIS PETRIDIS

Address: (GREEN CONTACT)

Contact Number:

E-mail:

DESCRIPTION OF PROPOSED WORKS *

DEMOLISH EXISTING BUILDING,
CONSTRUCT MIXED USE HOTEL,
WITH APARTMENTS OVER.
GROUND LEVEL PARKING AND
COMMERCIAL.

PROPOSED HERITAGE WORKS **

N/A

COST OF PROPOSED DEVELOPMENT *

\$ 25,000,000

COST OF PROPOSED HERITAGE WORKS **

\$ N/A

TOTAL COST OF PROPOSED WORKS *


\$ 25,000,000

Please Note: If dual works are required, please split costs accordingly

* Must Complete ** If Applicable

Last updated: 20 October 2016

LAND USE/OCCUPIER INFORMATION		
Current land use*:	VACANT SITE	Proposed land use: HOTEL - APARTMENTS
Current occupier:	N/A	Proposed occupier: T. B. C.
BUILDING CLASSIFICATION (See Table Below)		
Current:	Proposed: 3, 6	If Class 5, 6, 7, 8 or 9 is proposed, number of employees:
If Class 9a is proposed, number of persons whom accommodation is provided:		
If Class 9b is proposed, number of occupants:		
OTHER INFORMATION *		
Does Schedule 21 or 22 of the Development Regulations 2008 apply? <i>Note: Schedule 21 and 22 relate to a referral to the Environment Protection Authority.</i>		Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Has the Construction Industry Training Act 1993 levy been paid? <i>Note: This is required for building work \$15,000 and over.</i>		Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
A Signed Declaration Form for clearances to powerlines must be included with the development application, and is attached. http://www.adelaidecitycouncil.com/assets/documents/FORMS-Electricity Act Declaration Form and guidelines.pdf		Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Will Heritage Incentive Scheme funding be sought? <i>Note: Works carried out prior to a Heritage Incentive Scheme funding allocation being approved by Council are considered retrospective and therefore ineligible for funding under the scheme.</i>		Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>

DECLARATION/SIGNATURE *	
I, the applicant have obtained consent from relevant rights holders to reproduce documents in support of my development application, and further indemnify Council for any alleged breach of copyright in relation to the electronic publication of documents furnished in support of this development application lodged by me.	
Signature*:	 Date*: 26 1 6 12017
<i>Please note that fees will be determined once the application has been received. A tax invoice will then be forwarded to the applicant. Assessment of this application will not take place until all relevant fees have been paid.</i>	

NCC BUILDING CODE OF AUSTRALIA CLASSIFICATIONS	
Class 1	Class 1a - a single dwelling including detached houses, town houses and villa units. Class 1b - guest house, boarding house or the like accommodating not more than 12 persons and not exceeding 300 square metres.
Class 2	A building containing 2 or more separate dwellings, excluding building of Class 1.
Class 3	A residential building, other than Class 1 or Class 2, which is a common place of living for a number or unrelated persons.
Class 4	A dwelling in a building that is Class 5, 6, 7, 8 or 9 if it is the only dwelling in the building.
Class 5	An office building for professional or commercial purposes, excluding building of Class 6, 7, 8 or 9.
Class 6	A shop or other building for the sale of goods by retail or the supply of services direct to the public including a small arts venue.
Class 7	A building which is a public carpark, or for storage of goods for sale by wholesale.
Class 8	A factory or a laboratory.
Class 9	A building of a public nature:- <ul style="list-style-type: none"> Class 9a - health care building. Class 9b - an assembly building. Class 9c - an aged care building.
Class 10	A non-habitable building or structure:- <ul style="list-style-type: none"> Class 10a - an open or private garage, shed or the like. Class 10b - a fence, mast, antenna, retaining or freestanding wall, swimming pool or the like.

DEVELOPMENT REGULATIONS 2008
Form of Declaration (Schedule 5 clause 2A)



Government
of South Australia

To: DEVELOPMENT ASSESSMENT COMMISSION

From: PRIMEFIELD PROPERTIES PTY LTD

Date of Application: 26 / 6 / 2017

Location of Proposed Development: 22-29 MARKET STREET

House No: 22-29 Lot No: _____ Street: MARKET.

Town/Suburb: ADELAIDE

Section No (full/part): _____ Hundred: _____

Volume: _____ Folio: _____

Nature of Proposed Development:

DEMOLISH EXISTING BUILDINGS.
CONSTRUCT MIXED USE HOTEL / WITH APARTMENTS
OVER. GROUND LEVEL PARKING AND COMMERCIAL.

I LOUIS PETRIDIS OF LOUGS2405 being the applicant/ a person acting on behalf of the applicant (delete the inapplicable statement) for the development described above declare that the proposed development will involve the construction of a building which would, if constructed in accordance with the plans submitted, not be contrary to the regulations prescribed for the purposes of section 86 of the Electricity Act 1996. I make this declaration under clause 2A(1) of Schedule 5 of the Development Regulations 2008.

Signed: _____

Date: 26 / 6 / 2017



**Government
of South Australia**

Note 1

This declaration is only relevant to those development applications seeking authorisation for a form of development that involves the construction of a building (there is a definition of 'building' contained in section 4(1) of the Development Act 1993), other than where the development is limited to –

- a) an internal alteration of a building; or
- b) an alteration to the walls of a building but not so as to alter the shape of the building.

Note 2

The requirements of section 86 of the Electricity Act 1996 do not apply in relation to:

- a) an aerial line and a fence, sign or notice that is less than 2.0 m in height and is not designed for a person to stand on; or
- b) a service line installed specifically to supply electricity to the building or structure by the operator of the transmission or distribution network from which the electricity is being supplied.

Note 3

Section 86 of the Electricity Act 1996 refers to the erection of buildings in proximity to powerlines. The regulations under this Act prescribe minimum safe clearance distances that must be complied with.

Note 4

The majority of applications will not have any powerline issues, as normal residential setbacks often cause the building to comply with the prescribed powerline clearance distances. Buildings/renovations located far away from powerlines, for example towards the back of properties, will usually also comply.

Particular care needs to be taken where high voltage powerlines exist; or where the development:

- is on a major road;
- commercial/industrial in nature; or
- built to the property boundary.

Note 5

An information brochure: 'Building Safely Near Powerlines' has been prepared by the Technical Regulator to assist applicants and other interested persons.

This brochure is available from council and the Office of the Technical Regulator. The brochure and other relevant information can also be found at sa.gov.au/energy/powerlinesafety

Note 6

In cases where applicants have obtained a written approval from the Technical Regulator to build the development specified above in its current form within the prescribed clearance distances, the applicant is able to sign the form.



Title Register Search

LANDS TITLES OFFICE, ADELAIDE

For a Certificate of Title issued pursuant to the Real Property Act 1886

REGISTER SEARCH OF CERTIFICATE OF TITLE * VOLUME 5120 FOLIO 821 *

COST : \$26.50 (GST exempt)	PARENT TITLE : CT 4235/699
REGION : EMAIL	AUTHORITY : CONVERTED TITLE
AGENT : SAVI BOX NO : 053	DATE OF ISSUE : 07/05/1993
SEARCHED ON : 01/04/2015 AT : 10:28:21	EDITION : 6
CLIENT REF SALES - RW	

REGISTERED PROPRIETOR IN FEE SIMPLE

LEGRAND DEVELOPMENTS PTY. LTD. OF LEVEL 1/190 FULLARTON ROAD DULWICH SA
5065

DESCRIPTION OF LAND

ALLOTMENT 15 DEPOSITED PLAN 450
IN THE AREA NAMED ADELAIDE
HUNDRED OF ADELAIDE

EASEMENTS

NIL

SCHEDULE OF ENDORSEMENTS

NIL

NOTATIONS

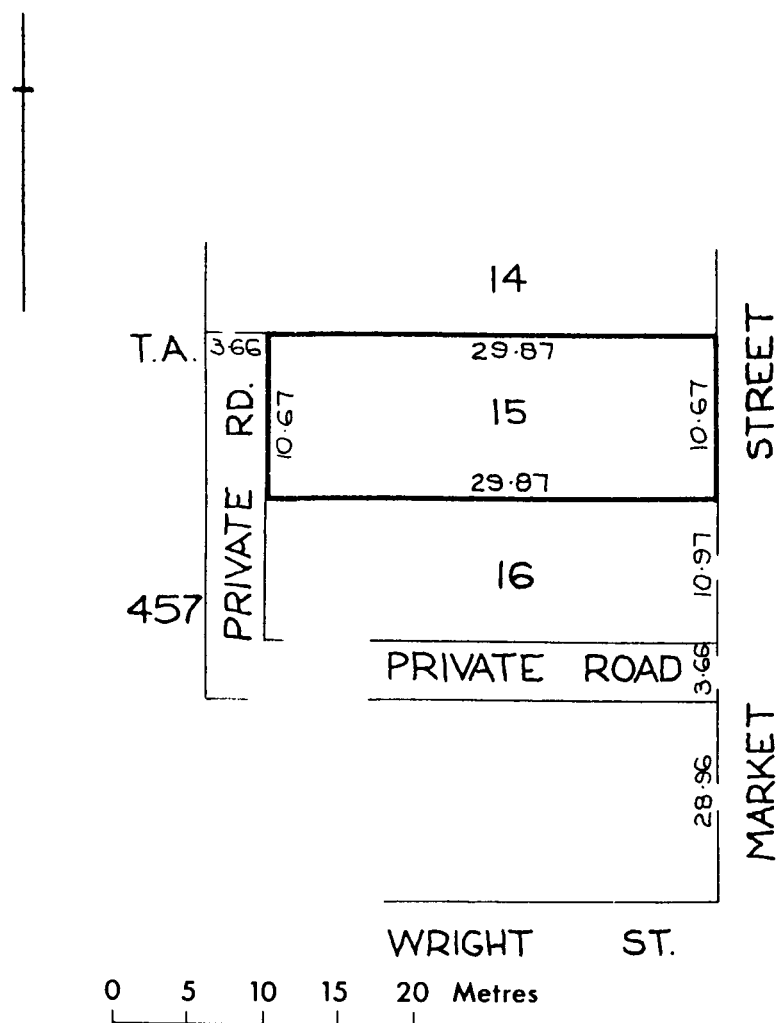
DOCUMENTS AFFECTING THIS TITLE

NIL

REGISTRAR-GENERAL'S NOTES

NIL

END OF TEXT.





Title Register Search

LANDS TITLES OFFICE, ADELAIDE

For a Certificate of Title issued pursuant to the Real Property Act 1886

REGISTER SEARCH OF CERTIFICATE OF TITLE * VOLUME 5721 FOLIO 378 *

COST : \$26.50 (GST exempt)

REGION : EMAIL

AGENT : SAVI BOX NO : 053

SEARCHED ON : 01/04/2015 AT : 10:28:18

CLIENT REF SALES - RW

PARENT TITLE : CT 1833/143

AUTHORITY : CONVERTED TITLE

DATE OF ISSUE : 23/12/1999

EDITION : 4

REGISTERED PROPRIETOR IN FEE SIMPLE

LEGRAND DEVELOPMENTS PTY. LTD. OF LEVEL 1/190 FULLARTON ROAD DULWICH SA
5065

DESCRIPTION OF LAND

ALLOTMENT 16 DEPOSITED PLAN 450
IN THE AREA NAMED ADELAIDE
HUNDRED OF ADELAIDE

EASEMENTS

NIL

SCHEDULE OF ENDORSEMENTS

NIL

NOTATIONS

DOCUMENTS AFFECTING THIS TITLE

NIL

REGISTRAR-GENERAL'S NOTES

NIL

END OF TEXT.

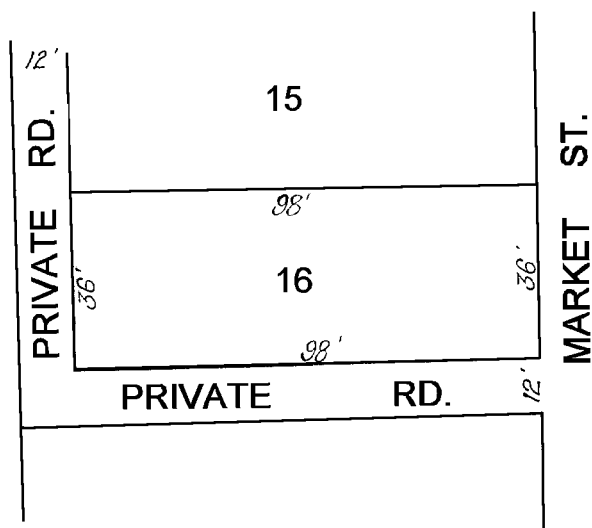
LANDS TITLES OFFICE ADELAIDE SOUTH AUSTRALIA

DIAGRAM FOR CERTIFICATE OF TITLE VOLUME 5721 FOLIO 378

SEARCH DATE : 01/04/2015 TIME: 10:28:18



T.A.457



40 20 0 40 FT

DISTANCES ARE IN FEET AND INCHES
FOR METRIC CONVERSION
1 FOOT = 0.3048 METRES
1 INCH = 0.0254 METRES



Chief Planning Officer
D.A.C.
Tom Victory
Strategic Development Assessment
Planning and Development
Level 5, 50 Flinders Street Adelaide SA 5000

Attention: Tom Victory

23-29 Market Street, Adelaide, DEMOLISH EXISTING BUILDINGS & CONSTRUCT
MIXED USE HOTEL , WITH APARTMENTS OVER , GROUND LEVEL CAR PARKING AND
COMMERCIAL .

Subject:

Dear Tom

Further to our recent meeting, please find enclosed Development Application for the above project and 5 sets of A3 drawings and 2 copies of supporting reports. There are also 2 sets of Architectural Drawings in A1 .

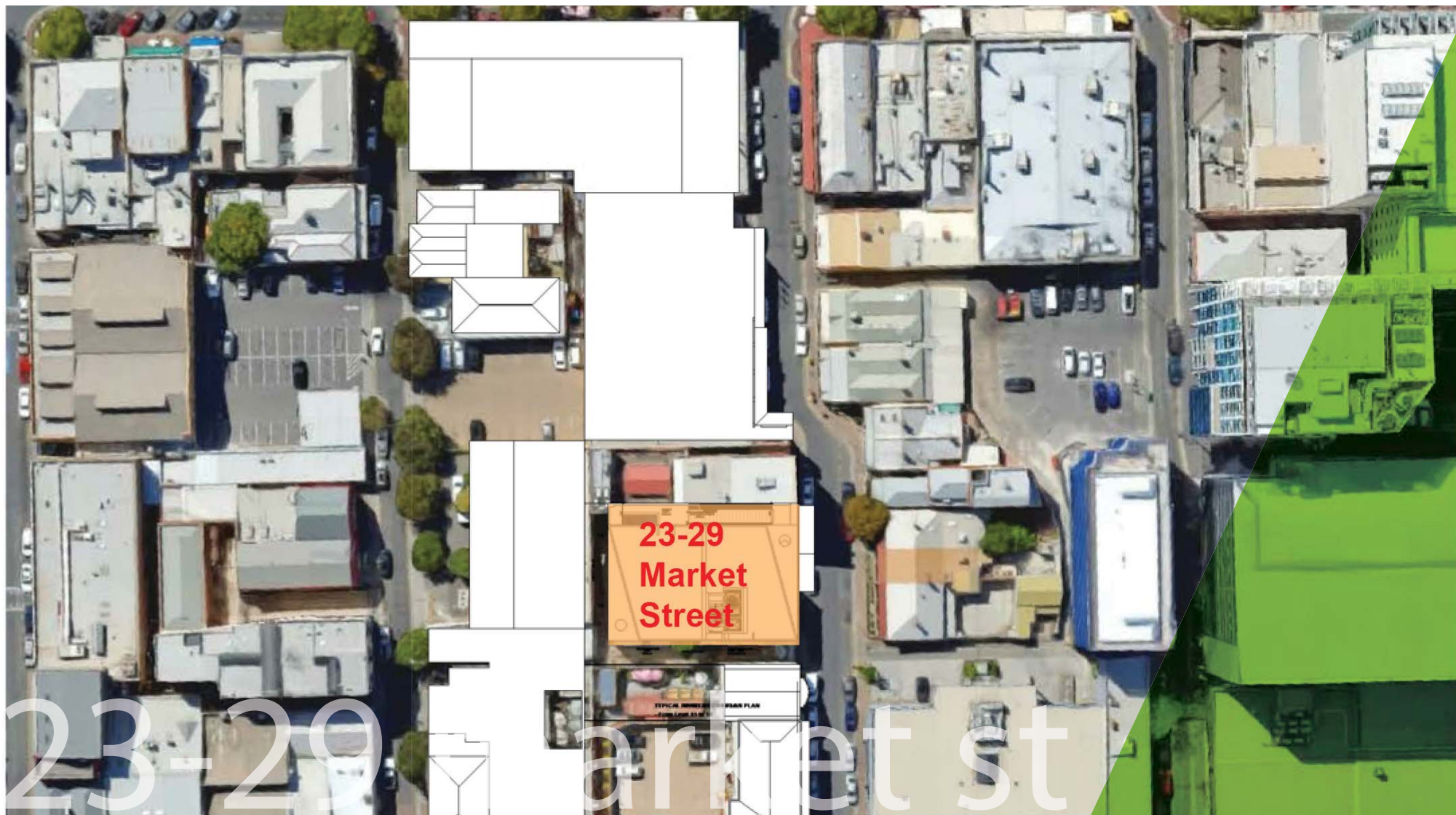
Please find attached :

1. Development Application Form .
2. LZ Architectural Drawings .
3. GHD Planning Report .
4. Phil Weaver & Assoc Traffic Report .
5. Bestec Acoustic Report .
6. Bestec Wind Report .
7. Bestec Building Service Report .
8. Bestec ESD Report .
9. Site History Report.
10. Title Register .
11. Brett Eaton Email
12. Waste Recycling Plan .
13. Gross Area Schedule .
14. Proposed Configuration.
15. Retail Carpark Schedule .
16. Apartment Schedule of Provisions .
17. Electricity Declaration Form .
18. Please advise of total planning fees and we will arrange payment a.s.a.p .

If there is anything further required please do not hesitate to contact the undersigned on 8290 3200.

Yours Faithfully
Loucas & Zahos Pty Ltd

Louis Petridis
Senior Architect



Loucas Zahos - Planning assessment & design statement

26 June 2017 | 33 18487

GHDWOODHEAD

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Context of report

This Planning Statement and support documentation describes the proposed Mixed Use Hotel, Apartments, Carparking and Retail Development at 23-29 Market Street, Adelaide with regard to the planning process as required currently for projects over \$10 million in construction value in the City of Adelaide with specific reference to the Adelaide City Council (ACC) Development Plan consolidated 30 May 2017.

The proposed Mixed Use Development, comprising a Hotel and Apartments at 23-29 Market Street, by Loucas Zahos Architects, has been prepared on behalf of the client - Primefield Property Ltd. The site is located on VOLUME 5721 FOLIO 378 CT1833/143 with a easterly frontage to Market Street, and a total area of 640 square metres. The owners have a right of way to the laneway adjacent 2 sides of this site. The site is approximately between 215 - 230 metres from major High Concentration Public Transport Routes King Williams Streets and Grote Streets. It is in close proximity to the Adelaide Central Markets, the Victoria Square Tram stop and is also within 130 metres from Sturt Street (to the south), which has a Free Bus loop service. The building is currently vacant and was used as a commercial premises prior to that.

The site is unidentified within Adelaide City Council's strategic visioning document - 'Our Market District 2017 as the only 'significant redevelopment opportunity' within Market Street. Market Street has been designated as part of a Creative Quarter South of Gouger Street' with the northern section of Market Street seen as a 'new/ improved public space/ shared street with the southern section developed as in future with 'more active uses to street edge and improved pedestrian links'. This proposal aligns with ACC's vision for the future of Market Street by providing an additional 130 people to provide activation to the street, Gouger Street and the overall Market District Precinct.

The site falls within the Capital City Zone (refer to Figure 1 below) and has a prescribed height limit of 43 m. The zone is also adjacent a 53 m height limit zone to the west and less than 60 m from the 'No Prescribed height Limit' zone to the east. The proposed overall building height is 58.1 m with a total of 17 levels (i.e. 15 levels plus ground and mezzanine).

The approximate construction cost is in the order of \$20.0 million.

The design has been through two Design Reviews with the SA Government Architect and has been amended in response to the recommendations by the panel.

This document outlines the key elements and key considerations of the proposal as follows:

- ▶ A description of the project (location, title, nature of land use, key physical attributes)
- ▶ A description of the general locality (precinct, access, adjacent uses)
- ▶ A statement of the key Development Plan elements (zone, key policy aims, key standards stated)
- ▶ A short summary of the findings of the specialist reports
- ▶ A short summary of the design review and pre-lodgement process and key issues that have been addressed in the process.

The overall design intent is to provide a high quality architectural and urban design outcome that creates a high level of streetscape amenity with a retail component at the ground floor to encourage street activation. The development will form a mixed use hotel / residential tower that provides for a podium at ground level. It provides for car park stackers which has access from the southern laneway and has associated retail. The overall height of the tower is estimated at 17 levels and at 56.59 metres (with the highest point of the roof screen set 4 metres above the roof parapet). A swimming pool deck is located at the top of the podium level to encourage community participation between hotel occupants and new residents. The podium is also designed to reflect the overall height of the adjoining Local Heritage Building - the Adelaide Democratic Club - to the north.

The design has a 3.4 m northern setback to take full advantage of solar access which provides valuable light, ventilation and views to the hotel rooms and apartments over the adjoining existing Local Heritage Building. The site has an easterly frontage to Market Street, which is a very narrow street with adjoining signal storey Local heritage cottages to the east. The proposed base of the building will present as a solid, heavy element composed of façade elements referencing the Fibonacci sequence, taking cues from the Adelaide Democratic Club, ensuring consistency between heights of prominent features. The base will be distinguished from the building's lightweight and transparent middle level through an expressed column structure. Serviced apartment levels will feature a different architectural language characterised by a trapezoidal floor plan with offset east and west facades and feature fins.

In addition, following the first Design Review Panel meeting with the Government Architect, the building has been setback a further 3m above the podium facing Market Street to further minimise the overall scale of the building onto the streetscape and the overall floor plan has been amended with the lift core being rotated 90 degrees to allow for egress due to the setback above the podium. The design has been further refined following a second Design Review Panel meeting.

The site has access from Market Street with a right of way, a 3.6 m wide laneway adjacent 2 sides of the site which allows vehicular access into the site and light access in the round. An existing no standing area adjacent the site could be converted to a Porte Cochère, pick up & drop off space, subject to Adelaide City Council endorsement.

The site is between 215 m - 230 m from major High Concentration Public transport Routes and is less than 200 m from a Free Bus Loop on Sturt Street.

The northern set back increases natural light access and ventilation. The articulation of the floor plans utilise large areas of high performance glass and the combination of vertical external fins and slab overhangs acting as devices for passive shading. High efficiency inverter air conditioners, lighting and sanitary fittings and fixtures will be used throughout. The Roof form is tilted to the north, to increase the efficiency of the solar panels installed on the roof.

The proposal for 23-29 Market Street provides a visual frame that creates a strong sense of enclosure to the streetscape via the podium element and articulation of the Podium base and 3 m setback, middle hotel rooms, and residential apartment at the top of tower. There is an emphasis on street activation and contextual relationships between heights and proportion of existing and proposed built forms.

1. Description of project

The subject site is located at 23-29 Market Street on two lots - within VOLUME 5721 FOLIO 378 CT1833/143 with a easterly frontage to Market Street. The total site area is 640 square metres. The owners have an 'implied' right of way to the laneway adjacent 2 sides of this site to the south and to the west.

Market Street is a narrow one way street with parallel parking on both sides of the street and a mixture of one to three storey buildings of varying character fronting Market Street.

The site is in close proximity to the Adelaide Central Markets, the Victoria Square Tram stop and is also within 130 metres of Sturt Street, which has a Free Bus Loop service. The building is currently vacant and was previously used as commercial premises. The proposal is adjacent a Local Heritage Building - the Democratic Club - and opposite Local Heritage listed cottages. There are shops and restaurants opposite the site (refer to Figure 3).

The site is located within the Capital City Zone, as indicated on Adelaide (City) Building Heights Concept Figure CC/2 (Consolidated 30 May 2017) which indicates a maximum height limit of 43 metres (refer to attached plan - Figure 1).

The ground level is at 43.86 m AHD.

The overall height of the tower is approximately (including the lift overrun) is 58.1 m (AHD 101.96 m) i.e. approx. 15.1 m above the 43 m height limit.

Preliminary investigations regarding the potential height of the new building reveal the following:

- The site is located under the 90 m AHD OLS (Obstacle Limitation Surface) contour (refer to attached Figure 5 - Adelaide (City) Airport building Heights Map Adel/1 (Overlay 5)).
- The overall height of the tower is approximately (including the lift overrun) is 58.1m (AHD 101.96 m),
- The site is also in close proximity to the 'No Prescribed Height Limit' zone (one lot away) approximately within 60 m to the east and is

within close proximity to the 53 m height limit zone to the north.

- The design does satisfy Principle of Development Control (PDC) 21 from the Development Plan to a large extent, that is;

(b) (i) (1) the development provides an orderly transition up to an existing taller building or prescribed maximum building height in an adjoining Zone or Policy Area;

(b) (i) (3) high quality universally accessible open space that is directly connected to, and well integrated with, public realm areas of the street;

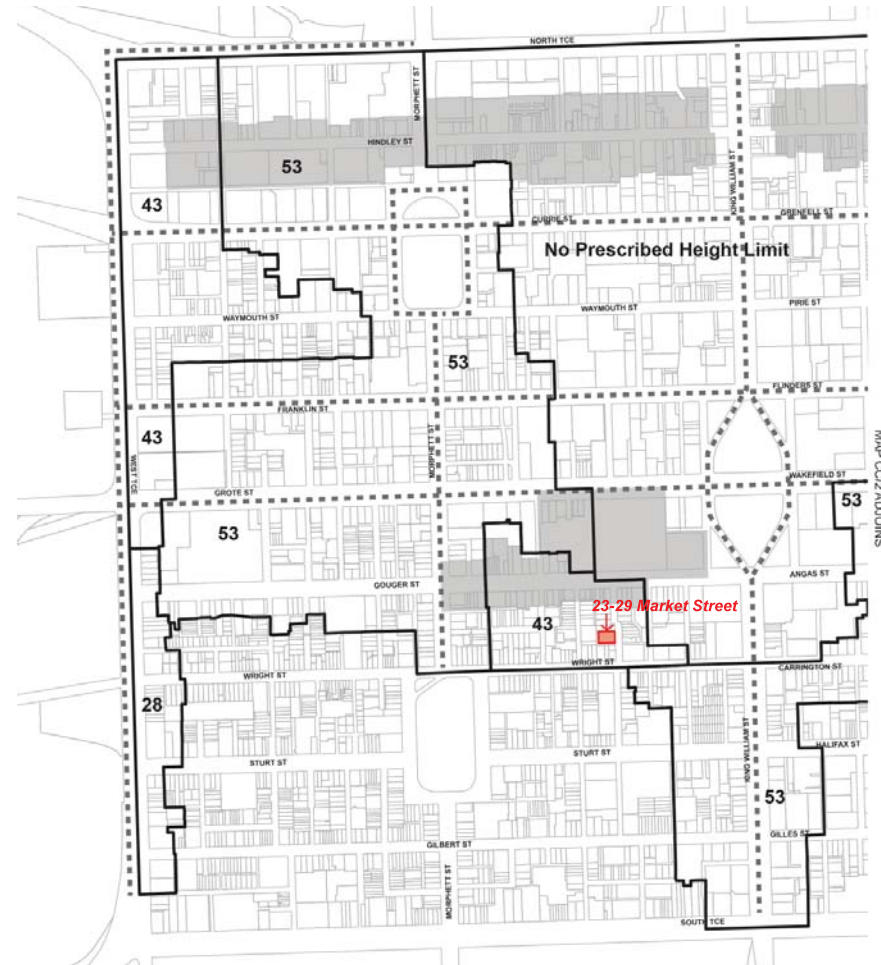
(b) (i) (5) on site car parking does not exceed a rate of 0.5 spaces per dwelling, car parking areas are adaptable to future uses or all car parking is provided underground;

(b) (i) (6) residential, office or any other actively occupied use is located on all of the street facing side of the building, with any above ground car parking located behind;

The design is also considered, on balance, to satisfy the second part of PDC 21(b) (ii) i.e. *the provision of (1) a rooftop garden; (b) (ii) (2) a green roof, or green walls / façades; (b) (ii) (3) innovative external shading devices on all of the western side of a street facing façade; and (b) (ii) (4) higher amenity through provision of private open space in excess of minimum requirements, access to natural light and ventilation to all habitable spaces and common circulation areas - in the form of a landscaped pool deck community hub and innovative external shading devices, facade treatment, etc.*

In addition, after two Design Reviews, the Government Architect has provided in principle support for the overall building height i.e.;

In principle I support the proposed height contingent on the proposal achieving a high quality design outcome, particularly in terms of the scale, form, residential amenity, contribution to the public realm and architectural expression of the proposed building relative to its current and future context.



ADELAIDE (CITY)
BUILDING HEIGHTS
Concept Plan Figure CC/1



The concept design allows for a retail component and a Hotel Concierge area at the ground floor to encourage street activation. The proposed building will be a mix of hotel residential apartments and private residential apartments above. The architectural expression provides for a podium at ground level. Car parking is provided via Car stackers on the southern side of the apartments with access off the 3.6 m wide laneway.

The site has an easterly frontage to Market Street.

Retail in the form of a cafe faces Market Street with additional street activation via the Hotel entry area and concierge.

Car park stackers are provided with access off the laneway to the south and associated. The tower has an estimated overall height of 56.59 metres.

A swimming pool deck at the top of the podium level is designed to encourage community participation between hotel occupants and new residents.

The podium level is designed to complement the adjoining Democratic Club Local Heritage building height to the north.

The tower is therefore set back 3.4 m on the northern side to take full advantage of solar access which provides valuable light, ventilation and views to the hotel rooms and apartments and provides 'breathing space' to the adjoining existing Local Heritage Building to the north.

In addition the tower is also set back 3.0 m along the Market Street frontage to further define the podium which

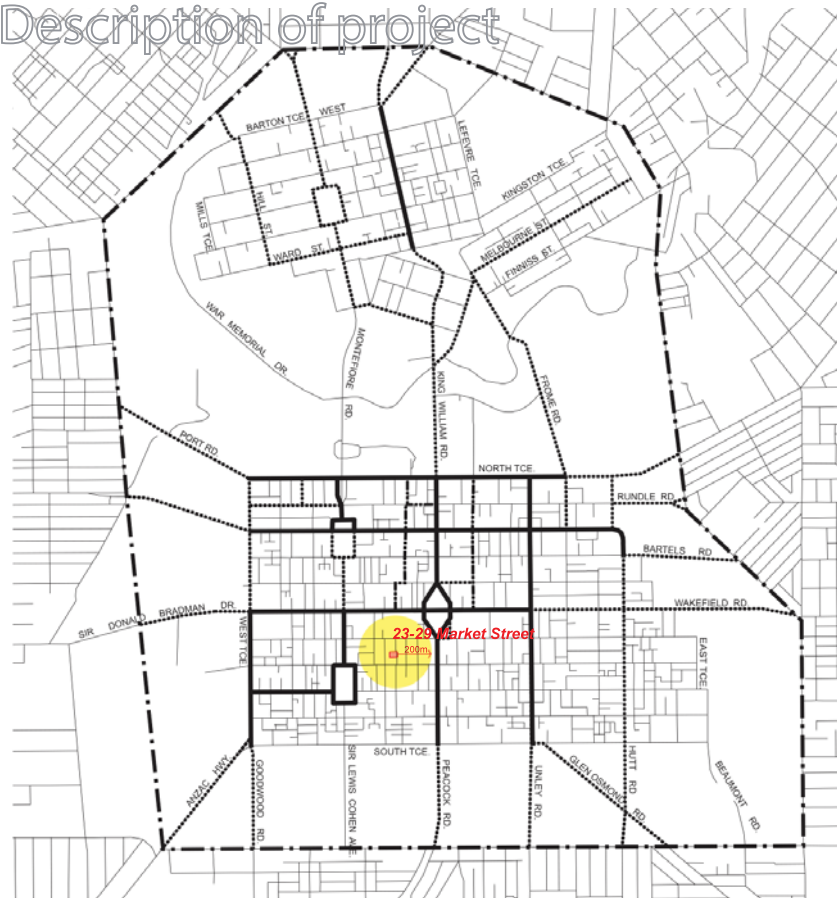
complements the narrow streetscape and setbacks the tower to minimise its overall impact on the street.

The project involves the demolition of the existing buildings and the construction of an 17-storey mixed use hotel and dwellings (apartments) with restaurant (cafe) on ground floor.

Table 1 Key facts about the proposal

Applicant	Loucas Zahos on behalf of Primefield Property
Proposal Concept	Demolition of existing buildings and construction of 17-storey mixed use hotel/ residential tower
Subject Land	<p>23-29 Market St Adelaide</p> <p>Contained withing two certificates of Title:</p> <ul style="list-style-type: none"> Volume 5721 Folio 378 allotment 16 in deposited Plan 450 in the area named Adelaide, in the Hundred of Adelaide Volume 5120 Folio 821 being allotment 15 in Deposited Plan 450 in the area named Adelaide in the Hundred of Adelaide. <p>There are no easements shown on the current titles.</p> <p>(Certificates of Title contained in Appendix A of this report)</p>
Assessment Process	Subject to approval by the Development Assessment Commission under Section 34 of the <i>Development Act 1993</i> and schedule 4B of the <i>Development Regulations 2008</i> .
Relevant Development Plans	Adelaide (City) Development Plan (Consolidated 30 May 2017)

1. Description of project



- High Concentration Public Transport Route
- - - - - Public Transport Pedestrian Route
- Bus Route
- . - . - Development Plan Boundary

ADELAIDE (CITY)
PUBLIC TRANSPORT NETWORK
MAP Adel/1 (Overlay 4)

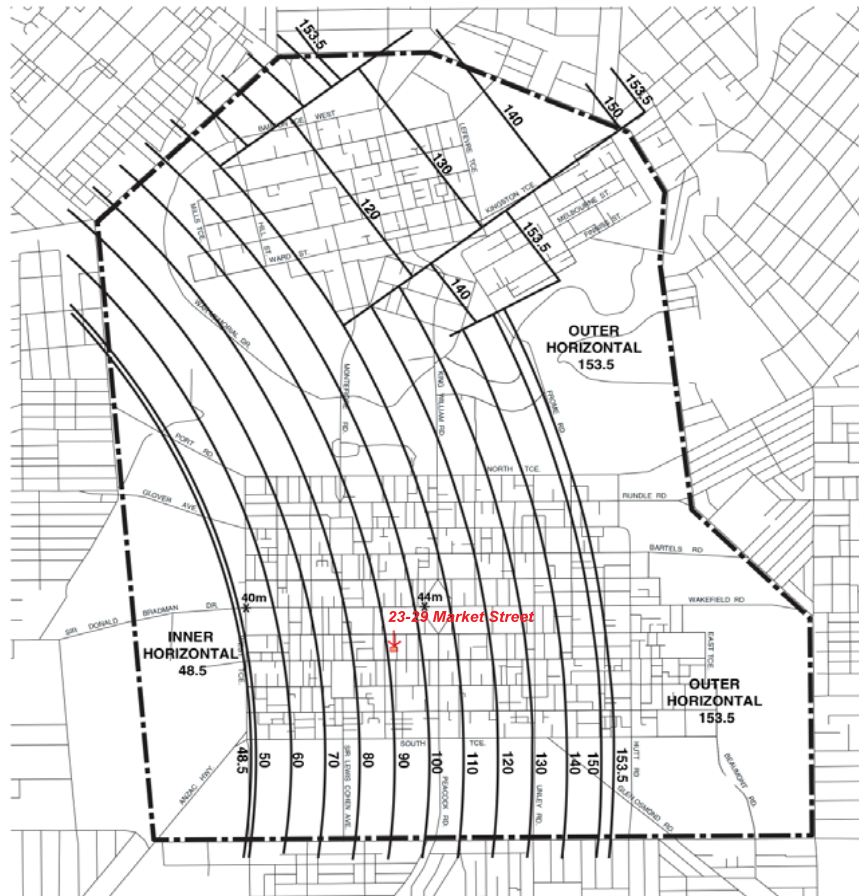


- 13 Central Business Policy Area
- 14 Main Street Policy Area
- 32 South Central Policy Area
- 33 South West Policy Area
- State Heritage Place
- Local Heritage Place
- - - - - Policy Area Boundary
- Maximum height of 2 storeys

- Existing Pedestrian Link
- . - . - Proposed Pedestrian Link

ADELAIDE (CITY)
POLICY AREAS
MAP Adel/55

1. Description of project



Referral to the Department of Transport and Regional Services through Adelaide Airport Limited is required where a development would exceed the Obstacle Limitation Surface (OLS) contours on this map.

- 100** OLS Values in Australian Height Datum (AHD)
- OLS Contour Boundary
- ✱ 40m** Indicative ground level in AHD. Note: Ground level varies throughout the Council area and accurate ground level in AHD would need to be confirmed
- - -** Development Plan Boundary

Note: Approval is required under the Commonwealth Airports Act 1996 for structures and the like that penetrate prescribed air space (as defined in the Airports Act 1996)

Scale 1:26,000
0metres 500 1000

ADELAIDE (CITY) AIRPORT BUILDING HEIGHTS MAP Adel/1 (Overlay 5)



2. General Locality

23-29 Market Street is contained within the Adelaide CBD and the Capital City zone and as such is envisioned to align with the following Desired Character principles:

New development will achieve high design quality by being:

(a) **Contextual** – so that it responds to its surroundings, recognises and carefully considers the adjacent built form, and positively contributes to the character of the immediate area.

(b) **Durable** – by being fit for purpose, adaptable and long lasting, and carefully considers the existing development around it.

(c) **Inclusive** – by integrating landscape design to optimize pedestrian and cyclist usability, privacy, and equitable access, and also promote the provision of quality spaces integrated with the public realm that can be used for access and recreation and help optimize security and safety both internally and into the public realm, for occupants and visitors alike.

(d) **Sustainable** – by integrating sustainable systems into new buildings and the surrounding landscape design to improve environmental performance and minimise energy consumption.

(e) **Amenable** – by providing natural light and ventilation to habitable spaces.

Contemporary juxtapositions will provide new settings for heritage places. Innovative design is expected in areas of identified street character with an emphasis on contemporary architecture that responds to site context and broader streetscape, while supporting optimal site development. The addition of height, bulk and massing of new form should be given due consideration in the wider context of the proposed development.

- The site has an easterly frontage to Market Street.
- The building consists of Ground Floor, Mezzanine, 15 floors and rooftop. With an overall building height of 58.1 metres. The ground level is at 43.86 m AHD.
- Ground Floor will include provisions for a retail tenancy (cafe), hotel foyer, lifts and stairwell, service parking area, car park stackers with a 12 car capacity and access to the adjacent lane way, and transformer with access from Market Street.
- Mezzanine level will include common areas, apartment storage and bike area, service areas and car park stackers with access to the adjacent laneway
- Levels 1 through to 11 Hotel development (116 apartments)
- Level 4 (Promenade) includes a swimming pool for both hotel guests and apartments.
- Level 12-15 apartments (20 in total)
- The rooftop will include solar panels.

The proposed base of the building will present as a solid, heavy element composed of façade elements referencing the Fibonacci sequence, taking cues from the Adelaide Democratic Club, ensuring consistency between heights of prominent features. The base will be distinguished from the building's lightweight and transparent middle level through an expressed column structure. Serviced apartment levels will feature a different architectural language characterised by a trapezoidal floor plan with offset east and west facades and feature fins

The overall design intent is to provide a high quality architectural and urban design outcome that creates a high level of streetscape amenity with a retail component at the ground floor to encourage street

activation. A mixed use hotel / residential tower that provides for a podium at ground level which has car park stackers and associated retail with an estimated overall height of 58.1 metres. A swimming pool deck at podium level to encourage community participation between hotel occupants and new residents.

The design has a 3.4m northern setback to take full advantage of solar access providing valuable light, ventilation and views to the hotel rooms and apartments over the adjoining existing Local Heritage Building to the north. The site has an easterly frontage to Market Street with a 3 m setback to the tower above the podium.

Site access from Market street with a right of way to the 3.6m wide laneway adjacent 2 sides of this site allowing vehicular access into the site and light access in the round. An existing no standing area adjacent the site could be converted to a Porte Cochère, pick up & drop off space, subject to City Council endorsement.

The site is 215m from major High Concentration Public transport Routes, as shown in Figure 1.

There will be a strong emphasis on ground level activation through frequent window openings, land uses that spill out onto the footpath, and control of wind impacts.

The proposal responds to the ground level activation through window openings, retail uses and strong connection to Market Place with a 4 to 5 storey podium that relates to the adjoining 3 storey streetscape, including the Democratic Club to the northern boundary.

Site has access from Market Street with a right of way, a 3.6 m wide laneway adjacent 2 sides of the site which allows vehicular access into the site and light access in the round. An existing no standing area adjacent the site could be converted to a Porte Cochère, pick up & drop off space, subject to Adelaide City Council endorsement.

The site is between 215 m - 230 m from major High Concentration Public transport Routes and is less than 200 m from a Free Bus Loop on Sturt Street.

The northern set back increases natural light access and ventilation. The articulation of the floor plans utilise large

areas of high performance glass and the combination of vertical external fins and slab overhangs acting as devices for passive shading. High efficiency inverter air conditioners, lighting and sanitary fittings and fixtures will be used throughout. The Roof form is tilted to the north, to increase the efficiency of the solar panels installed on the roof.

The proposal for 23-29 Market Street provides a visual frame that creates a strong sense of enclosure to the streetscape via the podium element and articulation of the Podium base, middle hotel rooms, and residential apartment at the top of tower. There is an emphasis on street activation and contextual relationships between heights and proportion of existing and proposed built forms.

In addition, the middle and top of the tower is set back 3.4 m above the podium to respond and reinforce the existing narrow and intimate streetscape.

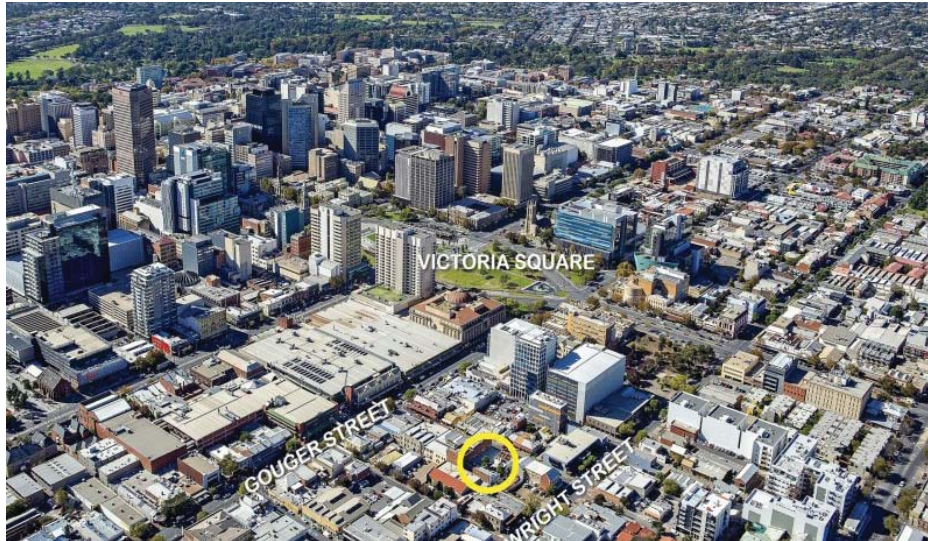
PDC 15 *Building façades should be strongly modelled, incorporate a vertical composition which reflects the proportions of existing frontages, and ensure that architectural detailing is consistent around corners and along minor streets and laneways.*

The proposal accords with PDC 15 above as it is strongly modelled and incorporates a very strong vertical composition and architectural detailing that is consistent and considered in the round.

PDC 12 *Buildings should be designed to include a podium/street wall height and upper level setback (in the order of 3-6 metres) that:*

- (a) *relates to the width of the street and achieves a suitable level of enclosure to the public realm;*
- (b) *provides a human scale at street level;*
- (c) *creates a well-defined and continuity of frontage;*

2. General Locality



(d) gives emphasis and definition to street corners to clearly define the street grid;

(e) contributes to the interest, vitality and security of the pedestrian environment;

(f) maintains a sense of openness to the sky for pedestrians and brings daylight to the street; and

(g) achieves pedestrian comfort by minimising micro climatic impacts (particularly wind tunnelling and downward drafts).

The proposal for 23-29 Market Street provides mixed used development with a strong built form edge and incorporates a retail component on the ground floor to encourage street activation day and night.

The design incorporates a podium, and a 3.4 m setback to the middle and top section of the overall tower design.

PDC 16 Development that exceeds the maximum building height shown in Concept Plan Figures CC/1 and 2, and meets the relevant quantitative provisions should demonstrate a significantly higher standard of design outcome in relation to qualitative

policy provisions including site configuration that acknowledges and responds to the desired future character of an area but that also responds to adjacent conditions (including any special qualities of a locality), pedestrian and cyclist amenity, activation, sustainability, and public realm and streetscape contribution.

It is considered, on balance that the overall design proposal satisfies PDC 16 as it demonstrates a higher standard of design outcome in relation to the ground floor activation, podium articulation which responds to the adjoining the local heritage building - the Democratic club, incorporation of the setback to Market Street, reinforcing the streetscape character and by providing an additional 100 to 130 people which will provide activation to the Market Street and to the broader Markets Precinct - refer to section 2.5 below for more details.



The current titles are included within Appendix A. There are no easements shown on the current titles. The details of the total site area are as follows:

- ▶ The site is located on VOLUME 5721 FOLIO 378 CT1833/143
- ▶ with a easterly frontage to Market Street,
- ▶ with a total area of 640 square metres.
- ▶ The owners have a right of way to the laneway adjacent 2 sides of the site.

With regard to the legal rights of access over the existing laneway, the council have confirmed that there are 'implied rights of way' for the existing site.

2. General Locality

The site is unidentified within Adelaide City Council's strategic visioning document - 'Our Market District 2017 as the only 'significant redevelopment opportunity' within Market Street. Market Street has been designated as part of a Creative Quarter South of Gouger Street' with the northern section of Market Street seen as a 'new/ improved public space/ shared street with the southern section developed as in future with 'more active uses to street edge and improved pedestrian links'. This proposal aligns with ACC's vision for the future of Market Street by providing an additional 130 people to provide activation to the street, Gouger Street and the overall Market District Precinct.

A CREATIVE QUARTER SOUTH OF GOUGER

The area to the south of Gouger Street comprises a unique mix of business, cafés, housing, and storage that is increasing in demand given the proximity to Gouger Street and the markets. Traffic circulation, on-street loading, and increasing pedestrian movements are challenges. The five minor streets south of Gouger Street are narrow. Market Street has a unique, attractive feel due to the bend halfway along the street, it being slightly wider, and located directly opposite the Adelaide Central Market. It provides an opportunity to create a new and flexible public space for all to use.

We need to:

- foster a new and edgy dining and creative business precinct that continues to service the markets alongside increased evening activity, retail, and boutique tourist accommodation
- create a flexible public space in Market Street north with the ability to temporarily close it for small events, markets or cooking displays by different cultures
- install public artworks including murals and pavement treatments within minor streets

- improve footpaths, seating, landscaping, and roadways along the north-south streets to build on existing character and opportunities and create interesting and safe spaces for people
- curate outdoor markets and activities in Gouger Street to complement the existing market and restaurants and to provide opportunities for entrepreneurs and a variety of migrant groups, including those not currently represented in the district
- make Field and Market Streets more pedestrian-oriented with potential for shared roadways and one-way traffic in Field Street
- improve pedestrian movement on Gouger and Wright Streets with narrower crossing points at intersections and raised continuous footpaths across minor streets
- encourage well designed and quirky architecture through the precinct, of a height and scale compatible with the generally narrower sites, with interesting and welcoming frontages to the street
- instigate more substantial changes to Gouger Street footpaths and the roadway as a part of ongoing asset renewal and/or alongside redevelopment of the Market Arcade/ Sir Samuel Way building
- ensure that the future courts precinct at King William/Wright/Mill Streets is developed with a scale and street edge compatible with the surrounding area and provide new pedestrian connections through the site (avoiding unnecessary public space that may have difficulty in attracting people to use it)
- create walking access (continuous footpaths over intersections with minor streets), cycling and a slow speed environment in Gouger Street to support its evolution as a bustling and colourful dining and entertainment destination.



Artist impression of northern end of Market Street alive with small scale events, markets and activities

2. General Locality

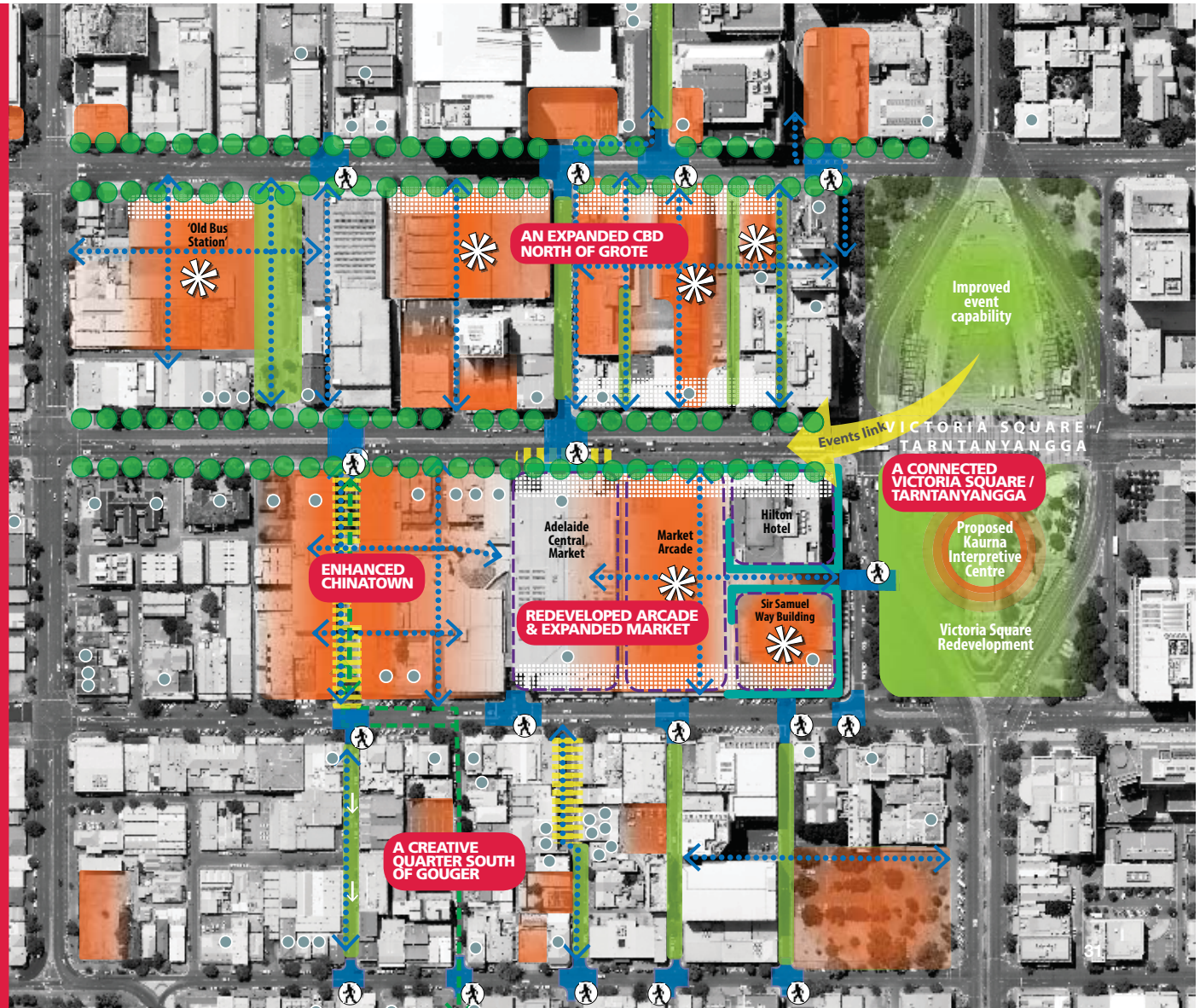
WHAT DO WE WANT TO SEE?

- THRIVING RETAIL AND BUSINESS
- PEOPLE ORIENTED PUBLIC REALM AND MOVEMENT
- FOSTERING CULTURAL AND SOCIAL DIVERSITY
- A SUSTAINABLE DISTRICT

LEGEND

-  SIGNIFICANT REDEVELOPMENT OPPORTUNITIES
-  NEW / IMPROVED PUBLIC SPACE / SHARED STREET
-  GREENING, ART AND PLACEMAKING
-  IMPROVED PEDESTRIAN CROSSING AND CONTINUOUS FOOTPATHS
-  IMPROVED PEDESTRIAN LINK
-  NORTH-SOUTH CYCLE LINK
-  STRENGTHENED AVENUE OF STREET TREES
-  LOCAL HERITAGE PLACE
-  STATE HERITAGE PLACE
-  MORE ACTIVE USES TO STREET EDGE

Our Market District 2017



2. General Locality

The local context provides for a mix of architectural styles and land uses, including the The Adelaide Central Markets, The Law Courts and Law Courts Precinct, restaurants and shops and offices with active street frontages. It is also in close proximity to China Town and the Restaurant /shopping main street attraction of Gouger Street.

The site does not adjoin any residential land uses. However, there are Local Heritage listed cottages opposite too the east.

The locality has been defined as comprising the land uses within close proximity to the subject site. The predominant form of development within close proximity to the site is one, two and three storey buildings, with examples of taller developments on adjacent streets particularly Gouger Street. Market Street is comprised of a mixture of single storey row cottages predominantly used as offices and two storey modern office buildings.

The site is adjacent a Local Heritage listed building The Adelaide Democratic Club (21 Market Street and opposite 3 Local Heritage listed row houses (26-30a Market Street), 2 attached houses (20, 22 Market Street) and a stand alone house (24 Market Street).

As listed in Tables Adel/2 Local Heritage Places and Adel/3 Local Heritage Places Townscape in the Adelaide (City) Development Plan. In addition 35-39 and 15-19 Market Street are also listed as local heritage places.

The site does not adjoin any residential land uses. However, residential land uses do occur on the eastern side of market street. (Refer to figures 10 to 16 below).



3. Key Development Plan Elements

Key elements of the desired character of the Capital City zone are provided below:

Economic Focus – Mixed Use encouraged

This Zone is envisioned as the economic and cultural focus of the State and includes a range of employment, community, educational, tourism and entertainment facilities. It is anticipated that an increased population within the Zone will complement the range of opportunities and experiences provided in the City and increase its vibrancy.

Street Activation during day and night

The Zone will be active during the day, evening and late night. Licensed entertainment premises, nightclubs and bars are encouraged throughout the Zone, particularly where they are located above or below ground floor level to maintain street level activation during the day and evening.

High Scale Development envisioned

High-scale development is envisaged in the Zone with high street walls that frame the streets. However an interesting pedestrian environment and human scale will be created at ground floor levels through careful building articulation and fenestration, frequent openings in building façades, verandahs, balconies, awnings and other features that provide weather protection.

Pedestrian amenity and activity encouraged

In important pedestrian areas, buildings will be set back at higher levels above the street wall to provide views to the sky and create a comfortable pedestrian environment. In narrow streets and laneways the street

setback above the street wall may be relatively shallow or non-existent to create intimate spaces through a greater sense of enclosure. In the Central Business Policy Areas, upper level setbacks are not envisaged.

Non-residential land uses at ground floor encouraged.

Non-residential land uses at ground floor level that generate high levels of pedestrian activity such as shops, cafés and restaurants will occur throughout the Zone. Within the Central Business Policy Area, residential land uses at ground level are discouraged. At ground level, development will continue to provide visual interest after hours by being well lit and having no external shutters.

New development will achieve high design quality by being:

(a) **Contextual** – so that it responds to its surroundings, recognises and carefully considers the adjacent built form, and positively contributes to the character of the immediate area.

(b) **Durable** – by being fit for purpose, adaptable and long lasting, and carefully considers the existing development around it.

(c) **Inclusive** – by integrating landscape design to optimize pedestrian and cyclist usability, privacy, and equitable access, and also promote the provision of quality spaces integrated with the public realm that can be used for access and recreation and help optimize security and safety both internally and into the public realm, for occupants and visitors alike.

(d) **Sustainable** – by integrating sustainable systems into new buildings and the surrounding landscape design to improve environmental performance and minimise energy consumption.

(e) **Amenable** – by providing natural light and ventilation to habitable spaces.

The Capital City zone envisions new development to provide for mixed-use and create cafes and restaurants at ground level to encourage street activation day and night.

The zone also anticipates high scale development that provides for improved pedestrian and cycle amenity. The zone also anticipates innovative architectural forms.

From the above provisions the proposal at 23-29 Market Street appears to satisfy the spirit of the Capital City zone provisions by providing a mixed-use residential development that includes a retail tenancy at the ground floor, pool and communal facilities on top of the podium level above that encourages street activation night and day and also provides an architectural scheme that seeks to create design excellence and innovation through its form, facade treatment and ESD initiatives.

3. Key Development Plan Elements

Investigations of the heritage and policy areas within the Development Plan reveal that the site is not subject to State or Local Heritage Place listings. The site is adjacent to the Adelaide Democratic Club to the north - a Local Heritage Place and adjoining single storey Local Heritage cottages to the east. However, the proposed development, given its location, is not considered to have a significant impact on the site. (Refer to figure 4).

Greencap was commissioned by Pirie Street Investments Pty Ltd to prepare a Preliminary Site Investigation report for the site located at 262-266 Pirie Street, Adelaide, South Australia, South Australia. The purpose of this assessment was to identify potential contamination issues associated with past and present land use prior to the proposed redevelopment of the site for high density residential land use.

Given the previous use of the existing building, there does not appear to be any further requirement for an environmental report based on the site history report.

A short summary of the findings of the specialist reports are set out below.

The consultant team consists of the following representatives:

- ▶ Architecture - LZA – Michael Loucas, Louis Petridis
- ▶ Traffic & Transport - Phil Weaver and Associates (PW) - Phil Weaver
- ▶ Noise - Bestec (BC) - Ivailo Dimitrov

- ▶ Building Services - Bestec (BC) - Nick Rosshirt
- ▶ Waste - Veolia Waste (VW) - Anton Ianni
- ▶ Building Certifier and DDA Compliance - Katnich Dodd (KD) - Ian Dodd
- ▶ Client Representative - AGC - Yianni Moschou
- ▶ Planning - GHDWoodhead - Mark Separovic

Traffic Report summary by Phil Weaver and Associates Pty Ltd

We have reviewed the latest plan and prepared turning path drawings (Figures 1 and 2) showing the following:-

- ▶ Figure 1 shows a small van (similar in size to a B99 design vehicle) turning right from Market Street into the private road, reversing into the service parking area and driving forward out. This figure identifies that this manoeuvre would be possible, and
- ▶ Figure 2 shows a Small Rigid Vehicle (SRV) turning right from Market Street into the private road, reversing into the service parking area and driving forward out. This figure identifies that this manoeuvre would not be possible due to the narrow width of the private road.

Waste Collection prepared by Veolia Waste.

The proposed development will include on-site storage of waste and recycling within a ground level waste storage room.

Residential apartments (20x Apartments with 28x bedrooms) per week

General waste 960L Recycling 800L Organics 320L

Apartment Bins

Bin room

- Organics Bin – All food material from residents
- o 1 x 240ltr MGB 2x per week

- General Waste – For all Contaminated wet waste

- o 1 x 1100ltr MGB 1x per week

- Dry recycling – Recycled through IWS recycling centre

- o 1 x 240ltr MGB 2x week

General Waste (30ltr per bedroom required)

- o Volume – 840ltr per week

- o 1 x 1100ltr bins

- o Service schedule 1x per week = 1100ltr capacity Dry Recycling (20ltr per bedroom required)

- o Volume – 560ltr per week

- o 1 x 660ltr bins

- o Serviced 1x per week = 660ltr capacity Organics (10ltr per bedroom required)

- o Volume – 280ltr per week

- o 1x 240ltr bins

- o Serviced schedule 2x per week = 480ltrs capacity

– 6m3 per year. (Need to allow room for this to be stored. (no bin) Council collection

- Bins will be stored in the ground level bin waste room. The bins will be clearly labelled with signage encouraging the tenants to recycle as much as possible. ** As per plan attached.

- The bins will be managed by the Cleaners/ Facility Manager– the bins will be serviced via Market Street.

- Bin storage area needs to be large enough to store bins allocated above.

Waste & Recycling

- A Veolia truck will service the Residential refuse room via loading area at front of Hotel on Market Street.

- There will be no specialised equipment for this project

- If awarded the waste contract, Veolia will have a dedicated Account Manager to oversee

the waste management services for the Market St development. We can supply signage to help achieve improved recycling.

Market Street – Hotel rooms & Restaurant/Cafe

Bin area (will be separated from the residence bin area.)

- Organics Bin – All food material from Restaurant/cafe

- o 2 x 660ltr MGB

- General Waste – For all Contaminated wet waste Hotel/cafe

- o 2 x 1100ltr MGB

- Grease Arrestor – All grease trap liquid waste from Restaurant (located in delivery area)

- Dry recycling – Recycled through IWS recycling centre

- o 1 x 1100ltr MGB

- E Waste POA

General Waste

- o Volume – 5,404L per week

- o 2 x 1100ltr bins

- o Service schedule 3x per week (TBA)

Dry Recycling

- o Volume – 2,600L per week

- o 1 x 1100ltr bins

- o Serviced 3x per week Organics

- o Volume – 3,010lt per week

- o 2 x 660ltr bins

- o Serviced 3x week per week Grease Arrestor

- o Volume 2400 ltr, serviced Quarterly (TBA volume)

Based on 6 days trading. (If business separates correctly)

- Bins will be stored in the ground level bin Waste room. The bins will be clearly labelled with signage encouraging the restaurant staff to recycle as much as possible. **As per plan attached
- The bins will be managed by the Cleaners/ Facility Manager– the bins will be serviced via Market Street
- Bin storage area needs to be large enough to store bins allocated above

Waste & Recycling

- A Veolia truck will service the Waste room and park on Market Street
- Driver to park out the front of building in drop off zone before 7am to service the bins up the lane way.
- Liquid truck to do the same for servicing. Liquid truck to park out the front and run hose down lane way. Path way to have Pedestrian hazard signs erected as hose is trip hazard. This to be done prior to 7am
- Residential BIN STORE needs to have two separate areas for hotel and Residential.
- MRV Trucks to drive from north to south in the one direction for safe collection of waste bins.

One aspect of ecologically sustainable design focuses on improving the efficiency of energy consumption within a building, with a primary intent to minimise CO2 emissions and the impact of inefficient buildings harming the environment.

The importance of energy efficiency in the building industry has increased significantly in recent years, to the point now that the Building Code of Australia (BCA) has introduced energy performance requirements for all classifications of buildings. Regardless of legislative requirements, the benefits of ecologically sustainable design (ESD) extend to long term energy cost savings as well as a public perception of environmental responsibility.

With this in mind, the design team have developed the below energy efficiency/sustainability initiatives. These initiatives intend to reduce the building energy consumption beyond the Building Code of Australia “Deemed-to- Satisfy” approach to Energy Efficiency, leading to a further reduction of CO2 emissions.

The features outlined below are to be investigated further during the design development phase of the project and considered for inclusion in the development subject to feasibility and cost effectiveness.

The apartment project is a mixed-used development comprising:-

Ground level: Cafe, hotel foyer, apartment foyer, carparking, delivery area and bin room. Mezzanine level: Meeting rooms for seminars and events.

Level 1-3:	13 hotel rooms per floor.
Level 4:	Gym and swimming pool.
Level 5-11:	11 hotel rooms per floor.
Level 12:	5 apartments per floor.
Level 13-15:	5 apartments per floor.
Level 16:	Storage area & bike parks for the apartment residents.

High performance insulation High performance insulation is proposed with wall, floor and roof insulation R- values to meet NCC minimum requirements and best practice guidelines.

Insulation will be applied to all exposed surfaces including the ceiling soffit of the ground floor entry forecourt and delivery area.

High performance glazing with low-E coating and low solar heat gain coefficient to mitigate solar heat gains during summer.

The following shading strategies have been developed:-

- Vertical shading fins to serve all facades at Levels 5-11 and Levels 13-15.
- Extension of slab/balconies to provide horizontal overhang shading devices.

Every habitable apartment and hotel room will be provided with an operable window that opens to outside. Natural ventilation has two key benefits:

- Reduced demand for air conditioning during summer and mid-season.
- Increased indoor air quality through provision of higher quantities of outside air.

Building facade, building fabric performance and passive design of apartments to achieve a NatHERS energy rating of at least 5 Stars for each individual apartment and 6 Stars for the whole apartment building.

The following energy efficient initiatives are proposed to complement the passive design techniques:-

- Incorporate high efficiency, inverter driven, low-static pressure type air conditioning systems.
- Incorporate LED lighting throughout.
- Incorporate motion sensors for efficient control of lighting within common areas and daylight sensors for efficient control of external lighting.
- Master shutdown switch at the entry of each hotel room, allowing occupants to easily switch off all lighting and air-conditioning upon departure.

Selection of fittings and fixtures is paramount for achieving a water efficient building. All fixtures and fittings shall be selected as low-flow where possible. The following WELS ratings are proposed:-

- Bathroom and kitchen taps with a WELS rating of not less than 5 Stars (6.0 L/min)
- Shower heads with a WELS rating of not less than 3 Stars (9.0 L/min)
- Water closets with a WLS rating of not less than 4 Stars (3.5 L/flush, dual flush)

In addition to provision of natural ventilation to each habitable apartment and hotel room, the following initiatives are proposed:-

- Kitchen rangehoods with exhaust discharged to outside via ductwork in lieu of recirculating type hoods.
- Low volatile organic compound (VOC) paints.

In order to minimise the environmental impact of concrete used in the project, the following initiative is proposed:-

- Portland cement content in in-situ concrete mixes (e.g. slabs, columns, piling etc) to be reduced by 25% and replaced with alternative cementitious materials such as slag and flyash to reduce carbon footprint and resource depletion.

The following initiatives shall be considered to complement the passive design techniques:-

- A total of 20 bicycle racks provided at Level 16 for the apartment residents.
- Limited car parking spaces provided within the building's site to encourage use of bicycle and other alternative low carbon means of transport.

BESTEC Pty Ltd was engaged to provide acoustic engineering services during the design and construction stages of the residential development 23-29 Market Street, Adelaide. This document presents the proposed acoustic design criteria, the results of our traffic noise assessment and preliminary recommendations for acoustic treatment to achieve the selected design criteria.

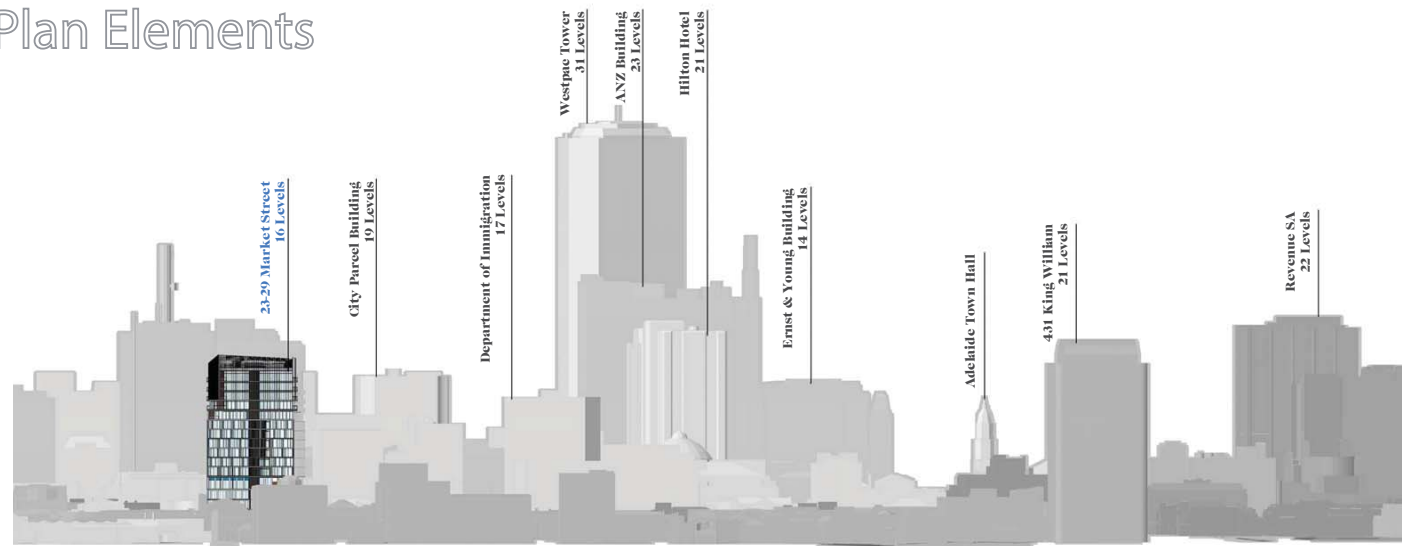
In summary:

- The preliminary architectural drawings of the proposed development were reviewed.
- An attended noise survey was conducted on site on the 24 June 2017 to determine the existing

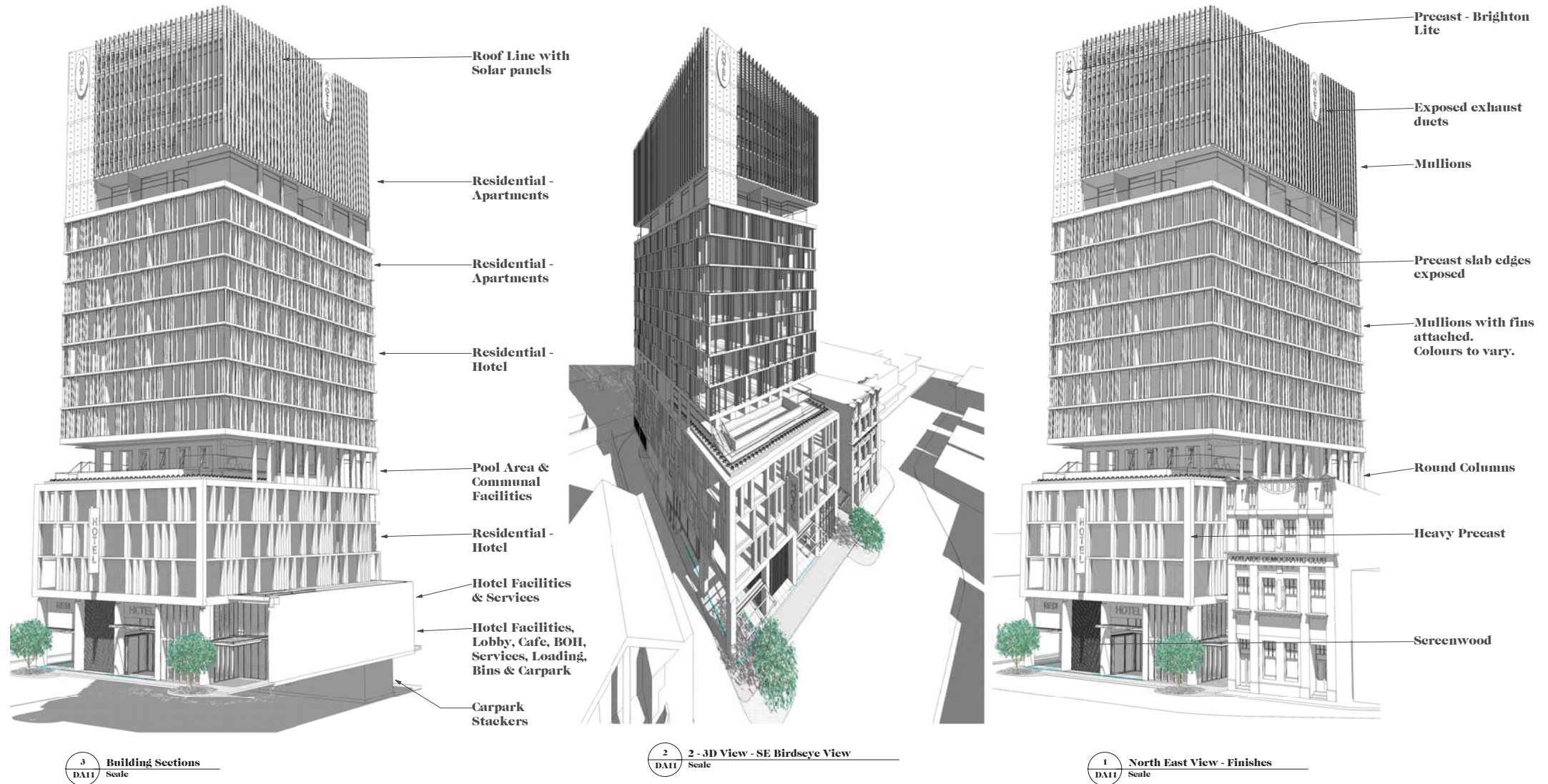
3. Key Development Plan Elements

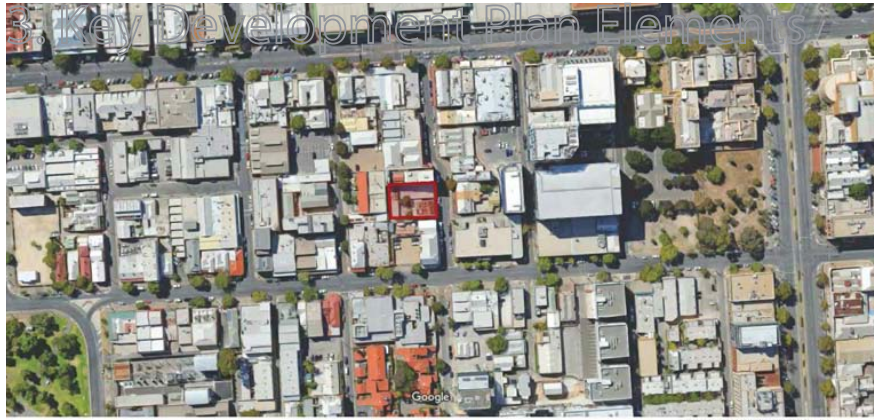
ambient noise levels and dominant sources of noise.

- ▶ Appropriate acoustic design criteria were nominated.
- ▶ Preliminary acoustic design recommendations to achieve the selected criteria were provided, including:
- ▶ Appropriate constructions of the building façade and glazing were nominated in order to provide sufficient attenuation to noise from traffic and Hotel Wright Street at proximity to the development.
- ▶ Appropriate constructions of the walls and floors separating the apartments were nominated to ensure compliance with the requirements of National Construction Code Series 2017, Building Code of Australia for sound insulation (Section F5).
- ▶ Generic recommendations for acoustic treatment of mechanical services were provided.
- ▶ The noise impact to the nearest residential developments associated with rubbish collection, pump operation and car lift access and operation has been provided.



3. Key Development Plan Elements





DA - Overall Location Plan



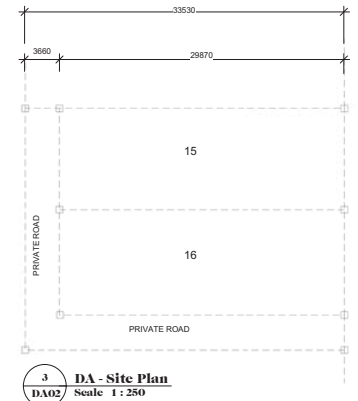
DA - Street View of Podium



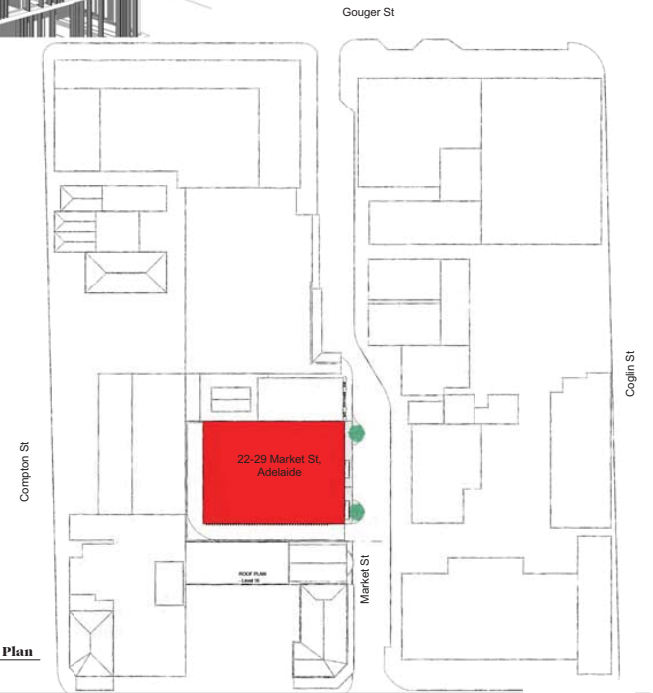
DA - View of Top of Building



1 DA - Location Plan
Scale 1:1250

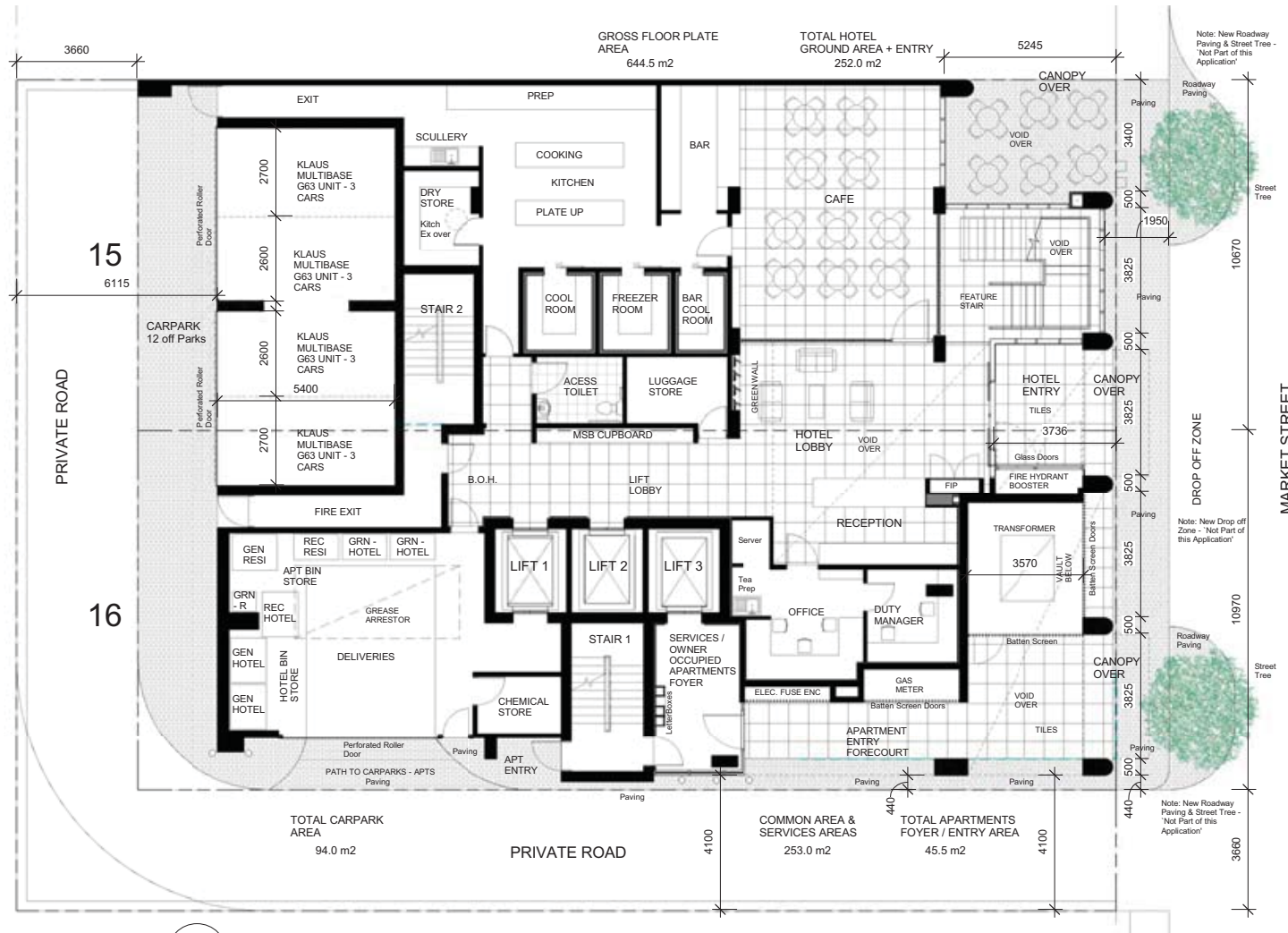


3 DA - Site Plan
Scale 1:250

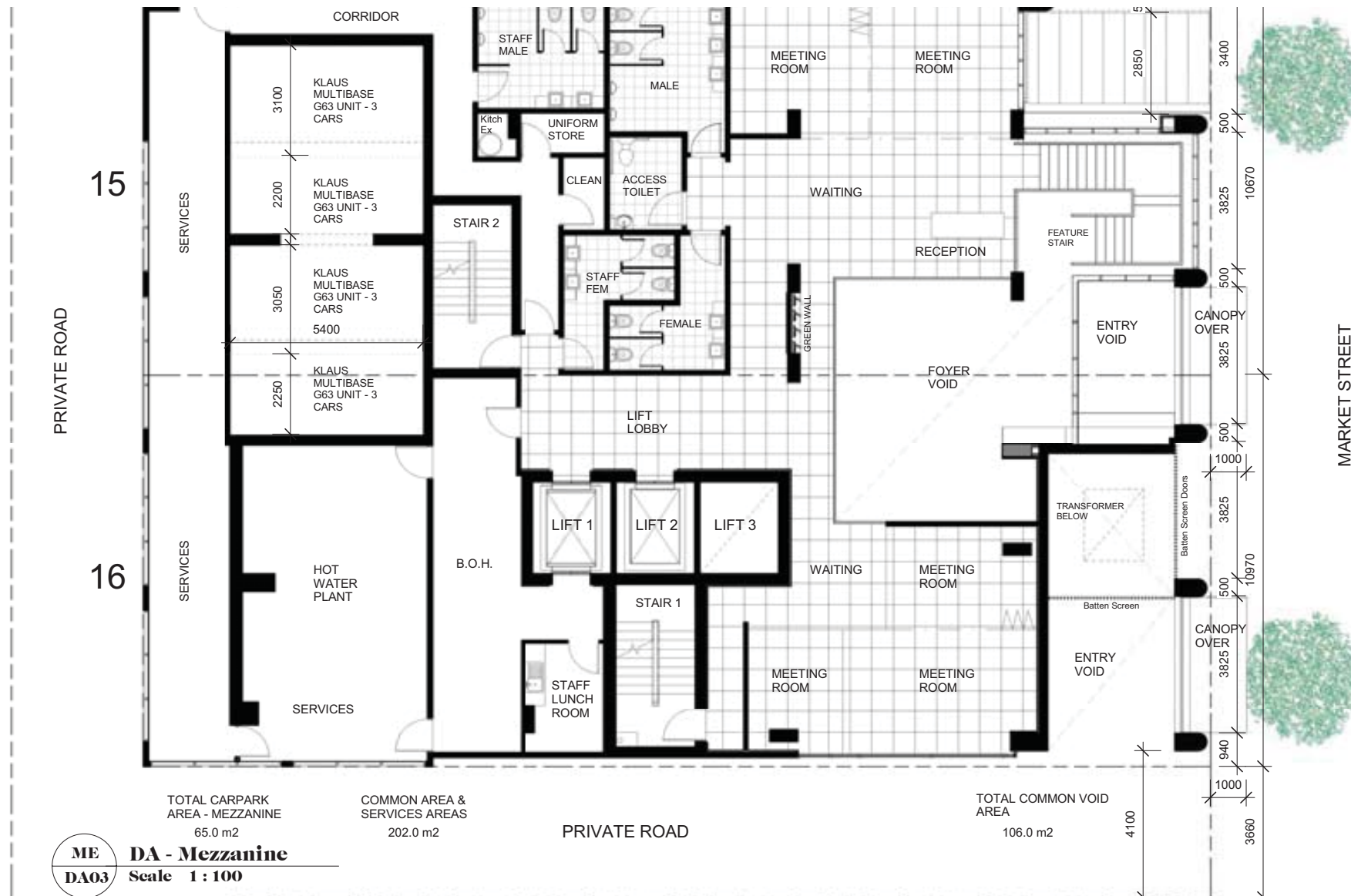


2 DA - Site Context Plan
Scale 1:500

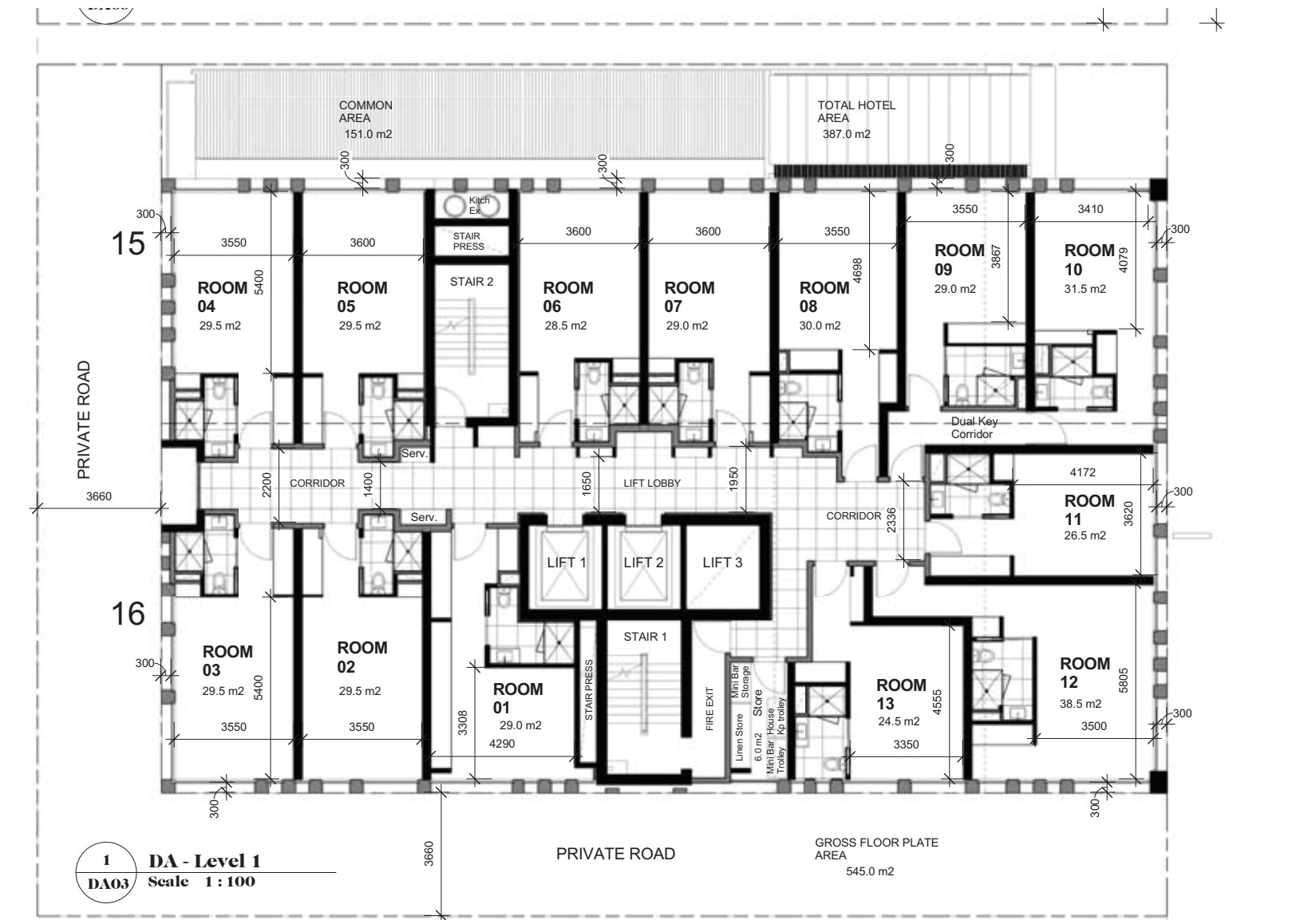
3. Key Development Plan Elements



3. Key Development Plan Elements

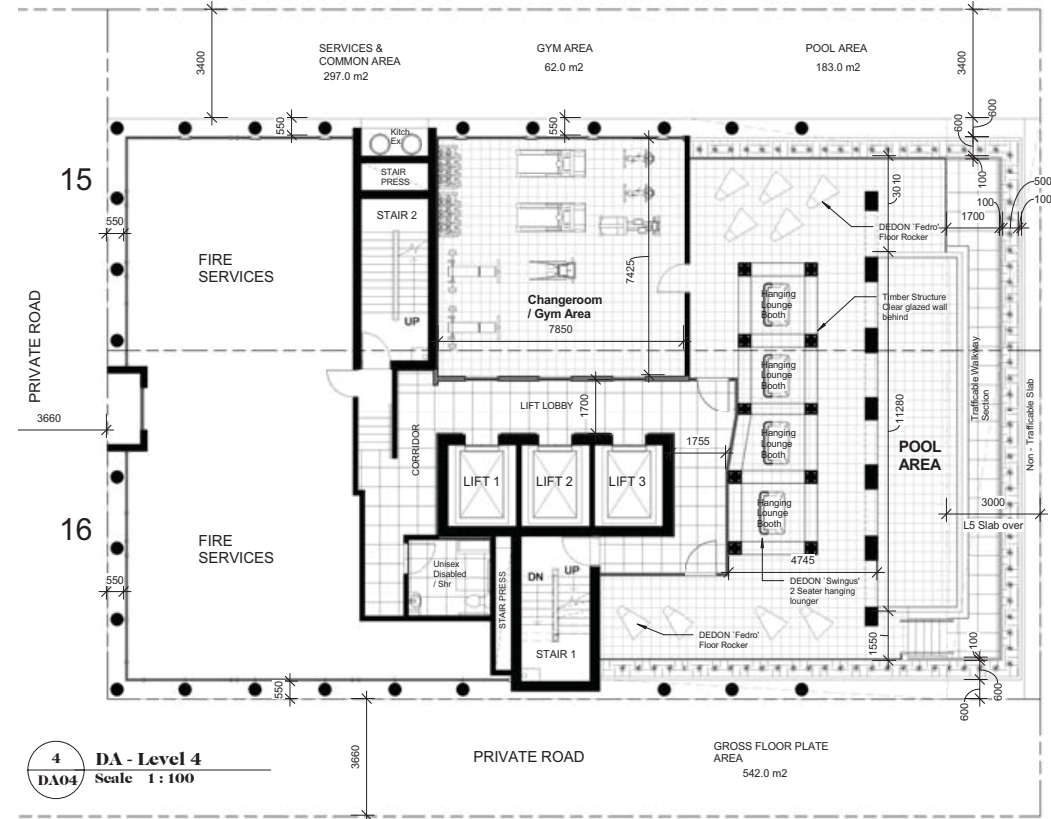
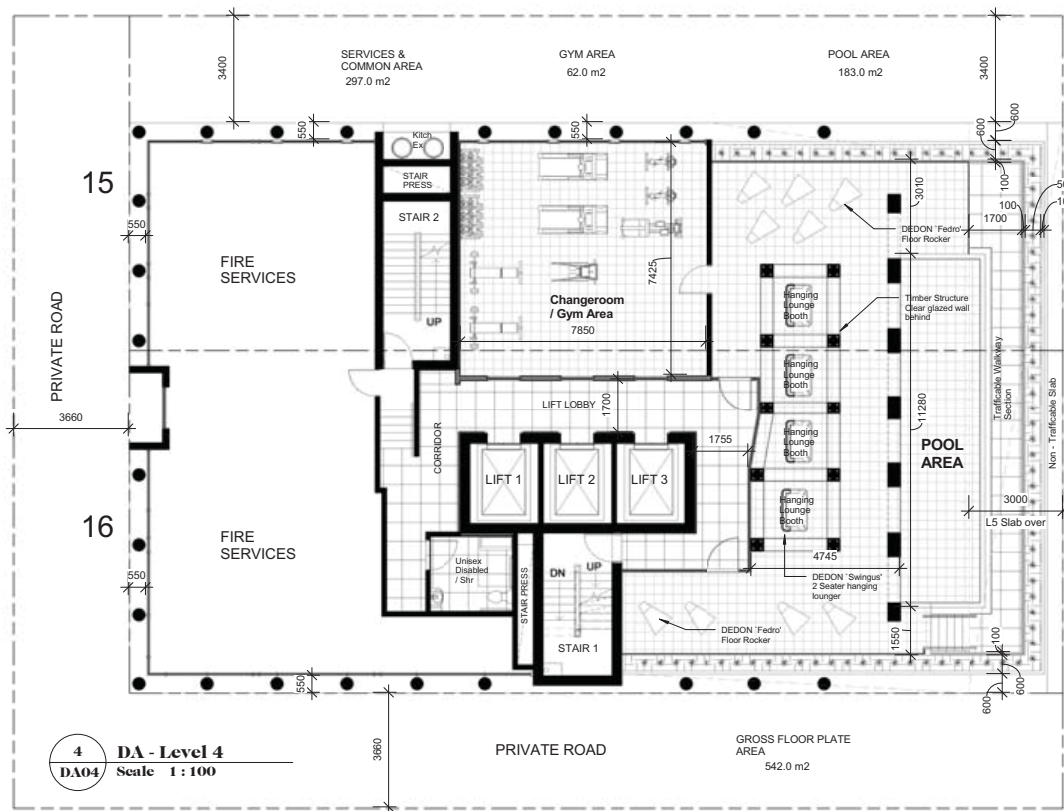


3. Key Development Plan Elements

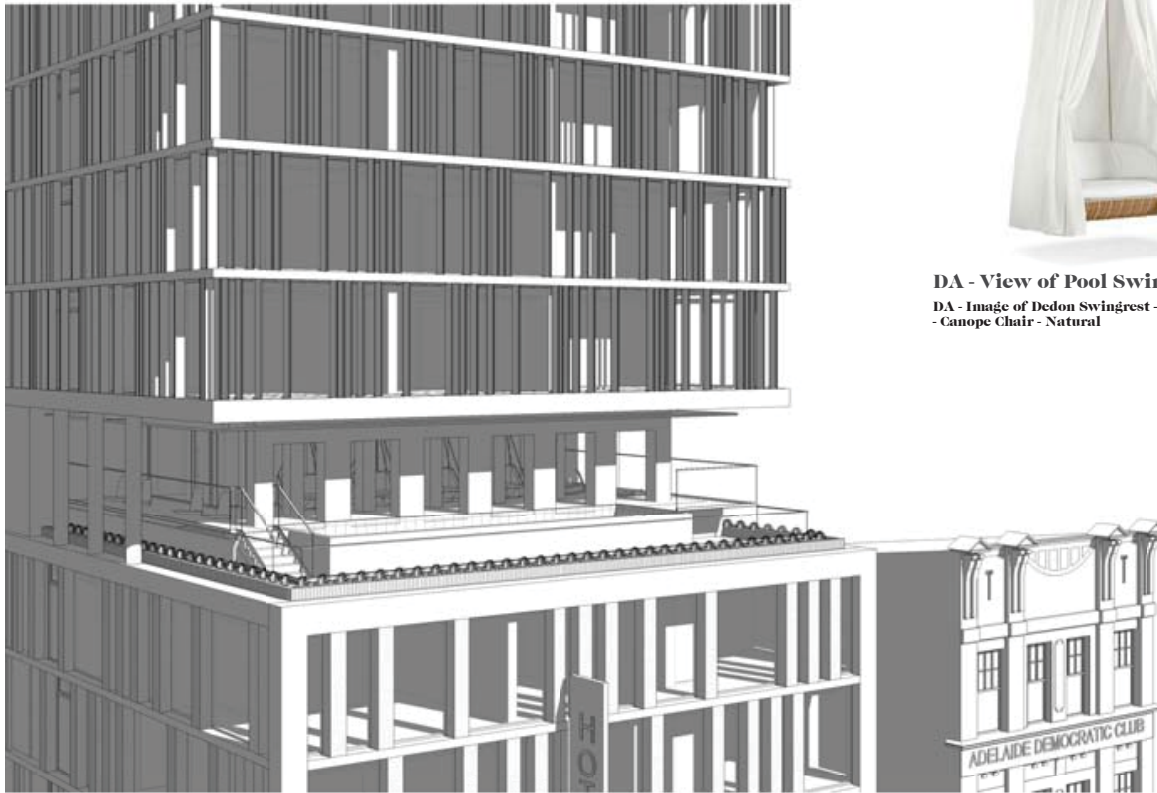


Market Street Development

3. Key Development Plan Elements



3. Key Development Plan Elements

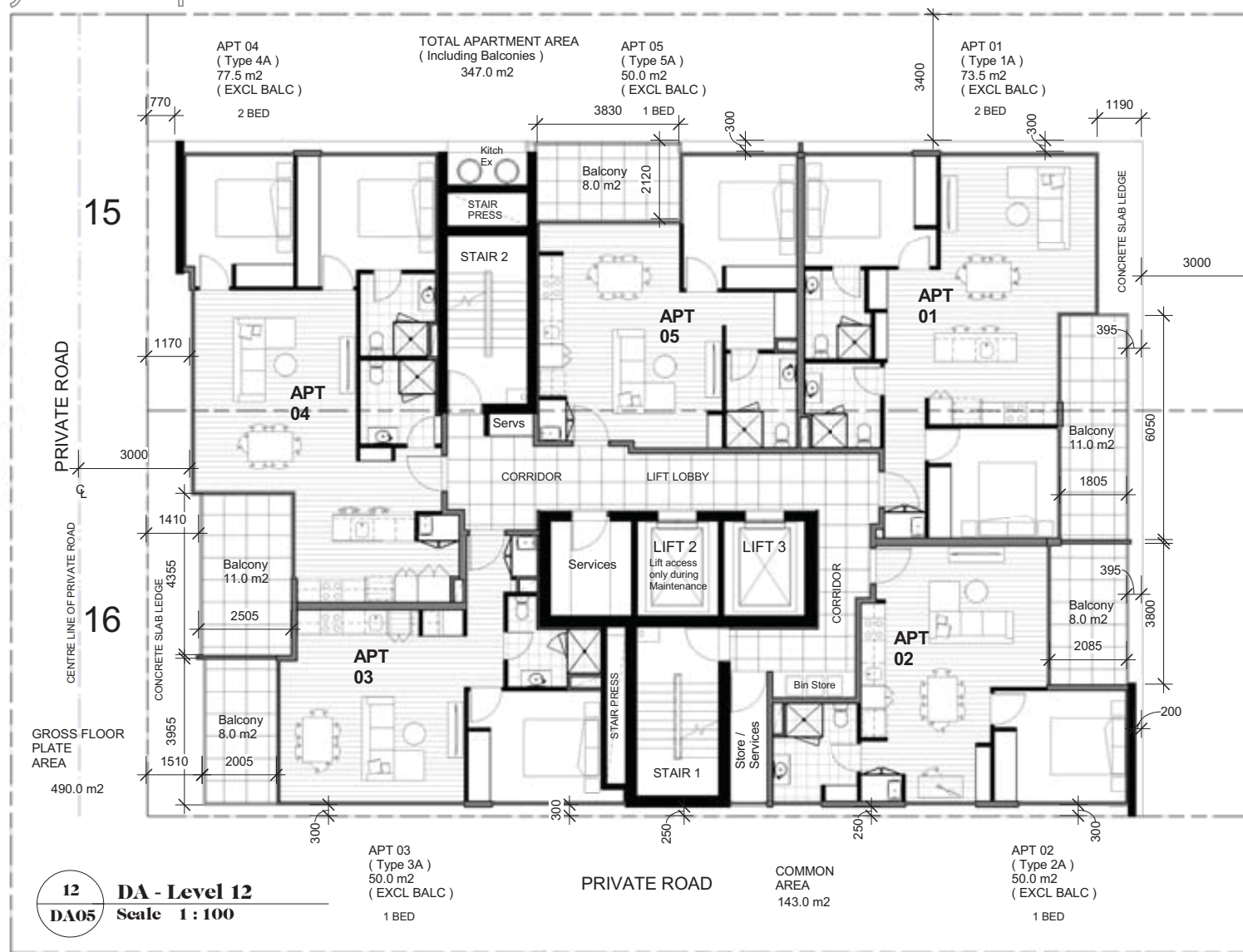


DA - View of Pool Swing Chair

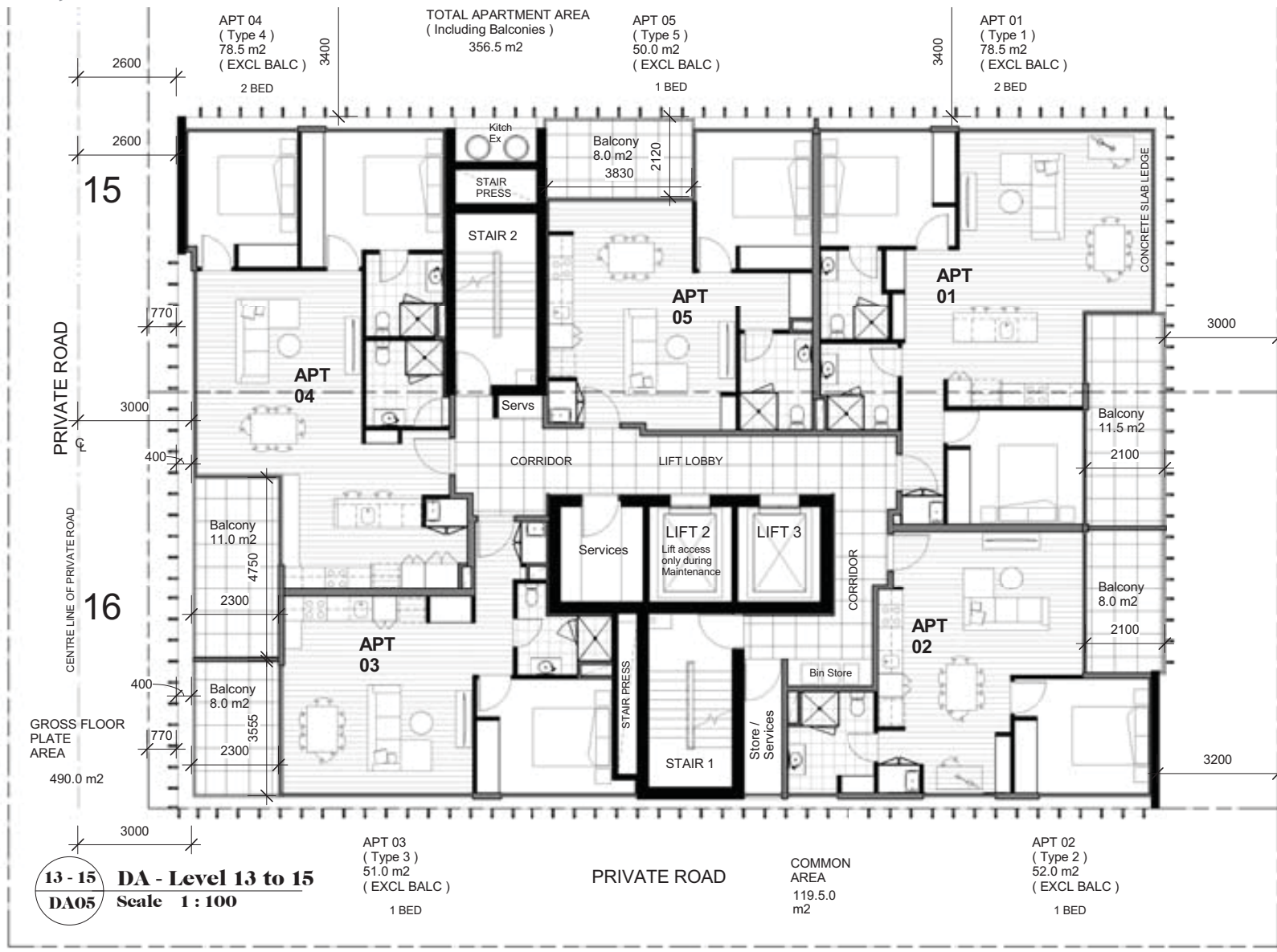
DA - Image of Dedon Swingrest - Swingus
- Canope Chair - Natural

**DA - View of Building above Top of Podium Level
- at Level 4 Pool Area**

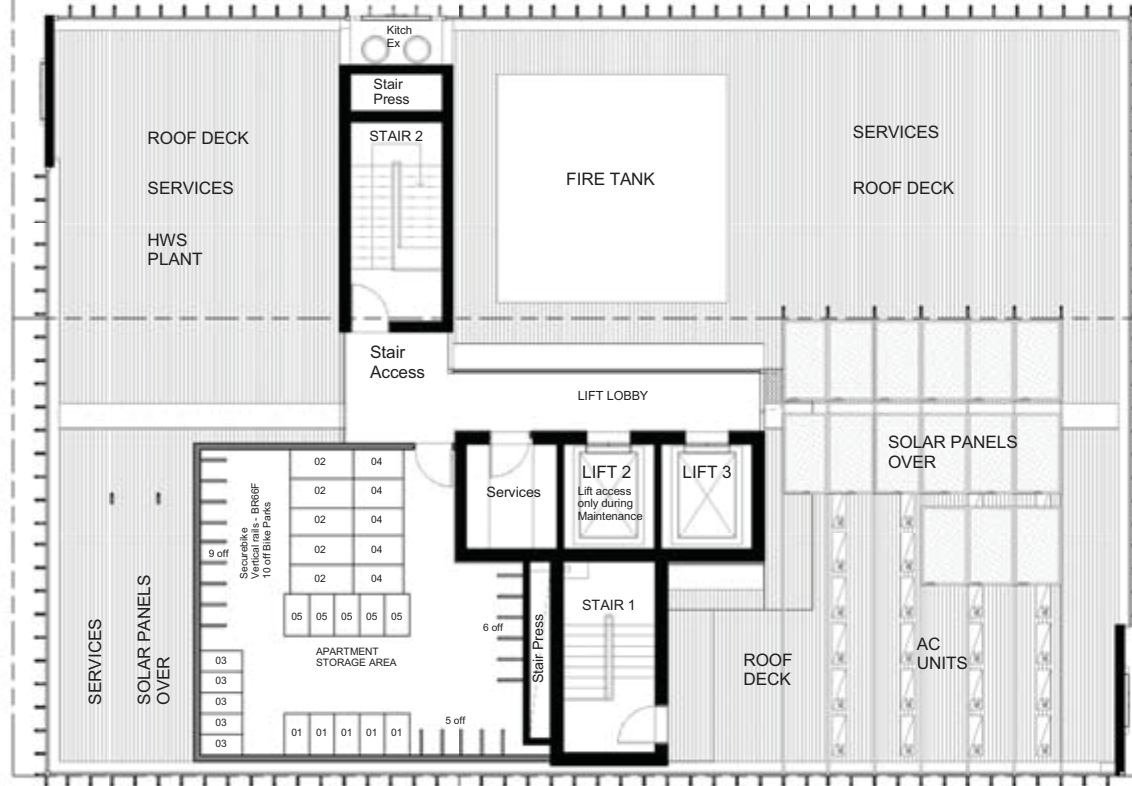
22



3. Key Development Plan Elements



3. Key Development Plan Elements



16 DA - Roof
DA05 Scale 1 : 100

4. Apartment Area Schedules

			GROSS AREA SCHEDULE - FINAL DAC LODGEMENT			28-Jun-17
OPTION 1F - 11 LEVELS HOTEL + SERVICED/OWNER OCCUPIED APARTMENTS						
Design Phase - 17 Floor Levels (REVISED AFTER ODASA MEETING (07/06/17))						
LEVEL	FUNCTION	Common & Services Areas (M²)	Hotel Areas (M²)	Apartmts & Foyer/Entry + Entry Voids(M²)	Carpark & Misc. Areas (M²)	Gross Area (M²)
Ground	Entry - Hotel - Common	197	340	43	65	645
Mezzanine	Entry - Hotel - Common	202	272	106	65	645
SUB-TOTAL		399	612	149	130	1290
LEVEL	FUNCTION		Common Area (M²)	Hotel Room Areas (M²)	Apartment & Balcony Areas (M²)	Gross Area (M²)
1	Hotel Rooms - 13 off		154	387		545
2	Hotel Rooms - 13 off		151	387		543
3	Hotel Rooms - 13 off		151	387		543
4	Hotel Rooms - 0 off	(Gym- 245)	297	0		542
5	Hotel Rooms - 11 off		148	341		488
6	Hotel Rooms - 11 off		148	341		488
7	Hotel Rooms - 11 off		148	341		488
8	Hotel Rooms - 11 off		148	341		488
9	Hotel Rooms - 11 off		148	341		488
10	Hotel Rooms - 11 off		148	341		488
11	Hotel Rooms - 11 off		148	341		488
	TOTAL - 116 off Hotel Rooms					
12	Serviced/Owner Occupied Apartments - 5 off		143		347	490
13	Serviced/Owner Occupied Apartments - 5 off		119		357	476
14	Serviced/Owner Occupied Apartments - 5 off		119		357	476
15	Serviced/Owner Occupied Apartments - 5 off		119		357	476
	TOTAL - 20 off Apartments.					
SUB-TOTAL			2289	3548	1418	7507
Roof	476m²					
TOTAL						8797

23-29 Market St Adelaide

GROSS/NET AREA - FURTHER REVISED POST-LODGE MENT SCHEME 53.80M (TOP OF ROOF PARAPET) Option 1E

Note: Highest Point of Roof screens set at 4m above roof parapet.(57.86m)

4. Apartment Area Schedules

A1947

23 - 29 MARKET STREET, ADELAIDE

28/06/2017

APARTMENT/HOTEL SCHEDULE OF PROVISIONS (Includes Provisions of Adelaide City Council Development Plan) - (JUNE 2017)

LEVEL	Apt. / Hotel No.	Name	Beds	AREA - Square Metres						Storage - Cubic Square Metres						Bicycle Park	Carparks	Private Open Deck / Pool Areas
				Apartment / Hotel Size	Min. Unit Space Required	Area Sufficient	Balcony	Private Open Space required	Difference	Apartment / Hotel Storage	Storage Lockers / Store Room	Total Storage	Storage required	Difference	Storage Sufficient			
1	101	Hotel rm. 101	1	29	N/A		N/A	N/A		5.5	6		N/A			N/A	N/A	
	102	Hotel rm. 102	1	29.5	N/A		N/A	N/A		3.7			N/A			N/A	N/A	
	103	Hotel rm. 103	1	29.5	N/A		N/A	N/A		3.7			N/A			N/A	N/A	
	104	Hotel rm. 104	1	29.5	N/A		N/A	N/A		3.7			N/A			N/A	N/A	
	105	Hotel rm. 105	1	29.5	N/A		N/A	N/A		3.7			N/A			N/A	N/A	
	106	Hotel rm. 106	1	28.5	N/A		N/A	N/A		3.7			N/A			N/A	N/A	
	107	Hotel rm. 107	1	29	N/A		N/A	N/A		3.7			N/A			N/A	N/A	
	108	Hotel rm. 108	1	30	N/A		N/A	N/A		4			N/A			N/A	N/A	
	109	Hotel rm. 109	1	29	N/A		N/A	N/A		3.3			N/A			N/A	N/A	
	110	Hotel rm. 110	1	31.5	N/A		N/A	N/A		3.4			N/A			N/A	N/A	
	111	Hotel rm. 111	1	26.5	N/A		N/A	N/A		4.5			N/A			N/A	N/A	
	112	Hotel rm. 112	1	38.5	N/A		N/A	N/A		3.8			N/A			N/A	N/A	
	113	Hotel rm. 113	1	27	N/A		N/A	N/A		3.8			N/A			N/A	N/A	
2	201	Hotel rm. 201	1	29	N/A		N/A	N/A		5.5	6		N/A			N/A	N/A	
	202	Hotel rm. 202	1	29.5	N/A		N/A	N/A		3.7			N/A			N/A	N/A	
	203	Hotel rm. 203	1	29.5	N/A		N/A	N/A		3.7			N/A			N/A	N/A	
	204	Hotel rm. 204	1	29.5	N/A		N/A	N/A		3.7			N/A			N/A	N/A	
	205	Hotel rm. 205	1	29.5	N/A		N/A	N/A		3.7			N/A			N/A	N/A	
	206	Hotel rm. 206	1	28.5	N/A		N/A	N/A		3.7			N/A			N/A	N/A	
	207	Hotel rm. 207	1	29	N/A		N/A	N/A		3.7			N/A			N/A	N/A	
	208	Hotel rm. 208	1	30	N/A		N/A	N/A		4			N/A			N/A	N/A	
	209	Hotel rm. 209	1	29	N/A		N/A	N/A		3.3			N/A			N/A	N/A	
	210	Hotel rm. 210	1	31.5	N/A		N/A	N/A		3.4			N/A			N/A	N/A	
	211	Hotel rm. 211	1	26.5	N/A		N/A	N/A		4.5			N/A			N/A	N/A	
	212	Hotel rm. 212	1	38.5	N/A		N/A	N/A		3.8			N/A			N/A	N/A	
	213	Hotel rm. 213	1	27	N/A		N/A	N/A		3.8			N/A			N/A	N/A	
3	301	Hotel rm. 301	1	29	N/A		N/A	N/A		5.5	6		N/A			N/A	N/A	
	302	Hotel rm. 302	1	29.5	N/A		N/A	N/A		3.7			N/A			N/A	N/A	
	303	Hotel rm. 303	1	29.5	N/A		N/A	N/A		3.7			N/A			N/A	N/A	
	304	Hotel rm. 304	1	29.5	N/A		N/A	N/A		3.7			N/A			N/A	N/A	
	305	Hotel rm. 305	1	29.5	N/A		N/A	N/A		3.7			N/A			N/A	N/A	
	306	Hotel rm. 306	1	28.5	N/A		N/A	N/A		3.7			N/A			N/A	N/A	
	307	Hotel rm. 307	1	29	N/A		N/A	N/A		3.7			N/A			N/A	N/A	
	308	Hotel rm. 308	1	30	N/A		N/A	N/A		4			N/A			N/A	N/A	
	309	Hotel rm. 309	1	29	N/A		N/A	N/A		3.3			N/A			N/A	N/A	
	310	Hotel rm. 310	1	31.5	N/A		N/A	N/A		3.4			N/A			N/A	N/A	
	311	Hotel rm. 311	1	26.5	N/A		N/A	N/A		4.5			N/A			N/A	N/A	
	312	Hotel rm. 312	1	38.5	N/A		N/A	N/A		3.8			N/A			N/A	N/A	
	313	Hotel rm. 313	1	27	N/A		N/A	N/A		3.8			N/A			N/A	N/A	

4. Apartment Area Schedules

A1947

23 - 29 MARKET STREET, ADELAIDE

12/05/2017

APARTMENT SCHEDULE OF PROVISIONS (Includes Provisions of Adelaide City Council Development Plan) - (May 2017)

				AREA - Square Metres						Storage - Cubic Square Metres								
LEVEL	Room No.	Name	Beds	Apartment / Hotel Size	Min. Unit Space Required	Area Sufficient	Balcony	Private Open Space required	Difference	Apartment / Hotel Storage	Storage Lockers / Store Room	Total Storage	Storage required	Difference	Storage Sufficient	Bicycle Park	Carparks	Private Open Deck / Pool Areas
4											0							
	401	Hotel rm. 401	1	31.5	N/A		N/A	N/A		3.8			N/A			N/A	N/A	
	402	Hotel rm. 402	1	29	N/A		N/A	N/A		3.8			N/A			N/A	N/A	
	403	Hotel rm. 403	1	27.3	N/A		N/A	N/A		3.8			N/A			N/A	N/A	
	404	Hotel rm. 404	1	27.2	N/A		N/A	N/A		3.8			N/A			N/A	N/A	
	405	Hotel rm. 405	1	28.5	N/A		N/A	N/A		3.8			N/A			N/A	N/A	
	406	Hotel rm. 406	1	28.5	N/A		N/A	N/A		3.8			N/A			N/A	N/A	
		Pool Area																159
		Gym Area																
		23.5m2																
5											8.5							
	501	Hotel rm. 101	1	33	N/A		N/A	N/A		3.8			N/A			N/A	N/A	
	502	Hotel rm. 102	1	30	N/A		N/A	N/A		3.8			N/A			N/A	N/A	
	503	Hotel rm. 103	1	30	N/A		N/A	N/A		3.8			N/A			N/A	N/A	
	504	Hotel rm. 104	1	30	N/A		N/A	N/A		3.8			N/A			N/A	N/A	
	505	Hotel rm. 105	1	29.5	N/A		N/A	N/A		3.8			N/A			N/A	N/A	
	506	Hotel rm. 106	1	29.5	N/A		N/A	N/A		3.8			N/A			N/A	N/A	
	507	Hotel rm. 107	1	30	N/A		N/A	N/A		3.8			N/A			N/A	N/A	
	508	Hotel rm. 108	1	30	N/A		N/A	N/A		3.3			N/A			N/A	N/A	
	509	Hotel rm. 109	1	37	N/A		N/A	N/A		3.7			N/A			N/A	N/A	
	510	Hotel rm. 110	1	31.5	N/A		N/A	N/A		5.1			N/A			N/A	N/A	
	511	Hotel rm. 111	1	32.5	N/A		N/A	N/A		2.8			N/A			N/A	N/A	
6											9							
	601	Hotel rm. 601	1	33	N/A		N/A	N/A		3.8			N/A			N/A	N/A	
	602	Hotel rm. 602	1	30	N/A		N/A	N/A		3.8			N/A			N/A	N/A	
	603	Hotel rm. 603	1	30	N/A		N/A	N/A		3.8			N/A			N/A	N/A	
	604	Hotel rm. 604	1	30	N/A		N/A	N/A		3.8			N/A			N/A	N/A	
	605	Hotel rm. 605	1	29.5	N/A		N/A	N/A		3.8			N/A			N/A	N/A	
	606	Hotel rm. 606	1	29.5	N/A		N/A	N/A		3.8			N/A			N/A	N/A	
	607	Hotel rm. 607	1	30	N/A		N/A	N/A		3.8			N/A			N/A	N/A	
	608	Hotel rm. 608	1	30	N/A		N/A	N/A		3.3			N/A			N/A	N/A	
	609	Hotel rm. 609	1	37	N/A		N/A	N/A		3.7			N/A			N/A	N/A	
	610	Hotel rm. 610	1	31.5	N/A		N/A	N/A		5.1			N/A			N/A	N/A	
	611	Hotel rm. 611	1	32.5	N/A		N/A	N/A		2.8			N/A			N/A	N/A	

4. Apartment Area Schedules

A1947

23 - 29 MARKET STREET, ADELAIDE

12/05/2017

APARTMENT SCHEDULE OF PROVISIONS (Includes Provisions of Adelaide City Council Development Plan) - (May 2017)

LEVEL	Apt. / Hotel No.	Name	Beds	AREA - Square Metres						Storage - Cubic Square Metres					Storage Sufficient	Bicycle Park	Carparks	Private Open Deck / Pool Areas
				Apartment Size	Min. Unit Space Required	Area Sufficient	Balcony	Private Open Space required	Difference	Apartment / Hotel Storage	Storage Lockers / Store Room	Total Storage	Storage required	Difference				
7	701	Hotel rm. 701	1	33	N/A		N/A	N/A		3.8	9		N/A			N/A	N/A	
	702	Hotel rm. 702	1	30	N/A		N/A	N/A		3.8			N/A			N/A	N/A	
	703	Hotel rm. 703	1	30	N/A		N/A	N/A		3.8			N/A			N/A	N/A	
	704	Hotel rm. 704	1	30	N/A		N/A	N/A		3.8			N/A			N/A	N/A	
	705	Hotel rm. 705	1	29.5	N/A		N/A	N/A		3.8			N/A			N/A	N/A	
	706	Hotel rm. 706	1	29.5	N/A		N/A	N/A		3.8			N/A			N/A	N/A	
	707	Hotel rm. 707	1	30	N/A		N/A	N/A		3.8			N/A			N/A	N/A	
	708	Hotel rm. 708	1	30	N/A		N/A	N/A		3.3			N/A			N/A	N/A	
	709	Hotel rm. 709	1	37	N/A		N/A	N/A		3.7			N/A			N/A	N/A	
	710	Hotel rm. 710	1	31.5	N/A		N/A	N/A		5.1			N/A			N/A	N/A	
	711	Hotel rm. 711	1	32.5	N/A		N/A	N/A		2.8			N/A			N/A	N/A	
8	801	Hotel rm. 801	1	33	N/A		N/A	N/A		3.8	9		N/A			N/A	N/A	
	802	Hotel rm. 802	1	30	N/A		N/A	N/A		3.8			N/A			N/A	N/A	
	803	Hotel rm. 803	1	30	N/A		N/A	N/A		3.8			N/A			N/A	N/A	
	804	Hotel rm. 804	1	30	N/A		N/A	N/A		3.8			N/A			N/A	N/A	
	805	Hotel rm. 805	1	29.5	N/A		N/A	N/A		3.8			N/A			N/A	N/A	
	806	Hotel rm. 806	1	29.5	N/A		N/A	N/A		3.8			N/A			N/A	N/A	
	807	Hotel rm. 807	1	30	N/A		N/A	N/A		3.8			N/A			N/A	N/A	
	808	Hotel rm. 808	1	30	N/A		N/A	N/A		3.3			N/A			N/A	N/A	
	809	Hotel rm. 809	1	37	N/A		N/A	N/A		3.7			N/A			N/A	N/A	
	810	Hotel rm. 810	1	31.5	N/A		N/A	N/A		5.1			N/A			N/A	N/A	
	811	Hotel rm. 811	1	32.5	N/A		N/A	N/A		2.8			N/A			N/A	N/A	
9	901	Hotel rm. 901	1	33	N/A		N/A	N/A		3.8	9		N/A			N/A	N/A	
	902	Hotel rm. 902	1	30	N/A		N/A	N/A		3.8			N/A			N/A	N/A	
	903	Hotel rm. 903	1	30	N/A		N/A	N/A		3.8			N/A			N/A	N/A	
	904	Hotel rm. 904	1	30	N/A		N/A	N/A		3.8			N/A			N/A	N/A	
	905	Hotel rm. 905	1	29.5	N/A		N/A	N/A		3.8			N/A			N/A	N/A	
	906	Hotel rm. 906	1	29.5	N/A		N/A	N/A		3.8			N/A			N/A	N/A	
	907	Hotel rm. 907	1	30	N/A		N/A	N/A		3.8			N/A			N/A	N/A	
	908	Hotel rm. 908	1	30	N/A		N/A	N/A		3.3			N/A			N/A	N/A	
	909	Hotel rm. 909	1	37	N/A		N/A	N/A		3.7			N/A			N/A	N/A	
	910	Hotel rm. 910	1	31.5	N/A		N/A	N/A		5.1			N/A			N/A	N/A	
	911	Hotel rm. 911	1	32.5	N/A		N/A	N/A		2.8			N/A			N/A	N/A	

4. Apartment Area Schedules

A1947

23 - 29 MARKET STREET, ADELAIDE

28/06/2017

APARTMENT/HOTEL SCHEDULE OF PROVISIONS (Includes Provisions of Adelaide City Council Development Plan) - (JUNE 2017)

LEVEL	Room No.	Name	Beds	AREA - Square Metres						Storage - Cubic Square Metres						Bicycle Park	Carparks	Private Open Deck / Pool Areas
				Apartment / Hotel Size	Min. Unit Space Required	Area Sufficient	Balcony	Private Open Space required	Difference	Apartment / Hotel Storage	Storage Lockers / Store Room	Total Storage	Storage required	Difference	Storage Sufficient			
11											13.5							
	1101	Hotel rm. 1101	1	29.5	N/A		N/A	N/A		5.5			N/A			N/A	N/A	
	1102	Hotel rm. 1102	1	29.5	N/A		N/A	N/A		3.7			N/A			N/A	N/A	
	1103	Hotel rm. 1103	1	30	N/A		N/A	N/A		3.7			N/A			N/A	N/A	
	1104	Hotel rm. 1104	1	30	N/A		N/A	N/A		3.7			N/A			N/A	N/A	
	1105	Hotel rm. 1105	1	29.5	N/A		N/A	N/A		3.7			N/A			N/A	N/A	
	1106	Hotel rm. 1106	1	28.5	N/A		N/A	N/A		3.7			N/A			N/A	N/A	
	1107	Hotel rm. 1107	1	29	N/A		N/A	N/A		3.8			N/A			N/A	N/A	
	1108	Hotel rm. 1108	1	32	N/A		N/A	N/A		5.3			N/A			N/A	N/A	
	1109	Hotel rm. 1109	1	36	N/A		N/A	N/A		3.4			N/A			N/A	N/A	
	1100	Hotel rm. 1100	1	32.5	N/A		N/A	N/A		5			N/A			N/A	N/A	
	1110	Hotel rm. 1110	1	34	N/A		N/A	N/A		3			N/A			N/A	N/A	
TOTALS			116	3544.5	N/A	N/A	N/A	N/A		463	112.5		N/A			N/A	N/A	245
12	1201	Apt. 1201	2	73.5	65	√	11	11	0	8.8	1.5	10.3	10	0.3	√	1	1	
	1202	Apt. 1202	1	50	50	√	8	8	0	6.5	1.5	8	8	0	√	1	1	
	1203	Apt. 1203	1	50	50	√	8	8	0	5.4	2.6	8	8	0	√	1	0	
	1204	Apt. 1204	2	77.5	65	√	11	11	0	10.4	1.2	11.6	10	1.6	√	1	1	
	1205	Apt. 1205	1	50	50	√	8	8	0	6.2	2.1	8.3	8	0.3	√	1	0	
13	1301	Apt. 1301	2	78.5	65	√	11.5	11	0.5	8.8	1.5	10.3	10	0.3	√	1	1	
	1302	Apt. 1302	1	52	50	√	8	8	0	6.5	1.5	8	8	0	√	1	1	
	1303	Apt. 1303	1	51	50	√	8	8	0	5.5	2.6	8.1	8	0.1	√	1	0	
	1304	Apt. 1304	2	78.5	65	√	11	11	0	10.4	1.2	11.6	10	1.6	√	1	1	
	1305	Apt. 1305	1	50	50	√	8	8	0	6.2	2.1	8.3	8	0.3	√	1	0	
14	1401	Apt. 1401	2	78.5	65	√	11.5	11	0.5	8.8	1.5	10.3	10	0.3	√	1	1	
	1402	Apt. 1402	1	52	50	√	8	8	0	6.5	1.5	8	8	0	√	1	1	
	1403	Apt. 1403	1	51	50	√	8	8	0	5.5	2.6	8.1	8	0.1	√	1	0	
	1404	Apt. 1404	2	78.5	65	√	11	11	0	10.4	1.2	11.6	10	1.6	√	1	1	
	1405	Apt. 1405	1	50	50	√	8	8	0	6.2	2.1	8.3	8	0.3	√	1	0	

4. Apartment Area Schedules

A1947

23 - 29 MARKET STREET, ADELAIDE

28/06/2017

APARTMENT/HOTEL SCHEDULE OF PROVISIONS (Includes Provisions of Adelaide City Council Development Plan) - (JUNE 2017)

LEVEL	Room No.	Name	Beds	Apartment / Hotel Size	AREA - Square Metres					Storage - Cubic Square Metres					Storage Sufficient	Bicycle Park	Carparks	Private Open Deck / Pool Areas
					Min. Unit Space Required	Area Sufficient	Balcony	Private Open Space required	Difference	Apartment / Hotel Storage	Storage Lockers / Store Room	Total Storage	Storage required	Difference				
15																		
	1501	Apt. 1501	2	78.5	65	√	11.5	11	0.5	8.8	1.5	10.3	10	0.3	√	1	1	
	1502	Apt. 1502	1	52	50	√	8	8	0	6.5	1.5	8	8	0	√	1	1	
	1503	Apt. 1503	1	51	50	√	8	8	0	5.5	2.6	8.1	8	0.1	√	1	0	
	1504	Apt. 1504	2	78.5	65	√	11	11	0	10.4	1.2	11.6	10	1.6	√	1	1	
	1505	Apt. 1505	1	50	50	√	8	8	0	6.2	2.1	8.3	8	0.3	√	1	0	
Roof Level																		
		Services																
		324sqm																
TOTALS			28	1231	N/A	N/A	185.5	N/A	1.5	149.5	35.6	185.1	N/A	9.1	N/A	20	12	0

APARTMENT & HOTEL ROOM NOTES

Note: Storage Areas include: Wardrobes, Linen, Pantry, Miscellaneous Cupboards and Storage Lockers

Apartments - Storage cub.m. allowance for all Apartments complies with the Development Plan. There is a surplus of 9.1 cub.m Storage. Storage Lockers are at Mezz. Level.

Apartments - Apartment Area Sizes also comply with The Development Plan. (Areas as indicated on the table)

Apartments - Private Open Space allocation for the Apartments at Levels 11 to 15 - Typical Balcony Area Sizes comply with the Development Plan. (Areas as indicated on the table)

Apartments - Private Open Space as provided for the Apartments is sufficient.

Apartments - Storage Lockers + Bicycle Parks are at Roof Deck level

Hotel Rooms - Storage cub.m. allowance for the Hotel Rms - TOTAL Storage for 11 Levels of Hotel Rms is shown as 463 cub.m. Store Rm Allocation is 112.5 sqm.

Hotel Rooms - Hotel Room Sizes are nominal standard sizes. (Areas as indicated on the table)

Hotel Rooms - There is Private Open Space for the Hotel at Level 4 - Pool Area & Gymnasium , which provides 245 sqm of Private Open Space - This is applicable for the Hotel Rms and Apartments

Note:

APARTMENTS - NO. OFF - 20 off

CARPARKS -NUMBER OFF - 12 off

BIKE PARKS -NUMBER OFF - 20 off

LOCKERS -NUMBER OFF - 20 off

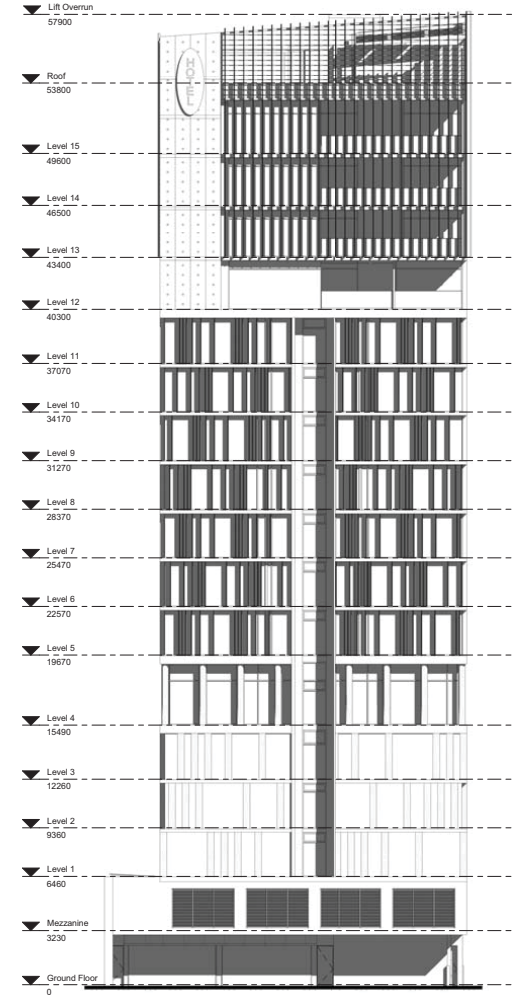
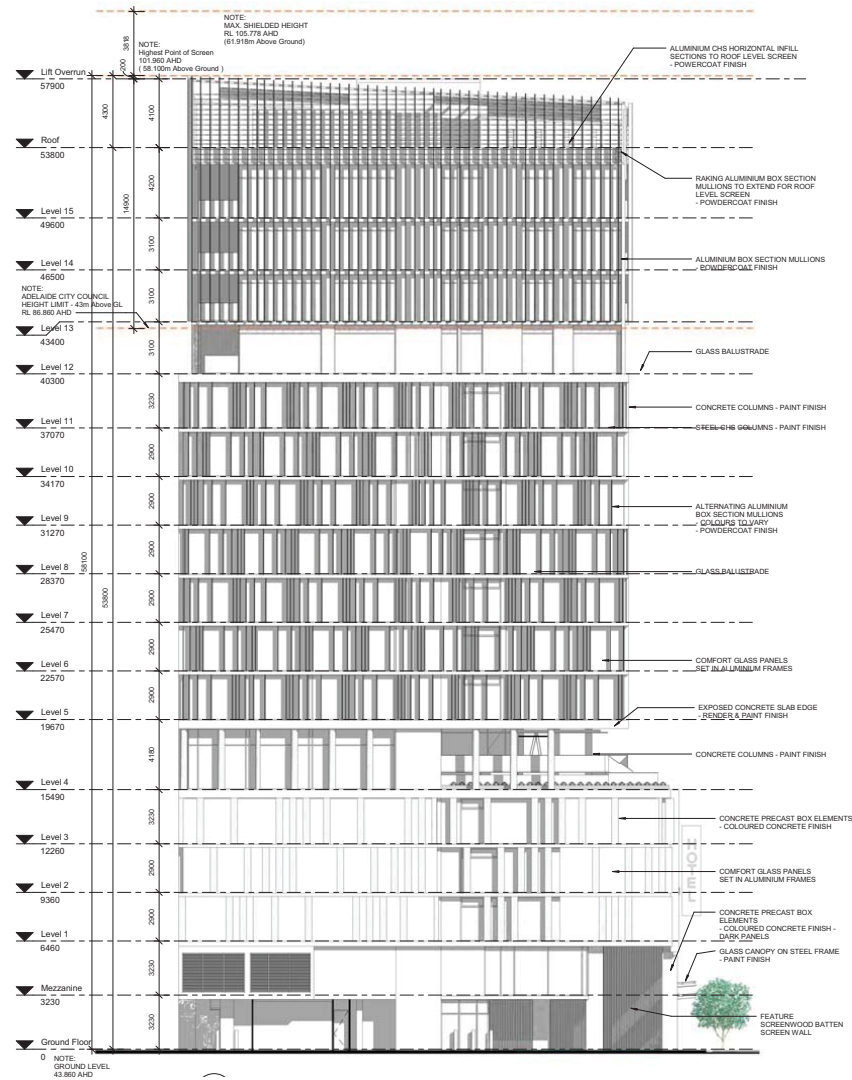
4. Apartment Area Schedules

A1935

262 Pirie Street, Adelaide		
RESIDENTIAL APARTMENT BUILDING		
GROSS AREA		
CURRENT SCHEME		
Updated DA Issue Dated - 26/04/2016		
25 Floor Levels		
LEVEL	FUNCTION	GROSS AREA (SQM)
Ground	Entry - Retail	498
1	Carpark	498
2	Carpark	498
3	Carpark	498
4	Carpark	498
5	Carpark	498
SUB-TOTAL		2988
6	Apartments (Podium L6)	498
7	Typ-Apartments	445
8	Typ-Apartments	445
9	Typ-Apartments	445
10	Typ-Apartments	445
11	Typ-Apartments	445
12	Typ-Apartments	445
13	Typ-Apartments	445
14	Typ-Apartments	445
15	Typ-Apartments	445
16	Typ-Apartments	445
17	Typ-Apartments	445
18	Typ-Apartments	445
19	Typ-Apartments	445
20	Typ-Apartments	445
21	Apartments (Transition Level 21)	436
22	Upper - Penthouses	424
23	Upper - Penthouses	424
SUB-TOTAL		8012
23	Roof Deck	359
TOTAL		11359

[illegible]

5. Summary of Design Review & Pre-lodgement Issues



5. Summary of Design Review & Pre-lodgement Issues

The following is a summary of the issues raised in the ODASA Government Architect Design Review (No 1) Letter dated 11 April 2017, including issues raised at the review by panel members.

	<i>The surrounding area is characterised by a mixture of one to three storey buildings of varying character fronting onto Market Street. Adjacent the site to the north is a three storey Local heritage place, the Adelaide Democratic Club, designed in 1915. Immediately opposite the site are six Local heritage listed single storey houses. Market Street is a narrow, one way, single lane street with parallel car parking to both sides of the street. Acknowledging the emerging character of the immediate area, this proposal has the potential to positively influence the future context of this part of the city.</i>	The massing of the building is designed to relate to the adjoining heritage building. The use of strong horizontal and vertical masonry elements grounds the building at those levels and reflects a contemporary interpretation of the adjoining building with its vertical and horizontal projections.
	<i>...in principle I support the proposed height. However this support is contingent on the proposal achieving a high quality design outcome, particularly in terms of the scale, form, residential amenity, contribution to the public realm and architectural expression of the proposed building relative to its current and future context. In addition to locating the two car park levels of the podium at the rear of the site, the proposal contributes to the streetscape with the provision of a cafe space at ground level and public hotel spaces at the ground and mezzanine levels of the podium. While this offers a degree of interaction with the street, and is supported in principle, I recommend further design refinement to maximise opportunities to activate Market street. To that end, I encourage ongoing discussions with services consultants and SA Power Networks to explore opportunities to relocate services away from Market Street where possible.</i>	Loucas zahos is having ongoing discussions with services consultants and SA Power Networks to explore opportunities to relocate services away from Market Street where possible.
	<i>The proposal intends to define three elements, a base, middle and top, with the design intent to reduce the overall building bulk. The three elements are articulated by horizontal shadow lines created by the provision of recessed building facades and expressed columns at levels four and 11. The solid base element from the ground floor level to level three, comprises hotel rooms and associated facilities. The ground floor and mezzanine levels of the podium extend to all site boundaries. Above the mezzanine level, the podium is set back 3.3 metres from the northern boundary.</i>	In order to accommodate the additional 3.0 m setback above the podium level, and additional level (from 16 to 17 levels) has been included to satisfy the hotel client brief and suggested overall yield.
	<i>In principle I support the design approach for a contemporary interpretation of the adjacent Local heritage place and acknowledgement of its role in informing the architectural expression of the podium. Acknowledging the setback to the northern boundary will assist in providing a positive relationship with the adjacent Local heritage building and access to light and ventilation for the hotel rooms and apartments, I have concerns regarding the height of the podium as proposed with articulation of the slab and recess at pool level and the minimal setbacks provided above the podium on the Market Street elevation. I also recommend consideration of a three metre setback above the podium to Market Street to visually reinforce the scale of the street and respond positively to the Adelaide Democratic Club and the fine grain character of the area.</i>	The overall building design has been redeveloped to incorporate at 3.0 m setback along Market Street to create a clear architectural expression for the podium.
	<i>I recommend review of the composition of building elements and material and finish selection that successfully supports the design intent. I also recommend use of material with finishes and colours integral to the fabric rather than applied finishes, to consider longevity, durability and ease of maintenance.</i>	Noted
	<i>The consistent balcony and screen treatment to both the north and south facades provides an integrated expression to the residential facades of the building, which I support in principle. However, the northern elevation requires further refinement to the placement of elements and the detailing, particularly the balustrades that result in unworkable balcony widths. In addition, how the solar shading on this facade will be integrated with the current expression needs to be considered.</i>	Noted

5. Summary of Design Review & Pre-lodgement Issues

	<i>The top 'crown' element from levels 11 to 14 comprises 20 serviced apartments and is characterised by a trapezoid floor plate with the intent to reduce building bulk at the upper levels. Vertical blades are proposed to this element with the intent to be lightweight and distinctive from the middle and base elements of the building. I have concerns regarding the trapezoid element and its ability to realise the ambition to reduce the building bulk, particularly as the element extends to the Market Street boundary and the visibility of the balcony soffits. I also have concerns regarding the materiality and intensity of the vertical blades of the 'crown' as they have the potential to compromise the amenity for the residents. I recommend further consideration of the form and materiality of the upper portion of the building with the view to reduce building bulk and provide high amenity for the residents with regards to outlook and access to light and ventilation. I also recommend further consideration of the layout of apartments to improve functionality and ensure opportunities for north facing apartments are maximised.</i>	The top of the building aims to significantly move away from the rationale of the lower "hotel levels" It provides identity to the residential element of the building, a different use. Gone is the random articulation which is the hotel. The upper residential levels are about providing a veil, which is repetitive, rather than random, that protects the residential facade, and provides and contrasts in materiality and detail from the heavier masonry hotel facade. The Rohmbus is generated in plan by maximising NE views (city) and SW View (bay). it aims to accentuate the distinctive functions of the two building segments by departing from an orthogonal plan
	<i>I recommend analysis of the solar loads to the western facade is undertaken with the view to address any potential heat and glare impacts on user comfort. In my opinion, the architectural expression should reflect the ESD strategies of the project.</i>	Refer to ESD initiatives provided in the BESTEC Report and in section 3.4.5 of this report
	<i>I also anticipate as the design progresses, development of a signage and branding strategy that is an integral element of the overall architectural expression and considers its night-time presentation will be presented.</i>	Noted
	<i>What is the rationale for the Fibonacci sequence ?</i>	Articulated facade with Fibonacci relates to hotel component of the site. The series simply provides a mathematical approach to providing vertical articulation that does not appear repetitive. More important the random articulation provides solidity to what would otherwise be a glazed hotel facade. It provides a level diversity within the hotel rooms and plays/complements the infrequent occupancy evident in hotel room. That is it represents the random use and occupancy of hotel rooms.
	<i>The vertical elements seem constrained by the horizontal slabs . The break zones don't really work due to the number of columns.</i>	We don't agree. The lower level break is very deep and will provide substantial shadow and relates to the adjoining heritage building. We don't think there second break needs to be as strong as its already contained within the significantly altered landscape of the top of the building
	<i>The building looks big and squat .</i>	It's not a big footprint. I think its the render that may make it look that way. If you examine east elevation the building is anything but squat.
	<i>If the architectural design and materiality are top class the panel has no objection to extra height . There are too many columns at the 'negative ' levels</i>	Don't think too many but probably should be more slender

5. Summary of Design Review & Pre-lodgement Issues

The following is a summary of the issues raised in the ODASA Government Architect Design Review (No 2) Letter dated 14 June 2017, including issues raised at the review by panel members.

	<i>The site is located on the west side of Market Street and north of Wright Street. The subject land is rectangular in shape and has a total approximate site area of 645 square metres. The surrounding area is characterised by a mixture of one to three storey buildings of varying character fronting onto Market Street. Adjacent the site to the north is a three storey Local heritage place, the Adelaide Democratic Club, designed in 1915. Immediately opposite the site are six Local heritage listed single storey houses. Market Street is a narrow, one way, single lane street with parallel car parking to both sides of the street. Acknowledging the emerging character of the immediate area, this proposal has the potential to positively influence the future context of this part of the city.</i>	The massing of the building is designed to relate to the adjoining heritage building. The use of a 3.0 m setback above the podium level reinforces the narrow street character. The strong horizontal and vertical masonry elements grounds the building at those levels and reflects a contemporary interpretation of the adjoining building with is vertical and horizontal projections.
	<i>The proposal is for a 17 level mixed use development with an above ground height of 56.9 metres to the uppermost point of the facade . In principle I support the proposed height contingent on the proposal achieving a high quality design outcome, particularly in terms of the scale, form, residential amenity, contribution to the public realm and architectural expression of the proposed building relative to its current and future context. The proposed scale in the current predominantly one to three storey context results in a high degree of visibility in 360 degrees. Therefore any development on this site must make a generous and positive contribution to the streetscape and city skyline on all elevations.</i>	The current design has been considered in the round and further design development has occurred on all four elevations.
	<i>In addition to locating the two car park levels of the podium at the rear of the site, the proposal makes positive contributions to the streetscape with the provision of indoor and outdoor cafe spaces at ground level and public hotel lobby spaces with a feature stair at the ground and mezzanine levels of the podium. While this offers interaction and engagement with the street. I recommend further design refinement of the ground floor configuration to maximise opportunities to activate the current and future streetscape of Market Street. To that end, I encourage reconsideration of the feature stair and transformer locations to provide generous and usable spaces along the Market Street frontage .</i>	The ground level has been further refined to provides generous breathing space adjacent the heritage building, outdoor dining with hotel and apartment entry areas. The feature stair has been redesigned to reduce the intrusion in the street. However, the location of the transformer, given further advice from the engineer, is fixed - but has been screened from view from the street.
	<i>The proposal intends to define the building into three elements, a base, middle and top, with the de sign intent to reduce the overall building bulk. The three elements are articulated by horizontal shadow lines created by the provision of recessed building facades at levels four and 12. I support the proposed design approach in principle, however I am concerned that some elements, such as the south eastern balconies on upper levels and the vertical articulation on the northern elevation, are inconsistent with the intended design concept and form composition . I encourage the refinement of the architectural expression so that it is congruent with the overall design intent.</i>	In order to accommodate the additional 3.0 m setback above the podium level, and additional level (from 16 to 17 levels) has been included to satisfy the hotel client brief and suggested overall yield. In addition, the balcony areas and internal apartments have been reconfigured to refine the overall architectural expression.
	<i>The solid base element from ground floor level to level three, comprises hotel rooms and associated facilities . The ground floor and mezzanine levels of the podium extend to all site boundaries, with the exception of a 3.4 by 3.7 metre recess at the north east corner of the site. I support the provision of the recess and the resultant visual separation between the proposal and the adjoining Adelaide Democratic Club building. Above the mezzanine level, the podium is set back 3.4 metres from the northern boundary and three metres from the eastern boundary . I commend and strongly support the provision of sufficient setback above the podium form, as it successfully reinforces the scale of the street and responds positively to the Adelaide Democratic Club and the fine grain character of the area.</i>	The overall building design has been redeveloped to incorporate a 3.0 m setback along Market Street to create a clear architectural expression for the podium.
	<i>The facade of the podium is composed of vertical and horizontal projecting concrete elements that reference the adjacent Adelaide Democratic Club with regards to building articulation and overall above-ground height. In principle I support the design approach for a contemporary interpretation of the adjacent Local heritage place and acknowledgement of its role in informing the architectural expression of the podium . While I support the height of the podium form, I recommend further refinement of the podium articulation to strengthen the reference to the rhythm and pattern of the Adelaide Democratic Club building facade. It is my opinion that the composition of the ground floor elevation should form part of the coherent podium expression overall.</i>	The design of the podium has been further refined to be more sympathetic with the rhythm and pattern of Adelaide Democratic Club facade.

5. Summary of Design Review & Pre-lodgement Issues

	<i>The expression of the residential levels on the north and south elevations is characterised by undulating balconies with perforated screens. The consistent balcony and screen treatment to both the north and south facades provides an integrated expression to the residential facades of the building, which I support in principle. However, the northern elevation requires further refinement to the placement of elements and the detailing, particularly the balustrades that result in unworkable balcony widths. In addition, how the solar shading on this facade will be integrated with the current expression needs to be considered.</i>	The balcony areas and internal apartments have been reconfigured to refine the overall architectural expression.
	<i>An "infinity" pool is proposed at level four. While I support the provision of the pool and the associated communal facilities at the top of the podium, I am concerned by the compromised amenity of the pool area. I am particularly concerned that the proposed seating areas have no direct solar access. I recommend review of the areas around the pool to ensure optimum user amenity, including solar access and an integrated approach to landscape design.</i>	The pool deck area has been redesigned to provide more solar access to the northeastern seating areas
	<i>The middle element from levels four to 11 comprises hotel rooms and one floor of apartments, and is characterised by a glazed facade articulated by horizontally expressed slab edges and deep aluminium fins in varying colours. While I support the expression of the middle element in general, I recommend use of material with finishes and colours integral to the fabric rather than applied finishes, to consider longevity, durability and ease of maintenance.</i>	Noted
	<i>The top 'crown' element from levels 13 to 15 comprises serviced apartments and is separated from the middle element by the trapezoid transition floor plate on level 12, with the intent to reduce building bulk at the upper levels. Vertical blades are proposed to this top element with the intent to be lightweight and distinctive from the middle and base elements of the building. I am concerned by the intensity and depth of the vertical blades, as they have the potential to compromise the outlook for the residents. I recommend further design development of facade treatments to the upper portion of the building with the view to provide high amenity for the residents with regards to outlook and access to light and ventilation.</i>	The top of the building aims to significantly move away from the rationale of the lower "hotel levels" It provides identity to the residential element of the building, a different use. Gone is the random articulation which is the hotel. The upper residential levels are about providing a veil, which is repetitive, rather than random, that protects the residential facade, and provides and contrasts in materiality and detail from the heavier masonry hotel facade. The Rohmbus is generated in plan by maximising NE views (city) and SW View (bay). it aims to accentuate the distinctive functions of the two building segments by departing from an orthogonal plan
	<i>A typical hotel floor contains 11 hotel rooms and apartment floors include five residential apartments per level. While I support the size and layout of the proposed rooms in general. I recommend refinement and rationalisation of the residential apartment layouts including balconies, to maximise residential amenity. I am also concerned about the convoluted circulation arrangement for the residential apartments. I recommend review of the communal circulation strategy to provide clear and generous access sequences for all building users.</i>	Further refinement and rationalisation of the residential apartment layouts including balconies, to maximise residential amenity. I am also concerned about the convoluted circulation arrangement for the residential apartments.
	<i>The top of the building 'crown' is sloped to maximise the northerly aspect and the efficiency of the solar panels installed on the roof which I support. I anticipate that as the design progresses, the overall approach to ecologically sustainable design (ESD) for the proposal will be developed. I recommend analysis of the solar loads to the western facade is undertaken with the view to address any potential heat and glare impacts on user comfort. In my opinion, the architectural expression should reflect the ESD strategies of the project.</i>	Refer to ESD initiatives provided in the BESTEC Report and in section 3.4.5 of this report

5. Summary of Design Review & Pre-lodgement Issues

	<i>I also anticipate as the design progresses, development of a signage and branding strategy will be presented . The signage should be an integral element of the overall architectural expression and its night-time presentation should be considered.</i>	Noted - signage will be designed as part of the design development process with the client and future operators

5. Summary of Design Review & Pre-lodgement Issues

The proposed Mixed Use Development, comprising a Hotel and Apartments at 23-29 Market Street, by Loucas Zahos Architects, has been prepared on behalf of the client - Primefield Property Ltd. The site is located with a easterly frontage to Market Street, and a total area of 640 square metres. The owners have a right of way to the laneway adjacent 2 sides of this site. The site is approximately between 215 - 230 metres from major High Concentration Public Transport Routes King Williams Streets and Grote Streets. It is in close proximity to the Adelaide Central Markets, the Victoria Square Tram stop and is also within 130 metres of Sturt Street (to the south), which has a Free Bus loop service. The building is currently vacant and was used as a commercial premises prior to that.

The site falls within the Capital City Zone and has a prescribed height limit of 43 m. The zone is also adjacent a 53 m height limit zone to the west and less than 60 m from the 'No Prescribed Height Limit' zone to the east. The proposed overall building height is 56.59 m with a total of 17 levels.

The overall design intent is to provide a high quality architectural and urban design outcome that creates a high level of streetscape amenity with a retail component at the ground floor to encourage street activation. The development will form a mixed use hotel / residential tower that provides for a podium at ground level. It provides for car park stackers which has access from the southern laneway and has associated retail. A swimming pool deck is located at the top of the podium level to encourage community participation between hotel occupants and new residents. The podium is also designed to reflect the overall height of the adjoining Local Heritage Building - the Adelaide Democratic Club - to the north.

The design has a 3.4 m northern setback to take full advantage of solar access which provides valuable light, ventilation and views to the hotel rooms and apartments over the adjoining existing Local

Heritage Building. The site has an easterly frontage to Market Street, which is a very narrow street with adjoining signal storey Local heritage cottages to the east and a 3m setback above the podium facing Market street to accentuate the podium and intimate streetscape.

The proposed base of the building will present as a solid, heavy element composed of façade elements referencing the Fibonacci sequence, taking cues from the Adelaide Democratic Club, ensuring consistency between heights of prominent features. The base will be distinguished from the building's lightweight and transparent middle level through an expressed column structure. Serviced apartment levels will feature a different architectural language characterised by a trapezoidal floor plan with offset east and west facades and feature fins.

Site has access from Market Street with a right of way, a 3.6 m wide laneway adjacent 2 sides of the site which allows vehicular access into the site and light access in the round. An existing no standing area adjacent the site could be converted to a Porte Cochère, pick up & drop off space, subject to Adelaide City Council endorsement.

The site is between 215 m - 230 m from major High Concentration Public Transport Routes and is less than 200 m from a Free Bus Loop on Sturt Street.

The northern set back increases natural light access and ventilation. The articulation of the floor plans utilise large areas of high performance glass and the combination of vertical external fins and slab overhangs acting as devices for passive shading. High efficiency inverter air conditioners, lighting and sanitary fittings and fixtures will be used throughout. The Roof form is tilted to the north, to increase the efficiency of the solar panels installed on the roof.

The proposal for 23-29 Market Street provides a visual frame that creates a strong sense of enclosure to the streetscape via the podium element and

articulation of the Podium base, middle hotel rooms, and residential apartment at the top of tower. There is an emphasis on street activation and contextual relationships between heights and proportion of existing and proposed built forms.

The Capital City zone envisions new development to provide for mixed-use and create cafes and restaurants at ground level to encourage street activation day and night. The zone also anticipates high scale development that provides for improved pedestrian and cycle amenity. The zone also anticipates innovative architectural forms.

From the above provisions the proposal at 23-29 Market Street appears to satisfy the spirit of the Capital City zone provisions by providing a mixed-use residential development that includes a retail tenancy at the ground floor, pool and communal facilities on top of the podium level above that encourages street activation night and day and also provides an architectural scheme that seeks to create design excellence and innovation through its form, facade treatment and ESD initiatives.

Given the current context of the local area with Market Street being a narrow, one way, single lane street with parallel car parking to both sides of the street, the Government Architect has acknowledged the emerging character of the immediate area, and therefore the potential for this proposal to positively influence the future context of this part of the city. The proposal for 23-29 Market Street provides a visual frame that creates a strong sense of enclosure to the streetscape via the podium element.

The massing of the building is designed to relate to the adjoining heritage building. The use of strong horizontal and vertical masonry elements grounds the building at those levels and reflects a contemporary interpretation of the adjoining building with its vertical and horizontal projections.

In order to accommodate the additional 3.4 m setback above the podium level, as recommended by the Design Review Panel, and additional level (from 16 to 17 levels) has been included to satisfy the hotel client brief and suggested overall yield.

With reference to the Design Review process, the Government Architect has expressed support, in principle support, for the design proposal, i.e.:

- ▶ ***In principle I support the proposed height contingent on the proposal achieving a high quality design outcome,***
- ▶ ***The proposal makes positive contributions to the streetscape with the provision of indoor and outdoor cafe spaces at ground level and public hotel lobby spaces with a feature stair at the ground and mezzanine levels of the podium,***
- ▶ ***I support the proposed design approach in principle,***
- ▶ ***I support the provision of the recess and the resultant visual separation between the proposal and the adjoining Adelaide Democratic Club building. Above the mezzanine level, the podium is set back 3.4 metres from the northern boundary and three metres from the eastern boundary. I commend and strongly support the provision of sufficient setback above the podium form, as it successfully reinforces the scale of the street and responds positively to the Adelaide Democratic Club and the fine grain character of the area,***
- ▶ ***In principle I support the design approach for a contemporary interpretation of the adjacent Local heritage place and acknowledgement of its role in informing the architectural expression of the podium.***

In conclusion, it is recommended that the overall design proposal will provide a positive contribution to the local area, will be respectful to the local heritage buildings opposite and adjacent to the site. It is therefore recommended that the proposal is in accord with the general provisions of the Adelaide City Council Development consolidated on 30 May 2017 and, in particular, the Capital City zone provisions.

6. Appendix A - Title



Title Register Search

LANDS TITLES OFFICE, ADELAIDE

For a Certificate of Title issued pursuant to the Real Property Act 1886

LANDS TITLES OFFICE ADELAIDE SOUTH AUSTRALIA
DIAGRAM FOR CERTIFICATE OF TITLE VOLUME 5120 FOLIO 821
SEARCH DATE : 01/04/2015 TIME: 10:28:21

REGISTER SEARCH OF CERTIFICATE OF TITLE * VOLUME 5120 FOLIO 821 *

COST : \$26.50 (GST exempt) PARENT TITLE : CT 4235/699
REGION : EMAIL AUTHORITY : CONVERTED TITLE
AGENT : SAVI BOX NO : 053 DATE OF ISSUE : 07/05/1993
SEARCHED ON : 01/04/2015 AT : 10:28:21 EDITION : 6
CLIENT REF SALES - RW

REGISTERED PROPRIETOR IN FEE SIMPLE

LEGRAND DEVELOPMENTS PTY. LTD. OF LEVEL 1/190 FULLARTON ROAD DULWICH SA 5065

DESCRIPTION OF LAND

ALLOTMENT 15 DEPOSITED PLAN 450
IN THE AREA NAMED ADELAIDE
HUNDRED OF ADELAIDE

EASEMENTS

NIL

SCHEDULE OF ENDORSEMENTS

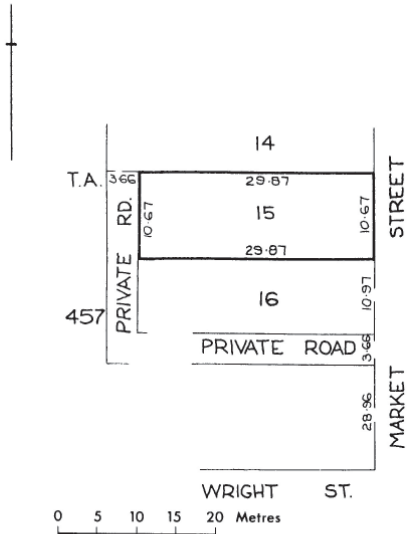
NIL

NOTATIONS

DOCUMENTS AFFECTING THIS TITLE
NIL

REGISTRAR-GENERAL'S NOTES

NIL



END OF TEXT.

6. Appendix A - Title



Title Register Search

LANDS TITLES OFFICE, ADELAIDE

For a Certificate of Title issued pursuant to the Real Property Act 1886

LANDS TITLES OFFICE ADELAIDE SOUTH AUSTRALIA
DIAGRAM FOR CERTIFICATE OF TITLE VOLUME 5721 FOLIO 378
SEARCH DATE : 01/04/2015 TIME: 10:28:18

REGISTER SEARCH OF CERTIFICATE OF TITLE * VOLUME 5721 FOLIO 378 *

COST : \$26.50 (GST exempt)
REGION : EMAIL
AGENT : SAVI BOX NO : 053
SEARCHED ON : 01/04/2015 AT : 10:28:18
CLIENT REF SALES - RW

PARENT TITLE : CT 1833/143
AUTHORITY : CONVERTED TITLE
DATE OF ISSUE : 23/12/1999
EDITION : 4

REGISTERED PROPRIETOR IN FEE SIMPLE

LEGRAND DEVELOPMENTS PTY. LTD. OF LEVEL 1/190 FULLARTON ROAD DULWICH SA 5065

DESCRIPTION OF LAND

ALLOTMENT 16 DEPOSITED PLAN 450
IN THE AREA NAMED ADELAIDE
HUNDRED OF ADELAIDE

EASEMENTS

NIL

SCHEDULE OF ENDORSEMENTS

NIL

NOTATIONS

DOCUMENTS AFFECTING THIS TITLE
NIL

REGISTRAR-GENERAL'S NOTES

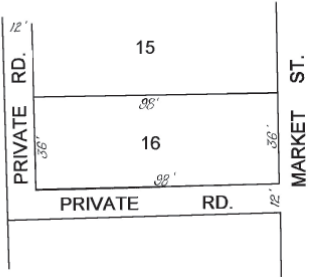
NIL

END OF TEXT.

The Registrar-General certifies that this Title Register Search displays the records maintained in the Register Book and other notations at the time of searching.



T.A.457



40 20 0 40 FT

DISTANCES ARE IN FEET AND INCHES
FOR METRIC CONVERSION
1 FOOT = 0.3048 METRES
1 INCH = 0.0254 METRES



42

Appendix A - Title

GHD Pty Ltd ABN 39 008 488 373

Level 4, 211 Victoria Square, Adelaide SA 5000

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Facsimile: 08 8111 6699 <http://www.ghd.com>

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Document Status

Rev No.	Author	Reviewer		Approved for Issue		
	Name	Name	Signature	Name	Signature	Date
00	M.Separovic	J.Schmidt		J.Schmidt		13.04.2016
01	M.Separovic G.Flavel	L.Petridis		J.Schmidt		14.05.2017
02	M.Separovic G.Flavel	J.Schmidt		J.Schmidt		15.05.2017
03	M.Separovic G.Flavel	J.Schmidt		J.Schmidt		15.05.2017
04	M.Separovic	J.Schmidt		J.Schmidt		08.06.2017
05	M.Separovic	J.Schmidt		J.Schimdt		28.06.2017

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File: 200-16

30 June 2017

Mr Rigas Atsidaftis
Loucas Zahos Architects
Level 1, 276 Flinders Street
ADELAIDE SA 5000

Dear Mr Atsidaftis,

I refer to our recent discussions relating to the proposed construction of a multi-level building to accommodate a hotel and long term residential apartments with associated car parking on the above site.

As requested I have undertaken the following review of the traffic and parking related aspects of the subject development.

The subject site is located on the western side of Market Street, approximately 35m to the north of the intersection of this road with Carrington Street, Adelaide.

The subject site currently accommodates existing commercial buildings including a single storey building on the northern portion of the site and a two storey development on the southern side of the site. Both buildings are currently vacant.

The subject site has a frontage of 21.6m to Market Street. A private roadway extends along the southern and western sides of the subject site, with access off Market Street. This right of way provides a width of 3.66m.

There is currently no formal on-site parking associated with the subject site. However, a roller door is provided at the front of the northern building, providing access into and out of the building via an approximately 7m wide crossover.

Market Street is a one-way roadway, flowing north to south linking Gouger Street (at the northern end) to Wright Street (at the southern end) of this roadway.

Market Street forms a T-junction with Gouger Street, with traffic restricted to left turn only movements as right turn entry movements at this location are prevented by the existing central median in Gouger Street which extends across this intersection. Exit movements from the southern end of Market Street include both left and right turn movements onto Wright Street and through movements into Norman Street.

The kerb to kerb width of Market Street in the immediate vicinity of the subject site is approximately 8.5m and generally permits short term parking on both sides of this roadway. Kerbside usage along the western side of Market Street, in front of the site, consists of:-

- A short section of No Parking restrictions (between 8.00 am to 6.00 pm Monday to Friday and 8.00 am to 12 noon Saturday) at the northern end of the site. This area is an extension to the existing parking restrictions to the immediate north of the site,
- A section of No Stopping Anytime over a length of approximately 7m in front of the roller door associated with the northern building on the subject site, and
- A section of one hour parking (8.00 am to 6.00 pm Monday to Friday and 8.00 am to 12 noon Saturday) with a capacity to accommodate up to two cars. Outside of these periods, the duration of stay within these spaces is unrestricted.

A No Stopping Anytime restriction extends across the area in front of the private laneway on the southern side of the site.

The above parking restrictions are identified by Figure 1 (below).

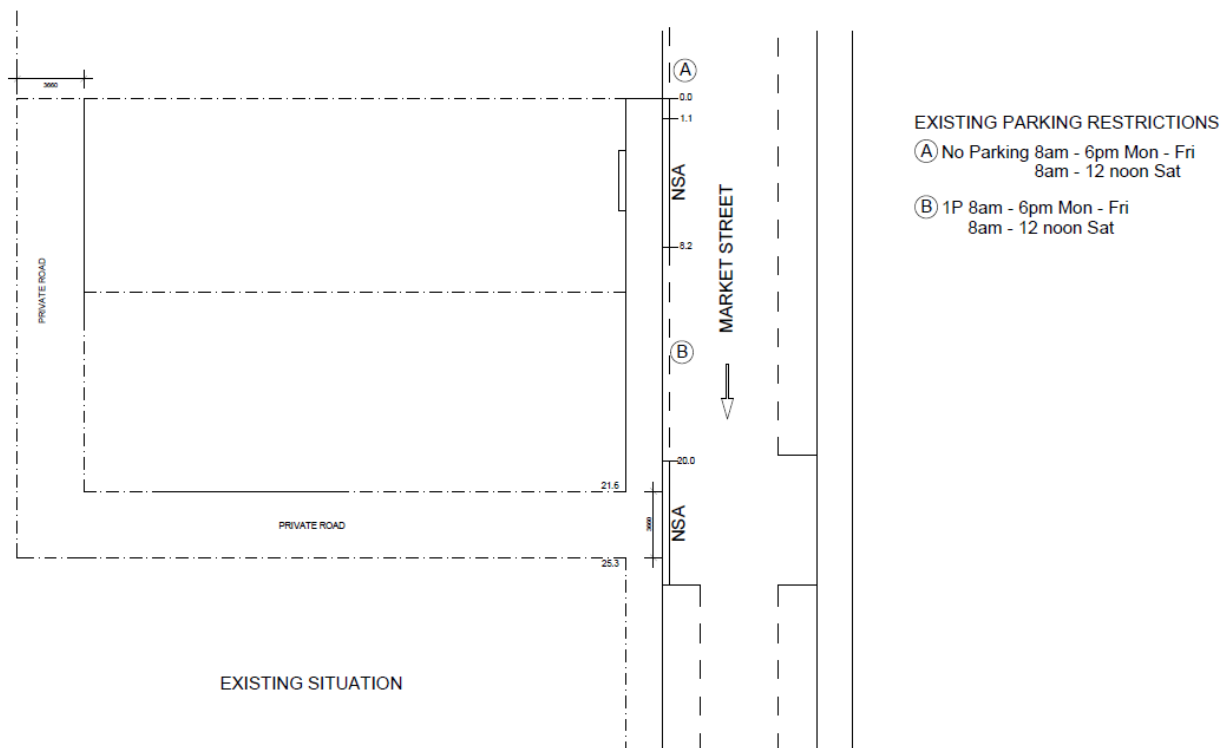


Figure 1: Existing kerbside usage in front of the subject site

Staff from the Adelaide City Council have indicated that there are no recent counts of traffic using Market Street. Consequently, surveys of traffic movements on this roadway during peak periods on a weekday have been conducted by this firm.

The above surveys included counts of the volume of traffic exiting the southern end of Market Street between:-

- 3.00pm and 6.00pm on Thursday 29th June 2017, and
- 7.30am and 9.30am on Friday 30th June 2017.

The results of these surveys have identified that:-

- There was a peak of 86 vehicles exiting Market Street in the am peak hour period. This was recorded in the period from 8.30am to 9.30am, and
- There was a peak of 72 vehicles exiting Market Street in the pm peak hour period, which occurred between 4.15pm and 5.15pm.

The above traffic volumes are summarised by Figure 2 (below).

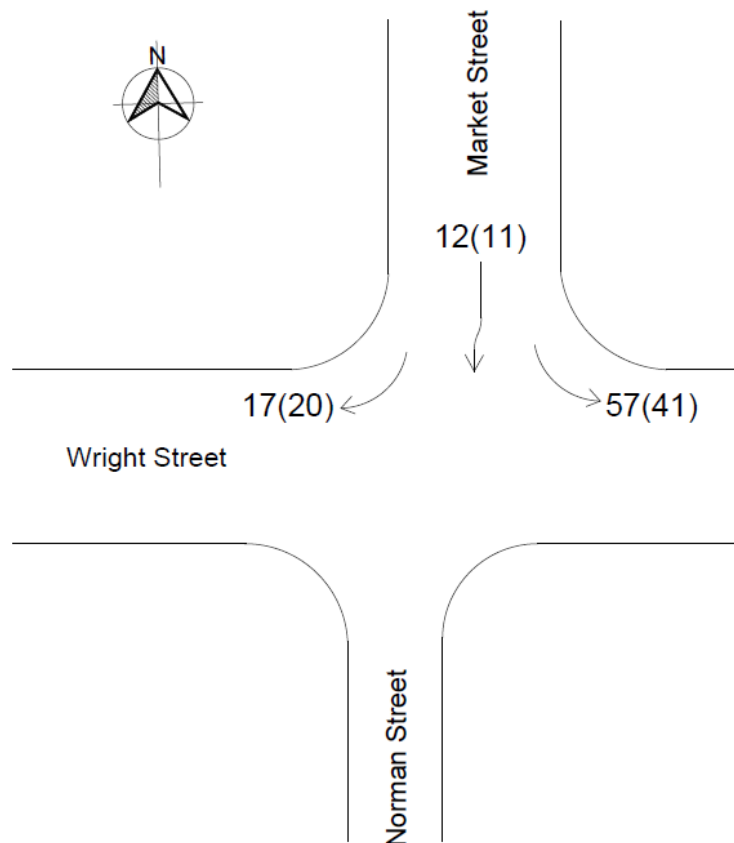


Figure 2: Existing am (pm) peak hour traffic volumes exiting Market Street

I estimate that the average weekday traffic volume on Market Street would be of the order of 1,500 vpd.

The proposed development is identified on a series of plans prepared by your office including:-

- A Ground, Mezzanine and Levels 1 to 3 Floor Plan (Drawing No. DA03 P5),
- Levels 4 to 11 Plan (Drawing No. DA04 P5), and
- Levels 12 to 15 and Roof Plan (Drawing No. DA04 P5).

I note that the proposed development includes:-

Ground Floor Level

- A café providing both internal and external seating areas,
- A hotel foyer and reception,
- A service area to be located on the southern side of the building to be accessed via the private roadway, and
- 12 car parking spaces, comprising 2 dual width three-level car stackers to be located at the rear of the building, to be accessed from the north-south section of the private roadway,

Mezzanine Level

- A hotel lounge / hotel rooms, and
- Services / plant rooms.

Floor Levels 1 to 3

- A total of 39 hotel rooms (13 rooms per level),

Floor Level 4

- A swimming pool, and
- A gymnasium and changing area,

Floor Levels 5 to 11

- A total of 77 hotel rooms (11 rooms per level), and

Floor Levels 12 to 14

- A total of 20 residential apartments (5 apartments per level).

Pedestrian access will be provided via a hotel foyer located on Market Street. Two lifts will provide access for hotel patrons, while a third lift will provide access to the residential apartments.

As identified above on-site car parking will be provided in the form of car stackers. While the make of the car stackers is yet to be finalised, the design plans indicate that each stacker will be a Klaus Multibase G63 Unit. This unit provides a floor plate accommodating two vehicles side by side on each of three levels i.e. a pair of spaces on each level.

The design of the car stackers will provide:-

- A width of approximately 5.3m. The clear width of each space will exceed the minimum requirement of 2.4m associated with long term (resident) car parking, and
- An equivalent length of 5.4m.

The aisle width to the rear of these spaces will be 6.1m.

As such, I consider that the design of the on-site car parking spaces would conform to the requirements of the relevant off-street car parking standard (AS/NZS 2890.1:2004).

The proposed development will provide an off-set of the building from the southern side of the private roadway of typically 4.1m i.e. an approximately 0.45m increase above the width of the private roadway from that currently provided. The off-set of the building from the western boundary will be increased to slightly in excess of 6.1m.

The ground floor design includes:-

- Separate apartment and hotel entry points,
- Provision of a delivery and waste collection area within the south-western corner of the building. This delivery area will be accessed off the east-west section of the right of way, and
- Car parking at the western end of the building accessed via the private roadway.

The subject site is located within the Capital City Zone within the Adelaide (City) Development Plan as consolidated 20th June 2017. Consequently, there is no minimum number of car parking spaces required for the subject development.

However, the proposed development will provide 12 parking spaces in the form of 3 level car stackers. I understand that these car stackers will be allocated for use by residents and will not be provided for hotel guests.

within the Adelaide City Development Plan identifies bicycle parking provisions considered to be relevant to the subject development, as follows:-

Cafe/Restaurant	1 per 20 employees	1 per 50 seats
All Low Medium and High Scale Residential	1 for every dwelling/apartment with a total floor area less than 150 square metres. 2 for every dwelling/apartment with a total floor area greater than 150 square metres.	1 for every 10 dwellings

I understand that there is a requirement for bicycle parking associated with the hotel component of the subject development.

On the above basis, there would be a requirement to provide approximately 24 bicycle parking spaces, based upon the following:-

- Café / restaurant component - 1 staff space and 1 customer space, and
- Residential component - 20 resident spaces and 2 visitor spaces.

The proposed development will provide a total of 20 bicycle parking spaces to be located on the rooftop. These spaces would be appropriate for use by residents.

There would be a requirement to provide an additional 4 bicycle parking spaces associated with the café / restaurant component and the visitors to the residential apartments. However, I note that there is an opportunity to meet the additional bicycle parking demand within the on-street areas in close proximity of the subject site. For example, it is identified that there are bicycle racks located within convenient distance from the subject development in the following locations:-

- The western side of Market street (two bicycle racks) approximately 15m to the north of the site,
- The eastern side of Market Street (one bicycle rack) adjacent to the corner with Gouger Street, and
- The central median within Gouger Street (8 bicycle racks) opposite the intersection of this roadway with Compton Street.

Reviews of the locality have indicated that there is generally a capacity to accommodate additional bicycle parking demand within these facilities. Hence, it is identified that the minor shortfall in bicycle parking could be readily accommodated.

Traffic generated by the proposed development will primarily relate to the on-site car parking areas, which will be used by residents.

The “ ” report produced by the former Roads and Traffic Authority (RTA) of NSW identifies a peak hour traffic generation rate of 0.24 trips per unit for a medium to high density residential development albeit this would assume that each unit would be provided with on-site car parking.

However, I am aware that the RTA has undertaken more recent surveys of traffic generation rates associated with high density residential flat buildings. The results of the recent surveys identified, inter alia, the following trip generation rates:-

- An average of 0.15 trips per car space in the am peak hour,
- A range of between 0.09 and 0.29 trips per car space in the pm peak hour,
- An average of 0.12 trips per car space in the pm peak hour, and
- A range of between 0.05 and 0.28 trips per car space in the pm peak hour.

On a worst case basis, I therefore consider that the residential component of the subject development should generate of the order of:-

- 4 trips in the am peak period i.e. 0.29 trips per car space by 12 spaces, and
- 4 trips in the pm peak period i.e. 0.28 trips per car space by 12 spaces.

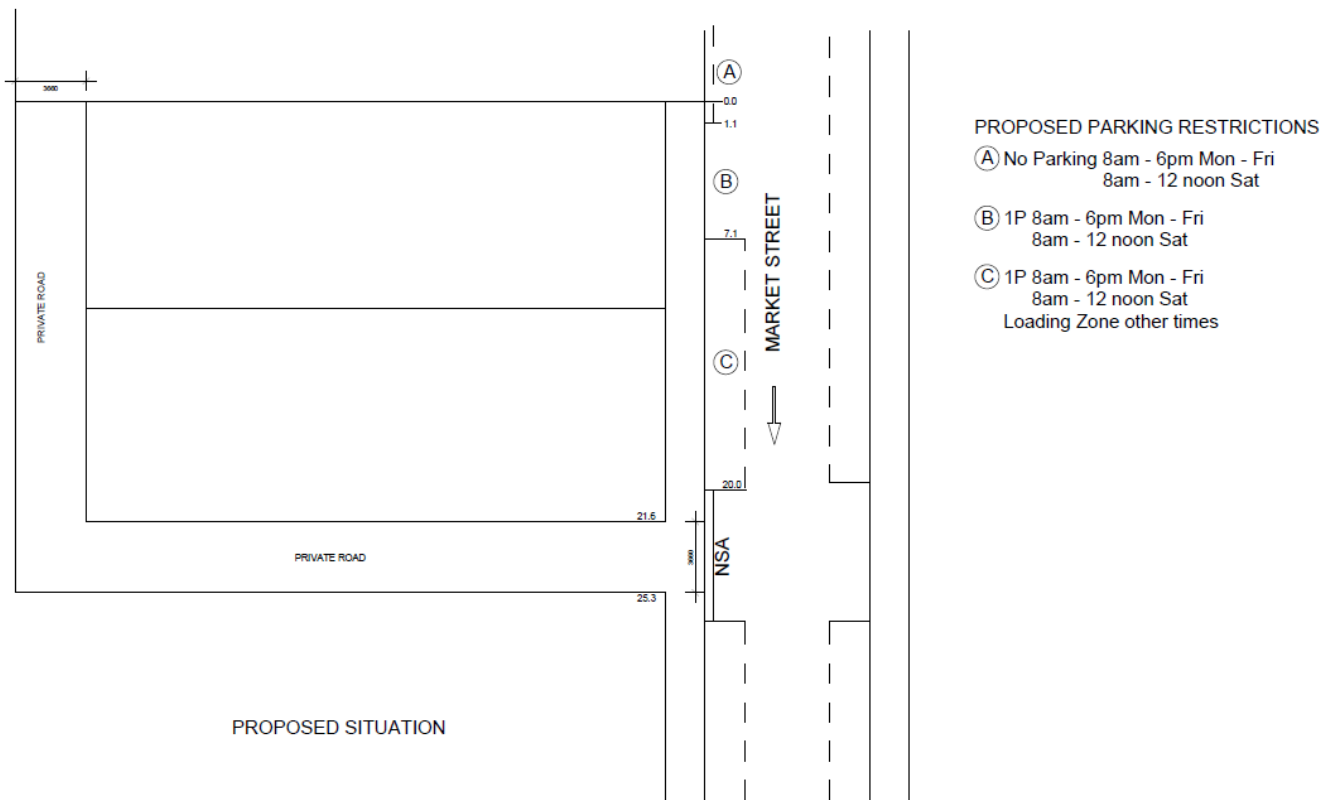
In the am peak hour, one quarter of these movements would typically relate to entry movements with three quarters of the trips relating to exit movements. On this basis, the proposed development should generate approximately 1 entry and 3 exit movements to and from the rear parking area.

In the pm peak hour there would typically be a two third: one third split of traffic generated by such a residential development. I therefore consider that there would be 3 entry and 1 exit movement associated with the subject development.

On the basis of an average trip generation rate per car parking space of at most 0.15 trips / space, there would be as few as two traffic movements generated by the car stackers in any one hour period.

The proposed development would also generate a small number of traffic movements associated with the hotel component. Assuming a peak hour generation of approximately 0.1 trips per hotel room, I estimate that there would be of the order of 8 movements to and 8 movements from the development generated by taxis in any one hour period. I therefore estimate that there would be a maximum of 11 additional trips on any section of Market Street during peak hour periods, given the one-way flow in this roadway. Such a low level of traffic movements would not result in any adverse traffic impacts on the adjoining road network.

A concept design (Figure 3) has been prepared identifying suggested changes to kerbside usage in front of the site. This concept would permit up to three car parking spaces to be provided during weekday / Saturday morning periods, whereas the current kerbside usage permits only two spaces in this area. The existing crossover associated with the current land uses will be closed with the kerb line reinstated to Council requirements.



A Waste Management Plan has been prepared by Veolia Environmental Services (Australia) Pty Ltd in relation to the subject development. This report identifies that the number of truck movements for regular waste and recycling collections is anticipated to be of the order of 9 collections a week, namely:-

- 8

- Three collections / week of Organics.

Some additional truck movements will be required on an infrequent basis for:-

- The servicing of the grease arrestor, and
- Irregular collections of hard waste and e-waste. This is anticipated every four to six weeks.

I therefore anticipate that there would be a requirement to service waste and recyclables on average twice a day.

Deliveries to the subject development will be undertaken by vans or other small commercial vehicles, similar in size to the B99 design vehicle. These vehicles will access the delivery area on the southern side of the proposed building via the private roadway. These vehicles will enter and exit the private roadway off Market Street in a forward direction.

A series of turning path diagrams (Figures A1 to A6) are included as an appendix to this report. These figures identify the following:-

- Figure A1 shows a B99 design vehicle turning right into the private roadway off Market Street while retaining the on-street car parking on the eastern side of Market Street,
- Figure A2 shows the above vehicle reversing into the delivery area on the southern side of the building and driving forward out towards Market Street,
- Figures A3 and A4 show a B85 design vehicle turning into and out of the southern car stacker to and from the private roadway,
- Figures A5 and A6 show a B85 design vehicle turning into and out of the northern car stacker to and from the private roadway.

Figures A3 to A6 show typical movements into and out of the car stackers and these vehicles would need to undertake multiple turns to access these spaces. However, I note that the relevant off-street car parking standard (AS/NZS 2890.1:2004) contemplates such turns for a User Class 1a facility associated with tenant / resident car parking.

As the proposed development would result in drivers turning into and out of the narrower east-west section of private roadway, it is recommended that a mirror should be installed within the south-west corner of the site in order to identify the presence of an oncoming vehicle. On the infrequent occasions when two vehicles would meet at this location, it is noted there will be appropriate passing opportunities within the north-south section of roadway, given that the width of this section of roadway will be increased to 6.1m.

The subject development relates to the proposed construction of a multilevel building to accommodate hotel and residential accommodation with associated car parking on the above site.

The proposed development is located on the western side of Market Street, to the north of the intersection with Wright Street and Norman Street, Adelaide.

More particularly the proposed development will accommodate:-

- A total of 39 hotel rooms,
- A total of 20 residential apartments,
- A ground floor cafe,
- Separate residential and hotel lobbies,
- Amenity areas for use by hotel guests including a gymnasium and swimming pool, and
- On-site car parking in the form of three level car stackers at the rear of the site. The proposed car stackers will accommodate up to 12 cars and will be used by long-term residents.

The proposed development will permit widening of the existing private roadways along the southern and western boundaries of the site with the design providing:-

- A service area on the southern side of the building to be accessed via the private roadway on the southern side of the site,
- On-site car parking areas to be accessed via the north-south and east-west sections of private roadway, and
- The width of the two sections of private roadway will be increased with a width provided of 6.1m at the rear of the site to enable drivers to enter and exit the car stackers.

The proposed development will also provide bicycle parking sufficient to accommodate the needs of long-term residents. While it has been identified that there would be a requirement for additional bicycle parking spaces to be provided for visitors to the residential component of the subject development and staff and patrons of the cafe, it has been identified that there is an opportunity to accommodate such bicycle parking within on street parking areas located in very close proximity to the subject site.

There will only be a low level of traffic movements into and out of the subject land consisting of:-

- Infrequent delivery movements generated by small vans similar in size to the B99 design vehicle, and
- Up to 4 traffic movements in peak hour periods associated with residents using the car parking spaces provided within the car stackers at the rear of the site.

While there will be some additional traffic movements on Market Street generated by hotel guests, this will not have a significant impact on the operation of this roadway.

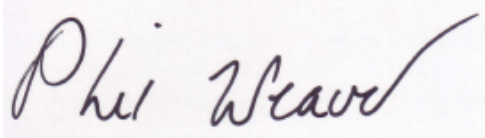
An assessment of existing traffic movements on Market Street at the intersection of this roadway with Wright Street and Norman Street has identified relatively low levels of traffic movements on this roadway and as a result, there is a high level of available capacity on the road network to accommodate the traffic movements generated by the subject development. Consequently, it is therefore concluded that there would be essentially no traffic impacts on Market Street or the wider locality associated with the proposed development.

Extensive consultation has been conducted with staff of the City of Adelaide in relation to refuse collection. As a result, it is proposed that waste and recyclables will be collected at the front of the subject site by waste contractor. Accordingly, a Waste Management Plan has been prepared which indicates that there would be at most two collections of waste or recyclables on any one day. It is proposed that these vehicles would collect waste outside of peak traffic periods on Market Street.

Outside of collection periods there would be an opportunity to increase on-street parking in front of the site, particularly given that a crossover associated with the existing building will no longer be required and could be reinstated to accommodate parking.

On the basis of the above assessment it is considered that the proposed development will not result in adverse traffic, parking and access issues and is therefore supported from a traffic engineering perspective.

Yours sincerely

A handwritten signature in dark ink, reading "Phil Weaver", is displayed on a light-colored rectangular background.

Phil Weaver
Phil Weaver and Associates Pty Ltd

Enc

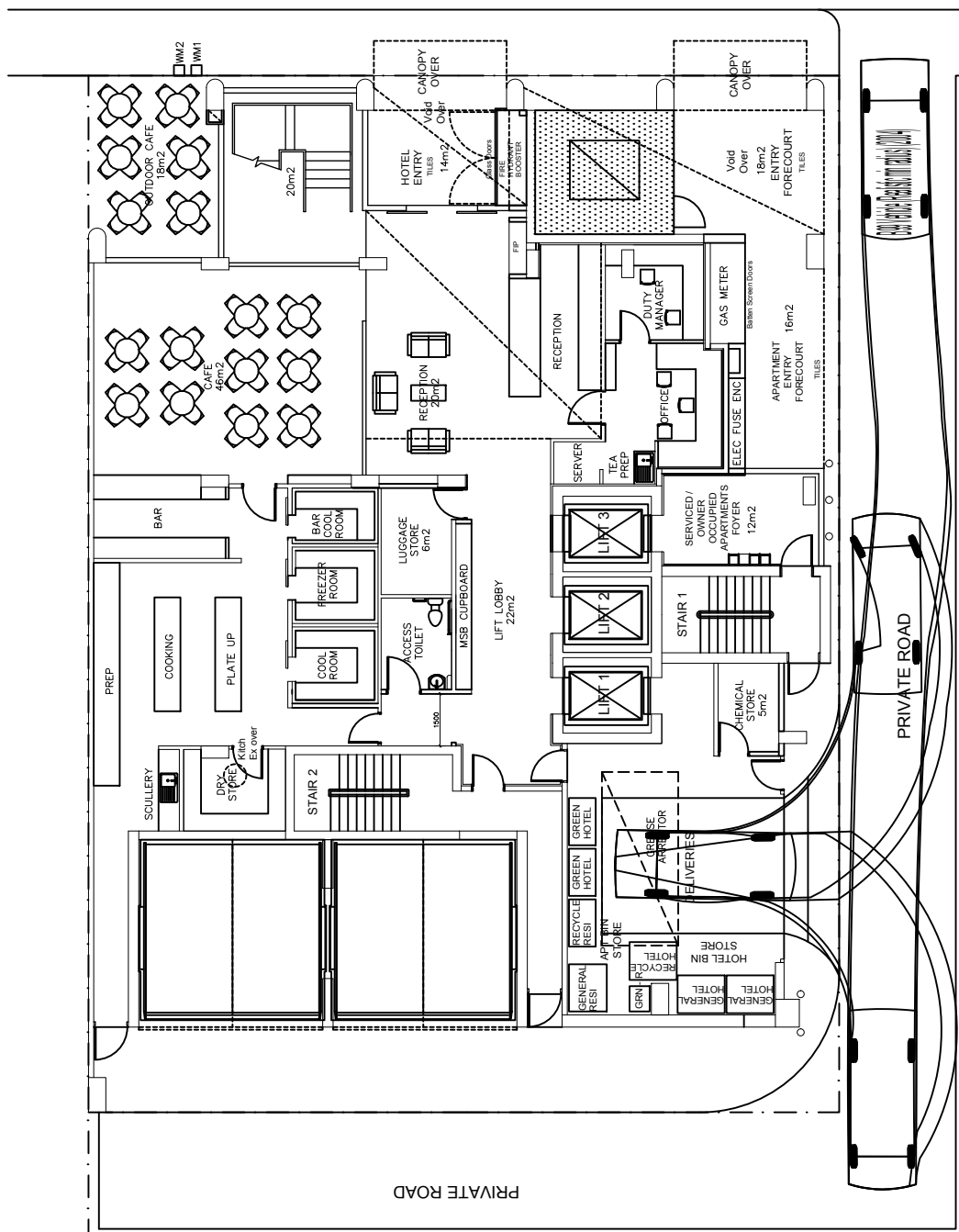


Figure 2

GROUND FLOOR PLAN

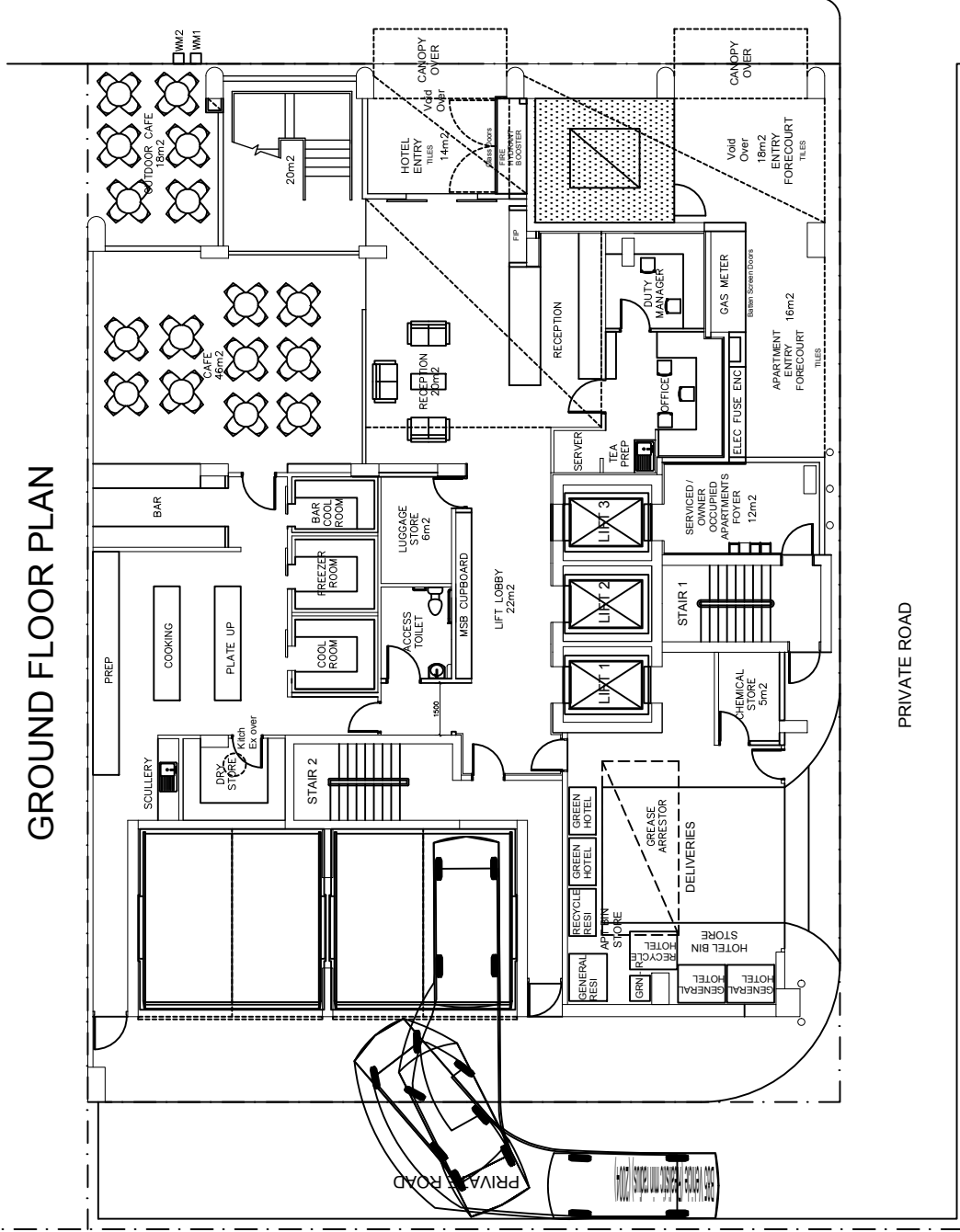
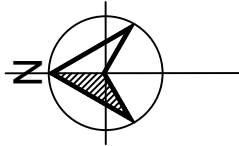


Figure 3

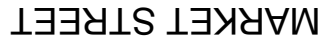


Figure 4

[illegible][illegible][illegible]

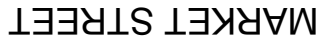


Figure 6



BESTEC[®]

BRINGING BUILDINGS TO LIFE

23-29 MARKET STREET
MIXED USE DEVELOPMENT

ACOUSTIC SERVICES
PRELIMINARY REPORT

June 2017

SGA:SRE
55440/6/1
28 June 2017

Loucas Zahos Architects
276 Flinders Street
ADELAIDE SA 5000

Attention: Mr R Atsidaftis

Dear Sir

As requested, we enclose a copy of our preliminary report on the Acoustic Services for the above project.

We trust that the report provides sufficient information for your immediate purpose and we would be most pleased to further discuss any aspect upon your request.

Yours faithfully



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01	28.06.2017	Revised Issue

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Introduction

BESTEC Pty Ltd was engaged to provide acoustic engineering services during the design and construction stages of the residential development 23-29 Market Street, Adelaide. This document presents the proposed acoustic design criteria, the results of our traffic noise assessment and preliminary recommendations for acoustic treatment to achieve the selected design criteria.

Executive Summary

In summary:

- The preliminary architectural drawings of the proposed development were reviewed.
- An attended noise survey was conducted on site on the 24 June 2017 to determine the existing ambient noise levels and dominant sources of noise.
- Appropriate acoustic design criteria were nominated.
- Preliminary acoustic design recommendations to achieve the selected criteria were provided, including:
 - Appropriate constructions of the building façade and glazing were nominated in order to provide sufficient attenuation to noise from traffic and Hotel Wright Street at proximity to the development.
 - Appropriate constructions of the walls and floors separating the apartments were nominated to ensure compliance with the requirements of National Construction Code Series 2017, Building Code of Australia for sound insulation (Section F5).
- Generic recommendations for acoustic treatment of mechanical services were provided.
- The noise impact to the nearest residential developments associated with rubbish collection, pump operation and car lift access and operation has been provided.

Acoustic Analysis

References

The following documents have been referenced within the preparation of this report

- [1] Adelaide (City) Development Plan, Consolidated – 20 June 2017.
- [2] SA Environment Protection (Noise) Policy 2007.
- [3] World Health Organisation (1999) “Guidelines for Community Noise”.
- [4] AS/NZS 2107:2016 “Acoustics – Recommended design sound levels and reverberation times for building interiors”.
- [5] National Construction Code Series 2016, Building Code of Australia, Class 2 to Class 9 Buildings.
- [6] AS ISO 140.4–2006 “Acoustics – Measurement of sound insulation in buildings and of building elements. Part 4: Field measurements of airborne sound insulation between rooms”.
- [7] Minister’s Specification SA 78B February 2013, “Construction requirements for the control of external sound”.
- [8] Technical Information Sheet 8, Noise and air emissions – Overlay 3, South Australian Planning Policy Library, April 2013.
- [9] Architectural Plans, provided by Loucas Zahos Architects, dated May 2017.
- [10] “Metropolitan Traffic Estimate Maps”- Department of Planning, Transport and Infrastructure, Government of South Australia, 14 September, 2016.
- [11] Development proposal assessment for venues where music may be played, EPA Guidelines, September 2003.
- [12] The City of Adelaide Smart Move – Transport and Movement Strategy 2012-22, November 2012.

Existing Development

Currently there is a single storey commercial building on site. The site is located in a zone designated “Capital City” zone in the Adelaide (City) Development Plan [1], with the following boundaries:

- Western Boundary: Wright Street Hotel on the immediate boundary and 4 storey residential development separated by Compton Street.
- Southern Boundary: 2 storey commercial development.
- Eastern Boundary: Commercial developments separated by Market Street.
- Northern Boundary: Commercial development (Migrant Health Services).

Proposed Development and Conditions

It is proposed a new residential development shall be constructed on the site, comprising of the following components:

- Ground floor: Hotel Entry/Reception, apartment entry, Café, refuse area, Duty Manager office, shared office, driveway, internal building car lift stackers (4 off 3- car stackers), 1 off service parking and toilets.
- Mezzanine floor: Hotel lounge with toilets, services plant, 5 off Meeting rooms, apartment storage area and 16 off bike storage spaces.
- Level 1 – 10 (Hotel)
 - Levels 1-3: 13 hotel rooms on each floor,
 - Level 4: 6 Hotel rooms, pool area and gymnasium,
 - Levels 5-10: 11 Hotel rooms on each floor.
- Level 11-15 (Residential apartments): 5 apartments on each floor.
- Roof – Hot Water System plant and fire tank.

Attended Noise Survey

For an explanation of acoustic terms, please refer to the Glossary of Acoustic Terminology attached to this document.

An attended noise survey was conducted on the proposed site between 21:00 - 21:15, on the 24 June 2017 in order to determine the existing noise levels (and identify the dominant noise sources) in the vicinity of the development site.

Attended measurements were undertaken using a Bruel and Kjaer Hand-held Analyser Type 2270 Sound Level Meter (Serial Number: 3003020, last calibrated on the 8 November 2016, due for calibration 8 November 2017), with an approved windshield fitted at all times. The calibration of the analyser was spot checked before and after the measurements and no drift was measured.



Location of Attended Measurements with Respect to the Proposed Development

1	24 June 2017 09:00PM	57	58	48	81	Moderate traffic flow along Wright St; Mechanical Services noise from nearby developments

Summary of the measured noise levels during the attended noise survey at 29 Market Street

Design Criteria

Environmental Noise

This criterion will be relevant to noise emitted from the proposed development resulting from operation of engineering services, operational noise from the commercial component, car park etc.

The continuous noise emissions will be assessed against the criteria set in accordance with Environment Protection (Noise) Policy 2007 [2] and the principles of development control in the Adelaide City Council Development Plan [1] references.

The Adelaide City Council principle of development control 93 sets the criteria for continuous noise in accordance with the Zone where the proposed development is located as follows:

“93 *Mechanical plant or equipment, should be designed, sited and screened to minimize noise impact on adjacent premises or properties. The noise level associated with the combined operation of plant and equipment such as air conditioning, ventilation and refrigeration systems when assessed at the nearest existing or envisaged noise sensitive location in or adjacent to the site should not exceed:*

- (a) *55 dB(A) during daytime (7.00am to 10.00pm) and 45 dB(A) during night time (10.00pm to 7.00am) when measured and adjusted in accordance with the relevant environmental noise legislation except where it can be demonstrated that a high background noise exists.*
- (b) *50 dB(A) during daytime (7.00am to 10.00pm) and 40 dB(A) during night time (10.00pm to 7.00am) in or adjacent to a Residential Zone, the North Adelaide Historic (Conservation) Zone or the Park Lands Zone when measured and adjusted in accordance with the relevant environmental noise legislation except where it can be demonstrated that a high background noise exists.”*

The Environment Protection (Noise) Policy 2007 [2] sets out the maximum allowable continuous noise in terms of A-weighted Equivalent Continuous Noise Level (L_{Aeq}) based on the time of day and zoning / use of land in which the noise source and receiver are located. With reference to the Adelaide City Council Development Plan [1], we note that the proposed development is located within the Capital City Zone. The Capital City Zone is an essentially Mixed-Use zone comprising a mixture of Commercial and Residential uses. Table 2 shows the indicative noise factors based on time of day and land-use as stipulated in Table 2 of the EPP 2007 [2].

Commercial	62	55
Residential	52	45

Indicative noise factors based on time of day and land use of immediate redevelopment locale

Since the Mixed-Use area is intended for commercial and residential purposes, the Environment Protection (Noise) Policy 2007 [2] states that the indicative noise level is the average of the indicative noise factors for the land use categories. In addition, the EPP 2007 states that the predicted continuous noise due to the proposed development (for application for development authorisation) should not exceed the indicative noise level, minus 5dBA. Based on the average of the "Commercial" and "Residential" land use categories, minus 5dBA for planning purposes, the applicable day and night time noise criteria would be as follows:

- Day-time (7:00 a.m. to 10:00 p.m.): 52dBA
- Night-time (10:00 p.m. to 7:00 a.m.): 45dBA

Note that if noise emitted by the proposed development contains any tones, modulation, impulsive or low frequency characteristics, the continuous noise level of the noise source must be adjusted as follows:

- Noise containing 1 characteristic – 5dBA penalty added to source continuous noise level;
- Noise containing 2 characteristics – 8dBA penalty added to source continuous noise level;
- Noise containing 3 or 4 characteristics – 10dBA penalty added to source continuous noise level.

This criterion will be relevant to noise emitted from the proposed development resulting from short term noise events – rubbish collection, car door slams, etc.

The criteria provided in the above sections relate to continuous noise sources, and do not cater for intermittent noise events, such as slamming of car doors, car horns sounding, etc. We recommend the use of the World Health Organisation (WHO) Guidelines [3], which recommends a maximum A-weighted noise level L_{Amax} , of 45dBA in a bedroom, which is equivalent to approximately 55dBA to 60dBA at the façade of the residential building with windows partially open.

In addition, the EPP 2007 provides assessment criterion of L_{Amax} of 60dBA for night-time for the proposed development (for application for development authorisation) [2], which agrees with the criterion stipulated by the WHO [3].

Building Acoustics

The level of background and transient/intermittent noise, the speech privacy rating and the room acoustics define the quality of the acoustics within a building. The recommended criteria for each space are shown in Table 3 below. Please refer to each individual section below for interpretation of the criteria.

Sole occupancy units			50 ¹	
Bedrooms	30 - 40			
Living areas	35 - 45			
Work Areas	55 - 65			
Café (Ground Floor)	45 - 50	Minimise as practical		40 - 45
Amenities	50 - 55	N/A		40 - 45
Carpark	< 65	N/A		N/A
Service Parking	55 - 70	N/A		N/A
Gymnasium	< 50	< 0.8		N/A
Hotel Reception	40 - 45	Minimise as practical		N/A
Meeting Rooms	35 - 40	0.6 - 0.8		40 - 45
Shared Office	40 - 45	0.6 - 0.8		35 - 40
Private Office	35 - 40			35 - 40

: Proposed building acoustic design criteria for the development at 23-29 Market Street

These criteria will be relevant to the assessment of continuous noise from sources such as traffic, engineering services etc.

AS/NZS 2107-2016 [4] sets the criteria for background noise in terms of A-weighted equivalent continuous sound pressure level over 15-minute intervals ($L_{Aeq, 15min}$) in accordance with the use of the spaces and the location of the buildings. For apartments and houses located near major roads, the Standard recommends criteria for background noise levels for bedrooms, living areas and work areas with no reference to the time of the day.

In addition, the Minister's Specification SA 78B [7] stipulates that the attenuation provided by the building envelope must be sufficient to provide sufficient attenuation of traffic noise so the internal sound levels do not exceed the internal sound criteria values stated in Table 2 of the Specification as follows:

Bedroom	30dBA $L_{eq, 9hr}$ (transport) 30dBA $L_{eq, 15min}$ (people)	35dBA $L_{eq, 9hr}$ (transport) 35dBA $L_{eq, 15min}$ (people)	Night (10pm to 7am)
Habitable rooms other than bedroom	35dBA $L_{eq, 15hr}$	40dBA $L_{eq, 15hr}$	Day (7am to 10pm)

Minister's Specification SA 78B criteria for noise intrusion (Table 2 of Specification SA 78B reproduced)

The Minister's Specification SA 78B [7], stipulates that for traffic noise, the source level for an acoustic assessment is determined from Table 3: Road sound source levels. This requires that the road source be a Type A, B or R road, as indicated by the council development plan applicable at the site. The Adelaide (City) Development Plan [1] does not specify any particular classification for Wright Street or Market Street.

The Technical Information Sheet regarding noise and air emissions [8] states that there are several criteria that can be used to determine a road's classification type. For a road traffic density of 50,000 vehicles per day, a road is given Type A and for 25,000 – 50,000 vehicles per day, Type B. The City of Adelaide Smart Move Transport and Movement Strategy 2012-2022 [12] indicate the daily average traffic estimates of up to 8,000 vehicles on Wright Street, but does not provide any traffic volume estimates for Market Street. Therefore, we consider that there is limited applicability of the Minister's Spec 78B [7] and consider in-situ noise measurements in conjunction with the background noise criteria set by AS/NZS 2107:2016 [4] to be appropriate.

¹ Between apartments

These criteria will be relevant to the assessment of music emissions (live or pre-recorded) from entertainment venues.

We note that noise from the venue in question, incident on the development, will be from the Hotel Wright Street. EPA provides guidelines for assessment of music emissions from entertainment venues [11], which is used for acoustic assessment for development approval purposes as well as for acoustic design of residential developments in the vicinity of existing entertainment venues. The criterion is set as follows:

“The music noise ($L_{10,15min}$) from an entertainment venue when assessed at the nearest noise sensitive location should be:

- less than 8 dB above the level of background noise ($L_{90,15min}$) in any octave band of the sound spectrum, and*
- less than 5 dB(A) above the level of background noise ($L_{A90,15min}$) for the overall (sum of all octave bands) A-weighted levels.”*

Typical background noise levels (L_{90}) in an apartment bedroom with air-conditioning operating are provided in AS/NZS 2107-2016, Appendix C, Table C1 [4] as detailed in below along with the calculated relevant music noise criteria.

Background noise level $L_{90, 15min}$ (AS/NZS 2107-2016)	70	52	42	34	29	25	22	20	18	30
Maximum allowable exceedance	8	8	8	8	8	8	8	8	8	5
Maximum allowable music noise level, $L_{10,15min}$	78	60	50	42	37	33	30	28	26	35

Typical background noise level $L_{90,15min}$ in apartment with the air-conditioning on (AS/NZS 2107-2000) and the relevant music noise criteria

In addition, Adelaide City Council principle of development control 91 states

“91 *Development of licensed premises or licensed entertainment premises or similar in the Capital City, Main Street, Mixed Use and City Frame Zones should include noise attenuation measures to achieve the following when assessed at:*

(a) the nearest existing noise sensitive location in or adjacent to that Zone:

(i) music noise ($L_{10, 15 min}$) less than 8 dB above the level of background noise ($L_{90,15min}$) in any octave band of the sound spectrum; and

(ii) music noise ($L_{A10, 15 min}$) less than 5 dB(A) above the level of background noise ($L_{A90,15 min}$) for the overall (sum of all octave bands) A-weighted levels; or

(b) the nearest envisaged future noise sensitive location in or adjacent to that Zone:

(i) music noise ($L_{10, 15 min}$) less than 8dB above the level of background noise ($L_{90,15min}$) in any octave band of the sound spectrum and music noise ($L_{10, 15 min}$) less than 5dB(A) above the level of background noise ($L_{A90,15 min}$) for the overall (sum of all octave bands) A-weighted levels; or

(ii) music noise ($L_{10, 15 min}$) less than 60dB(Lin) in any octave band of the sound spectrum and the overall ($L_{A10,15 min}$) noise level is less than 55 dB(A).”

Residential Component

For enclosed spaces, the noise from activities in the adjacent rooms transmitted through walls, floors, ceilings etc. increase the background noise level similarly to the noise intrusion from any outside sources. The level of noise transmitted from the adjacent rooms and the level of sound insulation/speech privacy is controlled by the design of building elements and providing adequate level of sound attenuation through specifying appropriate construction types for walls, floors, doors, ceilings etc.

The minimum requirements for sound insulation for the residential component (Buildings Class 2) are set by the National Construction Code Series 2016, Building Code of Australia [5] stipulates the required weighted sound reduction index (R_w), weighted sound reduction index with spectrum adaptation term ($R_w + C_{tr}$) and weighted normalised impact sound pressure level term ($L_{n,w}$) for building elements separating sole-occupancy units. We note that the proposed residential apartments would be classified as Class 2 buildings, and therefore note the following criteria are applicable to the proposed development:

“A floor in a Class 2 or 3 building must have $R_w + C_{tr}$ (airborne) not less than 50 and an $L_{n,w}$ (impact) not more than 62 if it separates –

- (i) Sole occupancy units; or
- (ii) A sole occupancy unit from a plant room, lift shaft, stairway, public corridor, public lobby or the like, or parts of different classification”

“A wall in Class 2 or 3 building must –

- (i) Have an $R_w + C_{tr}$ (airborne) not less than 50, if it separates sole-occupancy units; and
- (ii) Have an R_w (airborne) not less than 50, if it separates a sole-occupancy unit from a plant room, lift shaft, stairway, public corridor, public lobby or the like, or parts of a different classification; and
- (iii) Be of discontinuous construction if it separates –
 - (A) A bathroom, sanitary compartment, laundry or kitchen in one sole-occupancy unit from a habitable room (other than kitchen) in an adjoining unit; or
 - (B) A sole-occupancy unit from a plant room or lift shaft.”

“A door may be incorporated in a wall of Class 2 or 3 building that separates a sole-occupancy unit from a stairway, public corridor, public lobby or the like, provided the door assembly has an R_w not less than 30.”

“Where a wall required to have sound insulation rating has a floor above, the wall must continue to—

- (i) The underside of the floor above; or
- (ii) A ceiling that provides the sound insulation required for the wall.”

Where a wall required to have sound insulation has a roof above, the wall must continue to—

- (i) the underside of the roof above; or
- (ii) a ceiling that provides the sound insulation required for the wall.

“If a duct, soil, waste or water supply pipe, including a duct or pipe that is located in a wall or floor cavity, serves or passes through more than one sole-occupancy unit, the duct or pipe must be separated from the rooms of any sole-occupancy unit by construction with an $R_w + C_{tr}$ (airborne) not less than –

- (i) 40 if the adjacent room is a habitable room (other than a kitchen); or
- (ii) 25 if the adjacent room is a kitchen or non-habitable room.”

Commercial Component

There is no Australian or International Standard for sound insulation between rooms in commercial buildings. Instead, criteria for sound insulation / speech privacy are based on Client's requirements, budget constraints and experience from previous projects. The criteria for speech privacy proposed in Table 2 are presented in terms of D_w rating (Weighted Sound Level Difference as defined by AS ISO 140.4–2006 [6]), which is related to the sound level difference between two spaces and detailed in Table 3. The criteria are based on our experience in the acoustic design of similar facilities. Table 5 details the subjective response of individuals to the proposed privacy ratings for interpretation of the recommendations.

50-55	Confidential privacy
45-50	Very good privacy. Speech inaudible unless raised
40-45	Good privacy. Speech audible but unintelligible
35-40	Normal privacy. Neighbouring conversations are audible and may be understood
<35	Privacy not required

Subjective perceptions for various privacy ratings

Assessment and Recommendations

General

We note that for the acoustic integrity of building elements to be maintained, all gaps and interfaces along the junctions and joints of linings must be sealed with an appropriate acoustic grade sealant. Penetrations for mechanical or electrical services must be properly caulked and sealed around the ductwork and cabling to ensure the intended acoustic rating of the partition is retained.

Appropriate acoustic caulking products include:

- Bostik Firemastic.
- Bostik Seal-n-flex 2637.
- Pyropanel Multiflex.
- Boral Fyreflex.
- Dow-Corning 790 Silicone.
- Dow-Corning 795 Silicone.
- Sika Sikaflex-11 FC.
- Fosroc Flamex 3.

Where a cavity infill is recommended, equivalent alternatives are:

- Fibreglass – 50mm, 12kg/m³.
- Rockwool – 50mm, 38kg/m³.
- Polyester – 900gsm.

Where a ceiling overlay is recommended, equivalent alternatives are:

- Glasswool – 100mm, 12kg/m³.
- Rockwool – 100mm, 38kg/m³.
- Polyester – 100mm, 32kg/m³.

Where higher durability and/or water resistance is required, 6mm compressed fibre cement sheeting could be used in lieu of the 13mm fire-rated plasterboard and 9mm compressed fibre cement in-lieu of 16mm fire-rated plasterboard.

Noise Intrusion

We note that the Hotel Wright Street is in the vicinity of the proposed development. We reviewed their liquor license (See attached, Appendix D) and note that the license is under suspension until 31 December 2019. However, we note the following trading hours as indicated on the licence:

- The Hotel Wright Street license states:

“The venue’s extended trading hours (not applicable on Christmas Day):

- *midnight to 2am Monday to Saturday*
- *9 am to 11 am and 8 pm to 2am Sunday*
- *Good Friday midnight to 2 am*

The premises shall be used primarily as a bar and restaurant with any entertainment provided being ancillary to the primary use.

The licensing conditions restrict the number of patrons in each area, number of live performers at one time, amplification and speaker placement as well as the noise level emitted from the premises, which should not exceed the limits set by the EPA 2007 [2] and the Adelaide City Council in principal of Development Control 91.”

Since the Hotel Wright Street is currently not operational, we could not determine noise impact associated with music and patron noise emissions from the Hotel. Therefore, for the purpose of this assessment, based on our previous experience on similar projects and conditions, considering a live performance underway, we used in our assessment noise level of 73 dBA measured at 3m away from the Hotel, which corresponds to incident noise level of 65 dBA at the façade of the proposed development at 23-29 Market Street².

The construction of the building envelope elements proposed below, take into account the music noise stated above and will be sufficient for the internal noise criteria to be achieved, subject to Hotel Wright Street compliance with the licensing conditions.

Please note that the proposed constructions of the building envelope have been designed to achieve the interior design sound levels set by AS/NZS 2107-2016 [4] with windows/doors closed as the Standard is intended for design and selection of building components that exclude noise that is external to the building (e.g., traffic noise, industrial noise and plant noise).

Based on the results of our assessment, we make the following preliminary recommendations for construction of the building envelope³:

- Glazing
 - Western and Southern Facades:
 - Hotel Rooms (Level 1 to Level 5) – minimum 12.38mm laminated glass.
 - Hotel Rooms (Level 6 to Level 10) – minimum 10.38mm laminated glass.
 - Apartment Living and Work Areas (Level 11 to Level 15) – minimum 6 mm glass.
 - Apartment Bedrooms (Level 11 to Level 15) - minimum 6.38mm laminated glass.
 - Eastern and Northern Facade:
 - Hotel Rooms (Level 1 to Level 3) – minimum 12.38mm laminated glass.
 - Hotel Rooms (Level 4 to Level 7) – minimum 10.38mm laminated glass.
 - Hotel Rooms (level 8 to Level 10) – minimum 6.38mm laminated glass.
 - Apartment Living and Work Areas (Level 11 to Level 15) – minimum 6 mm glass.

² Similar noise levels were measured at the Producers Hotel and used in our concept acoustic design of the development on 262 Pirie St, Adelaide.

³ Please note that these recommendations are based on traffic noise and music noise only and will be revised once details about the engineering services plant are available.

- Apartment Bedrooms (Level 11 to Level 15) – minimum 6.38mm laminated glass.
- Hotel Lobby and Café: minimum 6.38mm laminated glass.

We consider the above recommendations to be appropriate to meet the acoustic requirements. We note however, that the glazing configuration may be subject to change to meet thermal or structural requirements.

Please note that where operable glazing is considered, it should be fitted with compressible acoustic seals (Raven or Schlegel ranges).

- Solid façade – the following construction are acceptable from acoustic point of view:
 - 150mm precast concrete. Please note that this construction is sufficient from acoustic point of view, however, it might require additional thermal insulation.
 - 200mm aerated autoclaved concrete block with 1 layer of 13mm plasterboard on 25mm furring channels and cavity infill of 25mm, 14kg/m³ glasswool or equivalent; or
 - 75mm Hebel Powerpanel to the external side of 92mm steel studs and 1 layer of 13mm plasterboard to the internal side and cavity infill as specified; or
 - Composite light weight façade constructed of 9mm fibre cement to the external side of minimum 92mm steel studs and 1 layer of 13mm plasterboard to the internal side with cavity infill as specified above.

Please note that above recommendations will be revised once the specifications of the engineering plant are available and will be modified if required.

Sound Insulation

To achieve the BCA 2016 requirements and the criteria stipulated in Table 3, we recommend:

- Walls –
 - Walls between sole-occupancy units – 2 layers of 13mm plasterboard to one side of two rows 64mm separate steel studs offset from each other by minimum 20mm air space and 2 layers of 13mm plasterboard to the other side extending to the structure above and with cavity infill as specified above.
 - Walls separating sole-occupancy units from corridors and lobbies – 2 layers of 13mm plasterboard to one side of 64mm staggered steel studs in minimum 92mm track and 1 layer of 13mm plasterboard to the other side extending to the structure above and cavity infill as specified.
 - Walls between sole occupancy units, lift shafts and stairwells - assuming that the lift shafts and stairwell walls would be minimum 200mm thick precast concrete panels, we recommend construction consisting of 1 layer of 13mm plasterboard installed to apartment side of 64mm steel studs offset from the precast concrete panel by minimum 20mm gap, with cavity infill of 50mm, 12kg/m³ glasswool.
 - Walls separating Hotel Reception, Hotel Lobby and Office space from lift shafts and stairwells – Assuming that the lift shafts and stairwell walls would be minimum 200mm thick concrete (precast panels or in-situ concrete), we recommend construction consisting of 1 layer of 13mm plasterboard installed to the Hotel reception and Lobby side on 28mm furring channels, with cavity infill of 25mm, 12kg/m³ glasswool.
 - Operable wall between Meeting Rooms (Please see Appendix A for partition mark up, indicated Yellow colour) – We recommend operable wall with Weighted Sound Reduction Index of no less than R_w 45 (based on laboratory test) be installed. In addition, an acoustic baffle construction of 1 layer of 13mm Plasterboard to each side of the operable wall track, with cavity infill as specified above for partitions, should be installed, extending to the structure above. Please see Detail 1, Appendix B for baffle construction detail.
 - Partitions separating Café, meeting rooms and amenities from other areas (Please see Appendix A for partition mark up, Partition Type P1 indicated in Green colour) – 1 layer of 13mm plasterboard to one side of minimum 64 mm steel studs and 2 layers of 13mm plasterboard to the other side with 1 layer of plasterboard extending to the structure above and cavity infill as specified above. For partition construction detail, please see Detail 2, Appendix B.

- Partitions between offices and separating offices from other areas (Please see Appendix A for partition mark up, Partition Type P2 indicated in Red colour) – 1 layer of 13mm plasterboard to each side of minimum 64mm steel studs extending to ceiling level and with cavity infill as specified above. This will require ceiling overlay as specified above extending minimum 1,200 mm each side of the partition. For partition construction detail, please see Detail 3, Appendix B.
- Doors –
 - Apartment/Hotel room Entry Doors – minimum 45mm thick solid core doors with compressible seals (e.g. Raven or Schlegel ranges).
 - Stairwells – we recommend the stairwell doors to be 55 mm solid core. In order to avoid noise from slamming of stairwell doors into the apartment lobbies, we recommend installing a soft closer mechanism (e.g. damping piston) to the stairwell doors.
 - Delivery area to Hotel Lobby door – 55mm thick solid core doors with heavy acoustic perimeter seals (e.g. Raven RP47Si, RP70 and RP16Si) and soft closer mechanism (e.g. damping piston).
 - Plant room – 55mm thick solid core doors with heavy duty acoustic perimeter seals (e.g. Raven RP47Si, RP70 and RP16Si).
 - Doors to Café and meeting rooms – 45mm thick solid core doors or hinged aluminium framed doors with 12.5mm laminated glass. We recommend medium duty acoustic seals be installed (Raven RP8 and RP10).
 - Private and shared offices - 38 mm thick solid core doors or hinged aluminium framed glass doors with 10.38mm laminated glass.
 - Amenities (Ground and Mezzanine Floor) – 45mm solid core doors would be acceptable.
- Internal glazing –
 - Private and shared offices - Minimum 10.38 mm laminated glass for full height glazing. We recommend ceiling overlay, as specified above, be installed, extending 1200 mm each side of the partition.
 - Café and Meeting rooms – We recommend a single glass pane minimum 12.5mm laminated glass be used. An acoustic baffle consisting of either one layer of 13 mm plasterboard or AUTEX QuietSpace Baffle Block will be required above the ceiling. If the baffle is constructed of 1 layer of 13mm plasterboard, it should extend to the structure above with all interfaces and junction blocked off and sealed. If BaffleBlock is used, it should have minimum density of 16kg/m³, should extend 300mm each side of the partition and must be minimum 30% compressed between the ceiling and the structure above.
- Floors –
 - Floors between apartments/Hotel rooms – 200mm concrete with ceiling of 1 layer of 13mm plasterboard with ceiling overlay as specified above. Where a hard floor finish is used in a room above habitable spaces (bedrooms and open plan living / kitchen areas for example), for NCC compliance they must be installed on resilient underlay (e.g. Construction Chemicals Acoustibond, Thermotec Impact Foam, Regupol, Damtec). The resilient underlay is not required for where bathrooms and balconies are stacked (located above/below each other).
 - Floor between car lift head space and Level 1 Hotel Rooms - we note that 200mm thick in-situ concrete will provide sufficient sound transmission loss between the ground car park and the apartments on level 1.
 - Floor between Mezzanine Level Plant and Level 1 Hotel Rooms - we note that 200mm thick in-situ concrete will provide sufficient sound transmission loss between the ground car park and the apartments on level 1.
 - Floor between Level 4 Gymnasium and Level 3 Hotel Rooms – to avoid transfer of impact noise to the Hotel rooms on Level 3 below from the use of weights, weight machines or treadmills, we recommend a floating floor construction be installed. The construction should consist of minimum 100mm thick reinforced concrete slab, on top of elastomeric material. Required elastomeric material and static deflection will be determined once further details about the gym are provided as an approximate mass of the system is required for correct natural frequency shifting (layer thickness, system make up etc.).

- Floor between Level 4 Pool Area and Level 3 Hotel Rooms – The specifications associated with pool plant (pumps etc.) are not available at this stage. Recommendations for floor between pool on level 4 and level 3 hotel rooms will be provided once the pool specifications are provided.

Hydraulics

The following stipulates recommend design in order to reach NCC compliance with hydraulic systems. Where a wall separates a room of a sole-occupancy unit from a duct, soil, waste or water pipe serving or passing through more than one sole-occupancy unit, we recommend the following constructions:

- Where the adjacent room is a habitable room (i.e. bedroom, open plan living room, etc.), the pipes should be lagged with Soundlag 4525C or equivalent and enclosed with 1 layer of 13mm fire-rated plasterboard with cavity infill as specified in the General Recommendations (See Appendix C, Figure C-1 attached).
- Where a waste water pipe is running within the ceiling space of a habitable room or the waste water pipe is running within the ceiling space next to a habitable room, the pipes should be lagged with Soundlag 4525C or equivalent with ceiling overlay of 100mm, 32kg/m³ polyester extending minimum 1,200mm each side of the pipe. Please note that down lights should be avoided in these areas (See Appendix C, Figure C-2).

We note that the specified constructions above will achieve a rating of $R_w + C_{tr}$ 40, and will meet the NCC requirements for a services riser adjoining a habitable space.

- Where the room is a non-habitable room (See Appendix C, Figure C-3)
 - The pipes should be lagged with Soundlag 4525C or equivalent, and the wall construction would be as per architectural requirements, or
 - The pipes left unlagged and enclosed with 1 layer of 13mm fire-rated plasterboard with cavity infill as specified.

We note that both the constructions specified will achieve a rating of $R_w + C_{tr}$ 25, and will meet the NCC requirements for services riser adjoining a kitchen or non-habitable room.

A flexible coupling must be used at the point of connection between the service pipes in a building and any circulating or other pump, as to avoid vibration from pump operation be transmitted into the building structure, which could lead to structure borne noise.

Environmental Noise

Noise Associated with Mechanical Plant

Details of the engineering plant that will be serving the development are not available at this stage. However, we note that the airborne noise associated with the engineering services will be controlled by design of appropriate attenuators, duct lagging and acoustic enclosures. This will include noise intrusion from the plant, as well as the environmental noise to the surrounding noise sensitive receivers.

The vibration and structure borne noise will be controlled by design of appropriate vibration isolators (double deflection mounts, spring isolators etc.).

Noise Associated with Car Park (Car stacker)

We note 4 off 3 car-stacker spaces for proposed development. The details associated with the car stacker are not available at this stage, however, we note that once the car stacker specifications are available, the noise impact to the nearest noise sensitive receiver due to the car stacker operation and the side lane egress to the car park will be assessed.

Noise Associated with Rubbish Collection

We understand that the rubbish will be stored in the waste rooms near the service parking area on the Ground floor with the rubbish collection vehicles to access the waste zone via Market Street, collect the rubbish from the waste collection zone and then leave via thoroughfare along Market Street. We assessed the noise impact on the residential dwellings on Market Street resulting from noise emissions from typical rubbish collection vehicle including the following activities:

- Rubbish collection vehicle accessing the waste loading zone (including reverse alarm).
- Rubbish collection.

- Rubbish collection vehicle departing.

We calculated the A-weighted Equivalent Continuous Noise Level over a typical 15-minute interval ($L_{Aeq,15min}$) assuming the following activity durations and measured noise levels from similar activities on a previous project:

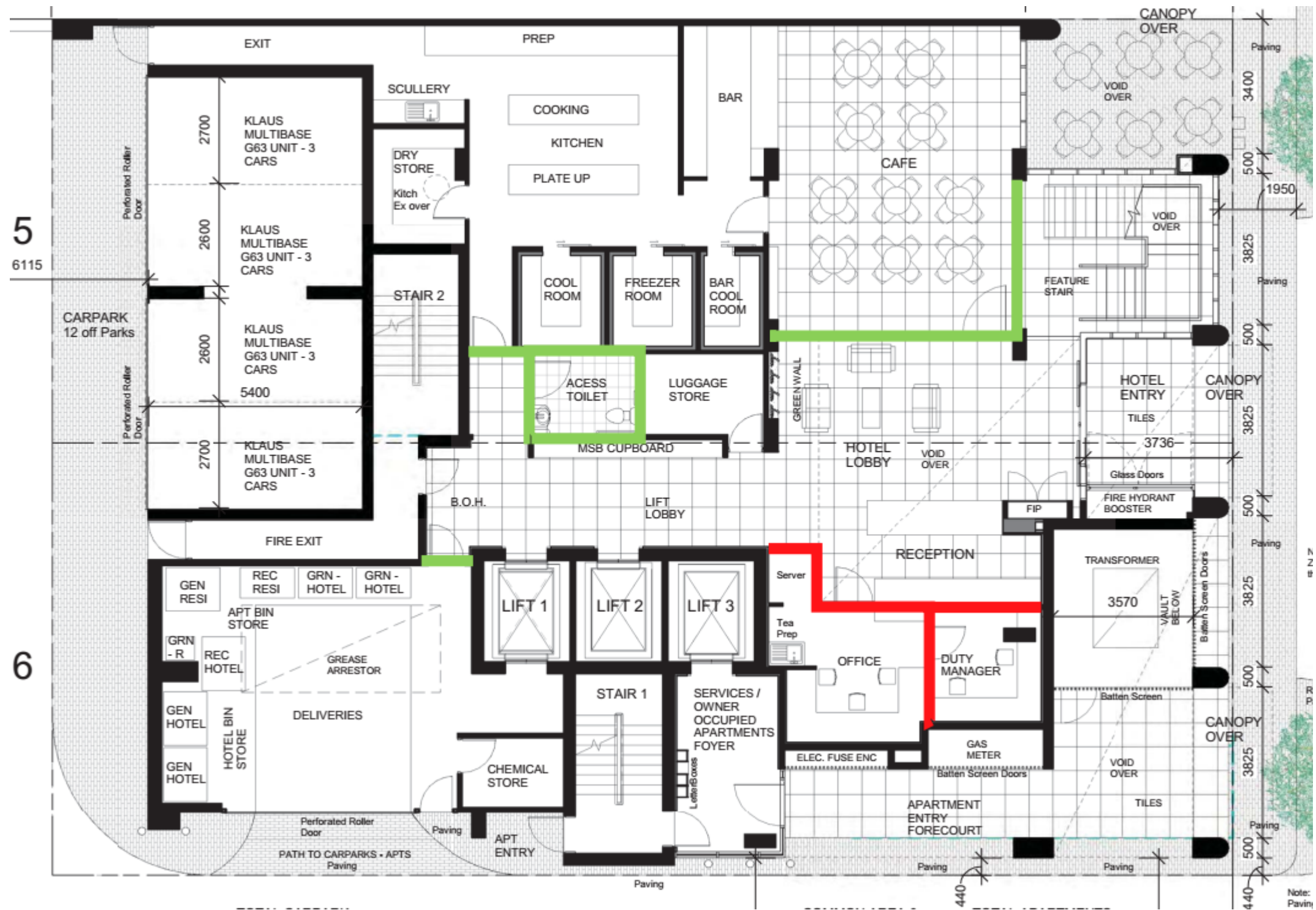
- Rubbish collection vehicle accessing the waste loading zone (including reverse alarm) – 30 seconds, 70dBA at 5m.
- Rubbish collection – 10 minutes, 65dBA at 5m.
- Rubbish collection vehicle departing – 30 seconds, 73dBA at 5m.
- The balance of a 15-minute interval – 5 minutes, 60dBA (ambient noise level).

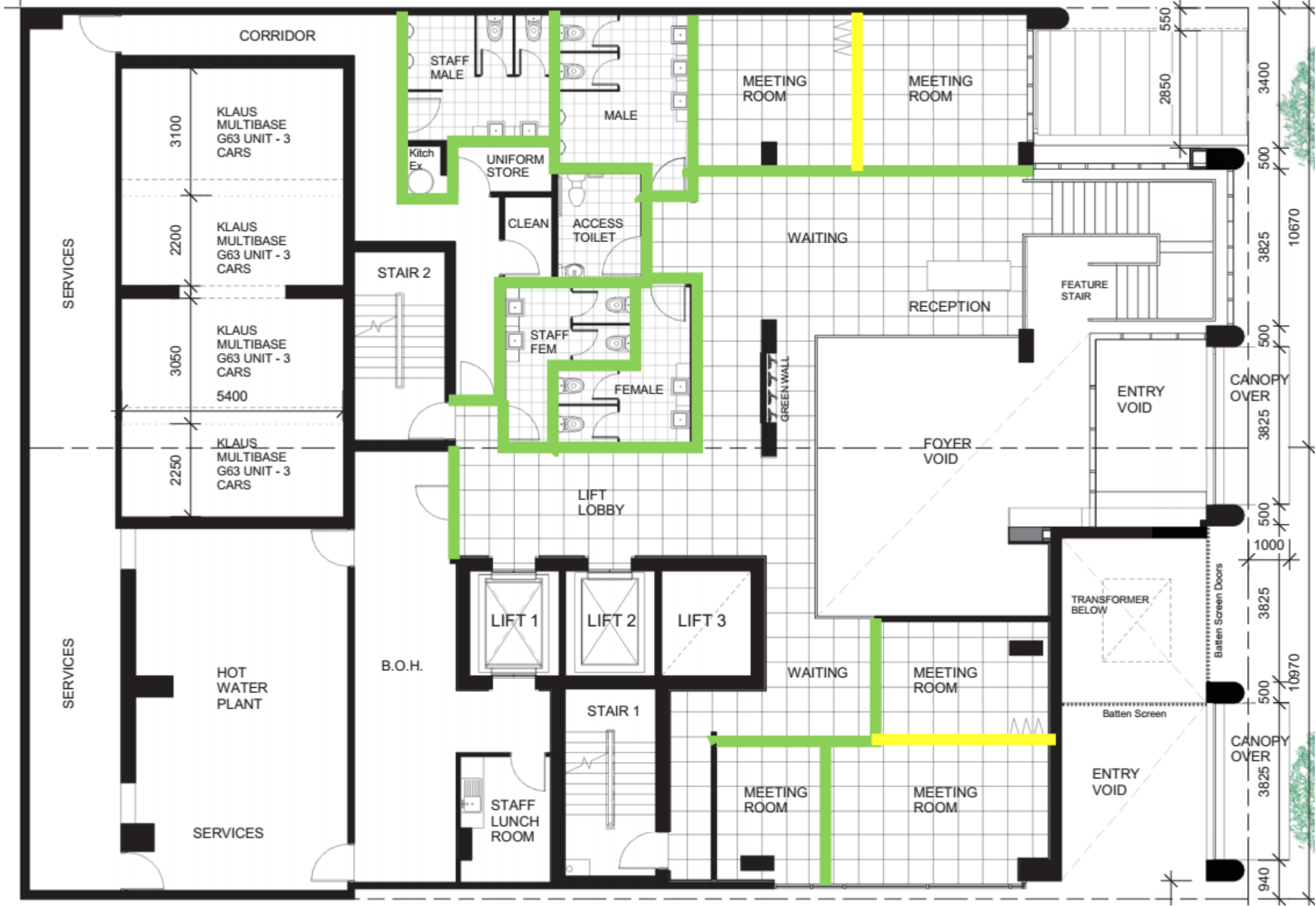
The calculated A-weighted Equivalent Continuous Noise Level over a typical 15-minute interval ($L_{Aeq,15min}$) resulting from loading / unloading activities, which we used in the assessment was 66dBA at 5m.

Taking into account the distance to the nearest residences along Market Street, to the garbage collection activities (approximately 15m from the waste collection zone), we calculated the A-weighted Equivalent Continuous Noise Level over a typical 15-minute interval ($L_{Aeq,15min}$) at the façade of the nearest residential development and note that the noise emissions to the nearest residential development achieve the environmental noise criteria.

We note that, in order to ensure the amenity of the residents is preserved, we recommend the rubbish collection be restricted to the EPA stipulated day time only (i.e., after 7:00AM) Monday to Friday and after 9:00AM on Saturday and Sunday (if applicable).

Appendix A – Partition Mark Up

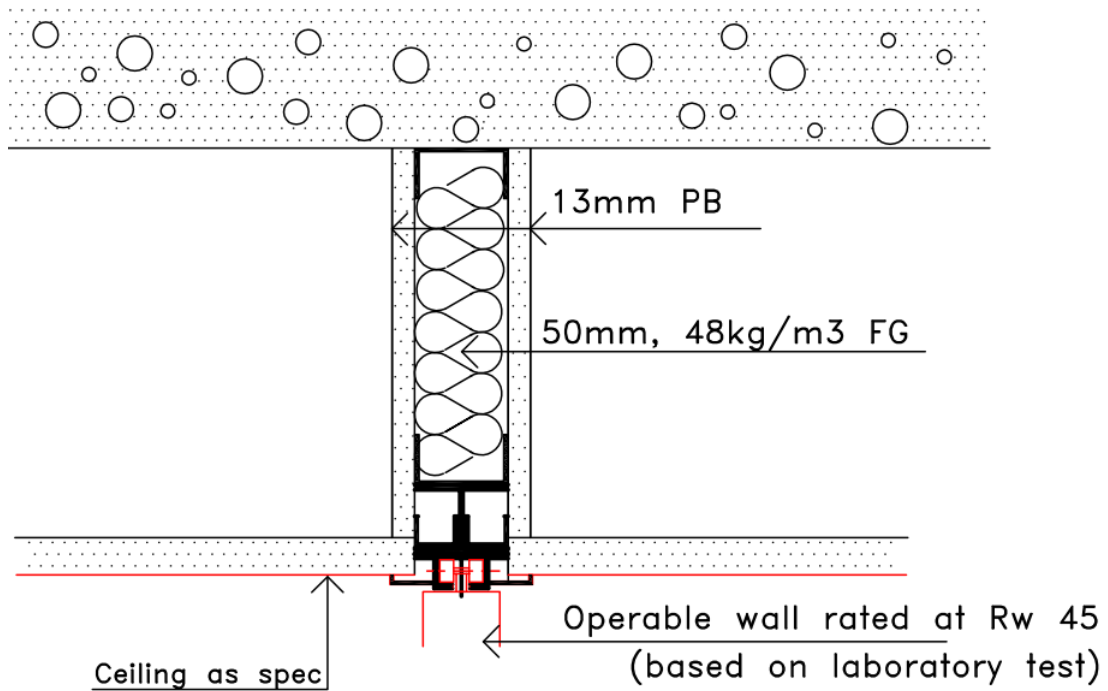
Partition Type, P1 (D_w 40 – 45) Partition Type, P2 (D_w 35 – 40) [REDACTED]



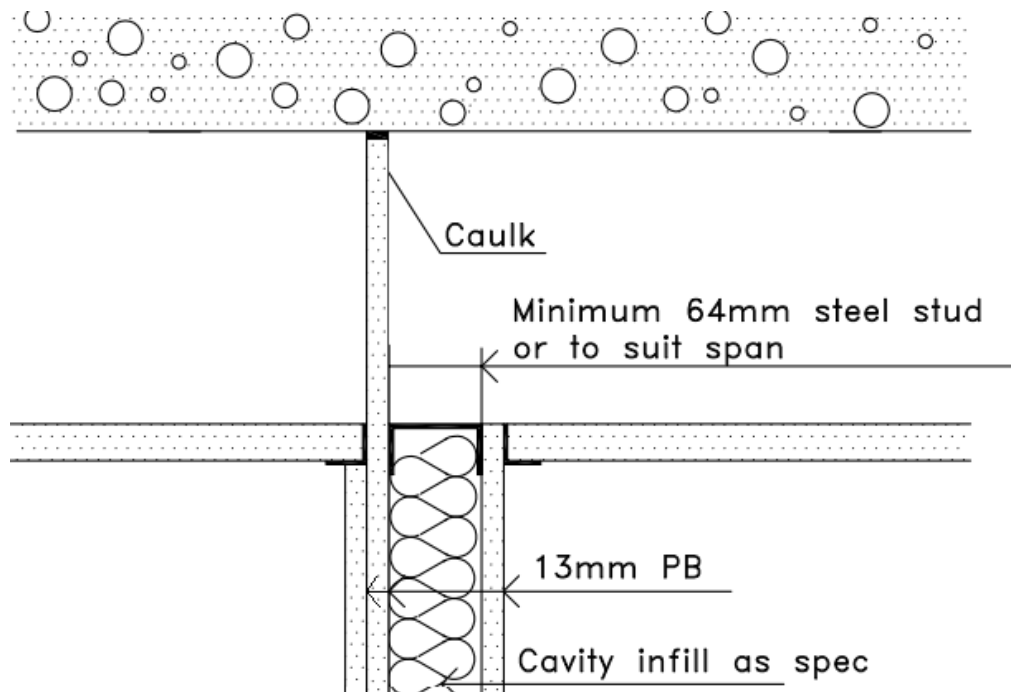
Operable Wall

Partition Type, P1 (Dw 40 – 45)

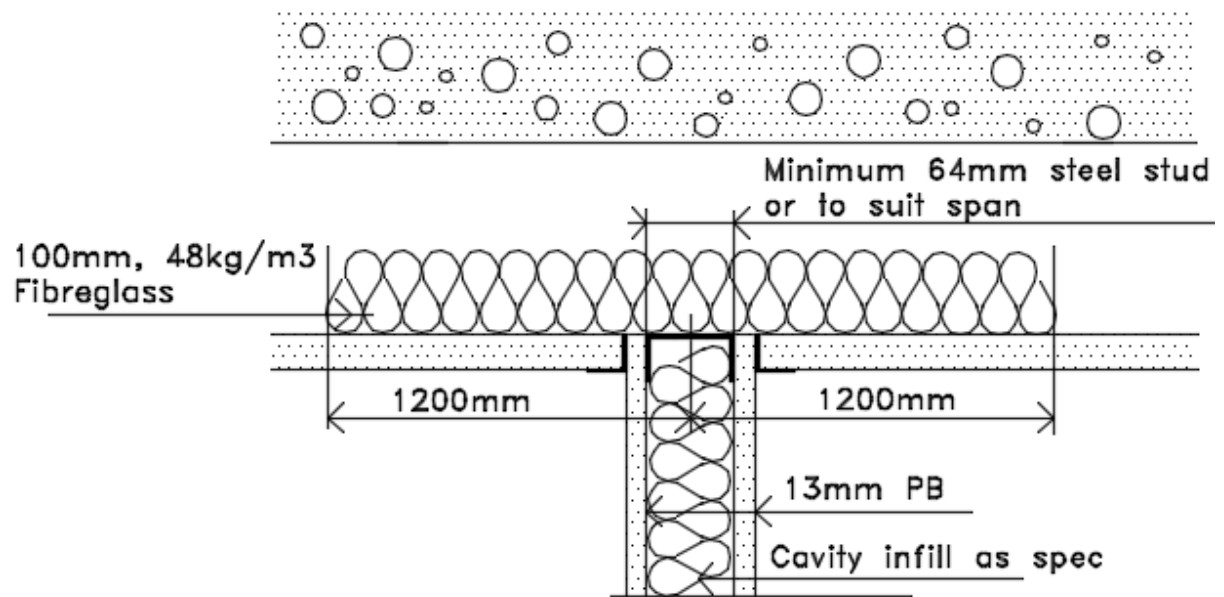
Appendix B – Partition Construction Details



Detail 1 – Operable Wall Acoustic Baffle Construction



Detail 2 – Good Privacy, D_w 40 - 45



Detail 3 – Normal Privacy, D_w 35 - 40

Appendix C – Pipe work details to achieve NCC compliance

Pipework lagged (4kg/m² loaded vinyl on 25mm backing)

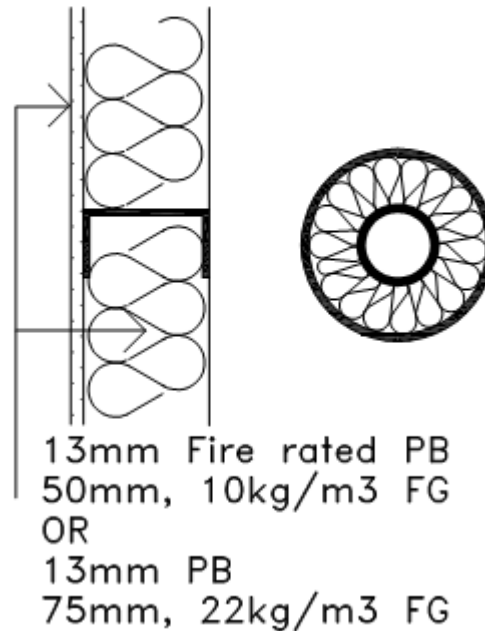


Figure C-1: Construction to achieve $R_w + C_{tr}$ 40, for pipes running adjoining habitable spaces (Bedroom, Living)

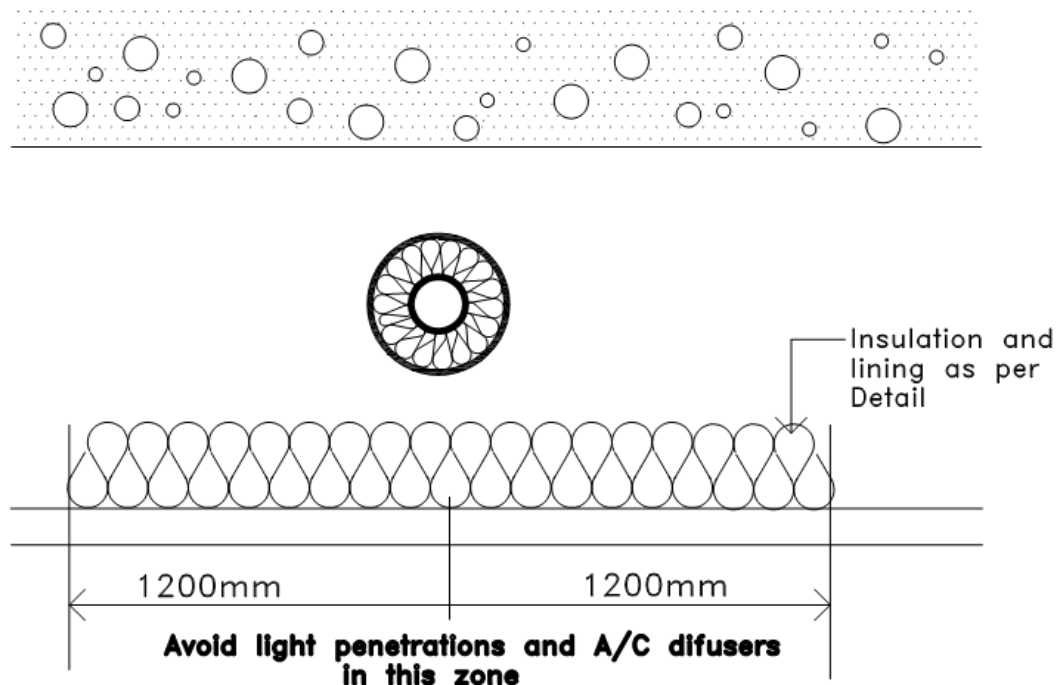
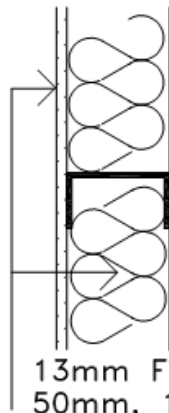


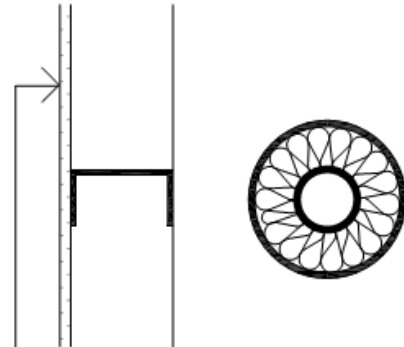
Figure C-2: Construction for pipes running through ceiling of habitable spaces

Pipework unlagged



13mm Fire rated PB
50mm, 10kg/m³ FG
OR
13mm PB
75mm, 22kg/m³ FG

Pipework lagged (4kg/m² loaded vinyl on 25mm backing)



PB as required by architect

Figure C-3: Construction to achieve $R_w + C_{tr}$ for pipes adjoining non-habitable spaces (e.g. Bathroom, Laundry)

Appendix D – Hotel Wright Street Liquor Licence

	<h1>Hotel Licence</h1> <h2>50103808</h2>
<p>Liquor Licensing Act 1997</p>	<p>SUSPENDED UNTIL 31 DECEMBER 2019</p>
<p>PREMISES NAME:</p>	<p>HOTEL WRIGHT STREET</p>
<p>PREMISES ADDRESS:</p>	<p>88 Wright Street, Adelaide 5000</p>
<p>LICENSEE:</p>	<p>LAWRIE HOTELS PTY LTD</p> <p>Wright Developments SA Pty Ltd - Landlord in possession until 31 December 2019</p>
<p>LICENSED PREMISES:</p>	<p>Outlined in red on the approved plan</p>
<p>AUTHORISATION:</p>	<p>To sell and supply liquor in accordance with Section 32 of the Liquor Licensing Act 1997 and any other conditions of this licence</p>
<p>EXTENDED TRADING AUTHORISATION:</p>	<p>Outlined in pink on the plan and shown as: Areas 1 to 5</p> <p>For consumption <u>ON</u> the licensed premises:-</p> <p><u>Areas 1 to 4</u></p> <p>Monday to Saturday midnight to 2am the following day</p> <p>Sunday 9am to 11am & 8pm to 2am the following day</p> <p><u>Area 5 [Refer Page 3]</u></p> <p>Sunday 10am to 11am and 8pm to midnight</p> <p>For consumption <u>OFF</u> the licensed premises:-</p> <p>Sunday 8am to 11am and 8pm to midnight</p> <p>This authorisation will not apply on Christmas Day</p>
<p>ENTERTAINMENT CONSENT:</p>	<p>Outlined in blue on the plan and shown as Areas 2 and 4</p>
<p>DESIGNATED AREAS:</p>	<p><u>Dining</u>: Outlined in green on the plan and shown as Areas 2, 3 & 4</p> <p>This licence does not authorise the sale or supply of liquor in designated dining and designated reception areas between the hours of 2am and 8am except to lodgers.</p>
<p>IMPORTANT:</p>	<p>The licensee is obliged to maintain all essential safety provisions as required by Regulation 76 of the Regulations made under the Development Act 1993.</p>
<p>Date of issue: 24 DECEMBER 2016</p>	 <p>LIQUOR AND GAMBLING COMMISSIONER</p>

Hotel Licence 50103808

CAPACITIES:	Area 1	20 persons	Area 4	55 persons
	Area 2	270 persons	Area 5	30 persons
	Area 3	70 persons		

CONDITIONS: Refer to page 2 & 3

DISBURSEMENT OF FUNDS: Refer Attachment A

CONDITIONS:

1. The premises shall be closed to the public from 2am on every morning and not re-open to the public before 8am on any day.
2. The glass bi-fold doors between the Bar area (Area 2) and the Cider Garden (Area 3) must be kept closed at any time when music is played inside the bar area except when the music being played is low background music.
3. The glass bi-fold doors between the Bar area (Area 2) and the Cider Garden (Area 3) must be closed at midnight each and every night.
4. Music amplified in the premises shall be via the licensee's house system only.
5. In the case of live entertainment, there shall be no more than four performers at any one time.
6. There shall be no speakers placed on the facias of the premises.
7. There shall be no speakers placed on the pavement adjacent to the premises.
8. No speaker in the premises is to be placed closer than four metres from the entrance to the premises and at all times any speaker is to be directed away from the entrance to the premises and into the premises proper.
9. Noise from the premises such as live or recorded entertainment including a performance, show, live music, singing, disk jockey (DJ) or karaoke music, patron noise or any other similar type of noise when assessed at the nearest existing or envisaged future noise sensitive location shall be less than 8dB(A) above the level of background noise in any octave band of the sound spectrum. Such noise levels shall be to the reasonable satisfaction of the Adelaide City Council at all times.
10. There shall be no live or recorded entertainment including a performance, show, live music, disk jockey (DJ) or karaoke music or other similar type of noise, on or in any balcony or outdoor area located on the land.
11. Live entertainment shall not include live bands which fall within the category heavy metal, thrash, gothic, grunge, punk, rock or the like.
12. \$20 all you can drink promotions or promotions of a similar nature which contribute to the excessive and rapid consumption of liquor are prohibited. The licensee shall seek the prior written approval of the licensing authority before commencing any such promotion.

Date of issue: 24 DECEMBER 2016


LIQUOR AND GAMBLING COMMISSIONER

Hotel Licence 50103808

Page 3

CONDITIONS cont.:

Under section 69(1) of the Act, I extend the authority conferred by the licence so that the licensee is authorised to sell and supply liquor in an area adjacent to the premises for consumption in that area as outlined in red on the deposited plan and shown as Area 5. The authority is granted subject to the following conditions:-

- The authority shall lapse and become of no effect if the Permit issued by the Adelaide City Council, lapses or is cancelled, withdrawn, revoked or transferred.
- Area 5 shall be clearly defined by means approved by the Liquor and Gambling Commissioner and the Adelaide City Council.
- The hours of operation for Area 5 shall be:

Monday to Saturday	10 am to midnight
Sunday	10 am to midnight
- The capacity of Area 5 is fixed at 30 persons.
- Liquor may only be sold or supplied for consumption by a patrons whilst seated at a table within the licensed area.
- Entertainment shall not be provided in Area 5.
- The licensee shall maintain a clear path across the front of the premises for pedestrian traffic.
- There shall be no loud speakers on or in the fascia of the premises of or on the adjacent footpath.

Date of issue: 24 DECEMBER 2016


LIQUOR AND GAMBLING COMMISSIONER

Hotel Licence 50103808

ATTACHMENT A

(This page need not be displayed)

DISBURSEMENT OF FUNDS:

While the licence is held by LAWRIE HOTELS PTY LTD as trustee for the LAWRIE HOTELS TRUST and PETTIGREW FAMILY HOTELS PTY LTD as trustee for PETTIGREW FAMILY HOTELS TRUST proceeds of the business conducted under the licence shall not be disbursed pursuant to the LAWRIE HOTELS TRUST except to JASON TROY LAWRIE and SCOTT BRENTON LAWRIE; and the PETTIGREW FAMILY HOTELS TRUST except to KATHERINE PETTIGREW and MICHAEL GRANT PETTIGREW

These details are to be kept as a schedule to the licence, on the licensed premises and made available to an authorised officer on request.

Where proceeds of the business conducted under the licence may be made to a corporation there shall be no change to the directors or the shareholders of the company without the prior approval of the Liquor and Gambling Commissioner.

Date of issue: 24 DECEMBER 2016



LIQUOR AND GAMBLING COMMISSIONER

Also referred to as dBA. A unit of measurement, decibels(A), of sound pressure level which has its frequency characteristics modified by a filter ("A-weighted") so as to more closely approximate human ear response at a loudness level of 40 phons. The table below outlines the subjective rating of different sound pressure levels.

25-30	Barely audible and very unobtrusive.
30-35	Audible but very unobtrusive.
35-40	Audible but unobtrusive.
40-45	Moderate but unobtrusive.
45-50	Unobtrusive with low levels of surrounding activity.
50-55	Unobtrusive with high levels of surrounding activity.

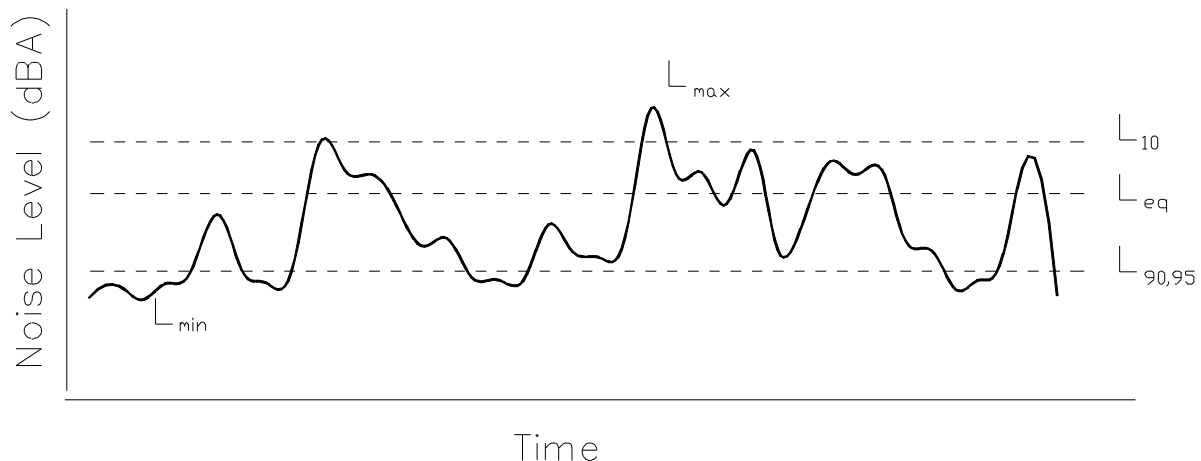
The noise level which is equalled or exceeded for 1% of the measurement period. L_1 is an indicator of the impulse noise level, and is used in Australia as the descriptor for intrusive noise (usually in dBA).

The noise level which is equalled or exceeded for 10% of the measurement period. L_{10} is an indicator of the mean maximum noise level, and is used in Australia as the descriptor for intrusive noise (usually in dBA).

The noise level which is equalled or exceeded for 90% of the measurement period. L_{90} or L_{95} is an indicator of the mean minimum noise level, and is used in Australia as the descriptor for background or ambient noise (usually in dBA).

The equivalent continuous noise level for the measurement period. L_{eq} is an indicator of the average noise level (usually in dBA).

The maximum noise level for the measurement period (usually in dBA).



The subjective reaction or response to changes in noise levels can be summarised as follows: A 3dBA increase in sound pressure level is required for the average human ear to notice a change; a 5dBA increase is quite noticeable and a 10dBA increase is typically perceived as a doubling in loudness.

STC/R_w

Sound Transmission Class or Weighted Sound Reduction Index. Provides a single number rating (from the sound transmission loss or sound reduction index for each frequency band) of the sound insulation performance of a partition. The higher the value, the better the performance of the partition. The subjective impression of different ratings is shown in the table below.

Normal Speech	Audible	Just Audible	Not Audible		
Raised speech	Clearly Audible	Audible	Just Audible	Not Audible	
Shouting	Clearly Audible	Clearly Audible	Audible	Just Audible	Not Audible
Small television/small entertainment system	Clearly Audible	Clearly Audible	Audible	Just Audible	Not Audible
Large television/large hi-fi music system	Clearly Audible	Clearly Audible	Clearly Audible	Audible	Just Audible
DVD with surround sound	Clearly Audible	Clearly Audible	Clearly Audible	Audible	Audible
Digital television with surround sound	Clearly Audible	Clearly Audible	Clearly Audible	Audible	Audible

FSTC/R_w'

The equivalent of STC/R_w, unit for sound insulation performance of a building element measured in the field.

C_i, C_{tr}

The ratings (R_w, D_{nTw}, L_{nTw}) are weighted in accordance to a spectrum suited to speech. This term modifies the overall rating to account for noise with different spectra, such as traffic (C_{tr}) or footfalls (C_i). The ratings may be written as R_w+C_{tr}, or D_{nTw}/L_{nTw}+C_i.

NNIC/D_{nTw}

Normalised Noise Isolation Class, or Weighted Standardised Sound Level Difference. Provides a single number rating of the sound level difference between two spaces, and incorporates the effects of flanking noise between two spaces. This rating is generally accepted to be about 5 points less than the STC/R_w rating.

IIC/L_{nw}

Impact Insulation Class, or Weighted Normalised Impact Sound Level. L_{nw}=110-IIC. The higher the IIC rating, or the lower the L_{nw} rating the better the performance of the building element at insulating impact noise. The table below gives the subjective impression of different ratings:

40	70	Clearly Audible
45	65	Clearly Audible
50	60	Audible
55	55	Audible
60	50	Just Audible
65	45	Inaudible

FIIC/L_{nTw}'

The equivalent of IIC/L_{nw}, but the performance is for the building element measured in the field.

23 -29 Market Street, Adelaide

Desktop Pedestrian Level Wind Report



Document No. GWTS-DKPR-10130-2017-0



23 -29 Market Street, Adelaide
Desktop Pedestrian Level Wind Report

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PROJECT CATEGORY ST-CL-DPR-FV-CFD	DOCUMENT NO: GWTS-DKPR-10130-2017-0
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PREPARED BY:	Dr. Seifu Bekele Principal Engineer	Date: June 29 th , 2017
REVIEWED BY:	Darren Dreiling Consultant	Date: June, 29 th , 2017
REVISION HISTORY		
Revision No.	Date Issued	Reason/Comments
0	29 th June 2017	Initial Issue

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EXECUTIVE SUMMARY

GWTS has been commissioned by **BESTEC** to perform an assessment of pedestrian level winds for the proposed development on **23-29 Market Street, Adelaide**.

This study was conducted by GWTS to help in achieving a greater understanding of the wind conditions and environment of the proposed development. GWTS investigated the wind environment around the proposed building by considering the form and exposure of the proposed development, the nearby existing developments, the local wind climate and the proposed use of ground level areas in and adjacent to the proposed development.

This study concludes that localized increases in ground level wind conditions due to the proposed development are unlikely to occur. The proposed design is expected to alleviate any significant adverse wind effects at pedestrian level. Some recommendations and specifications of the existing design features have been provided.

Please note that this is an opinion statement solely based on empirical data and experience, and is not based on a wind tunnel test. If a high level of confidence is required a comparative wind tunnel test is recommended.

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4.	ASSESSMENT CRITERIA	9
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6.	RECOMMENDATIONS	19
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1. INTRODUCTION

The proposed **23-29 Market Street, Adelaide mixed hotel and residential development** ("the proposed development") is a 15-storey building. The site is bounded by private roads to the south and west, two story building to the north and Market Street to the east. A close-up aerial view of the site is shown in **Figure 1**. A satellite view of the proposed development with the surroundings of an approximately 3.5 km radius is shown in **Figure 2**.

The objective of the study was to consider the likely wind conditions at ground level outdoor areas adjacent to the proposed development in relation to criteria for human comfort and safety. The pedestrian wind environment study of the development was based on experience, empirical data, architectural drawings supplied to GWTS by BESTEC (Appendix A) and statistical data about the site wind climate.

This report is an opinion statement, and is not based on wind tunnel testing. Thus, the findings of this study are based on a wind climate assessment of the site of the proposed development as well as the author's experience of scale model wind tunnel testing and full scale assessments of other similar developments.

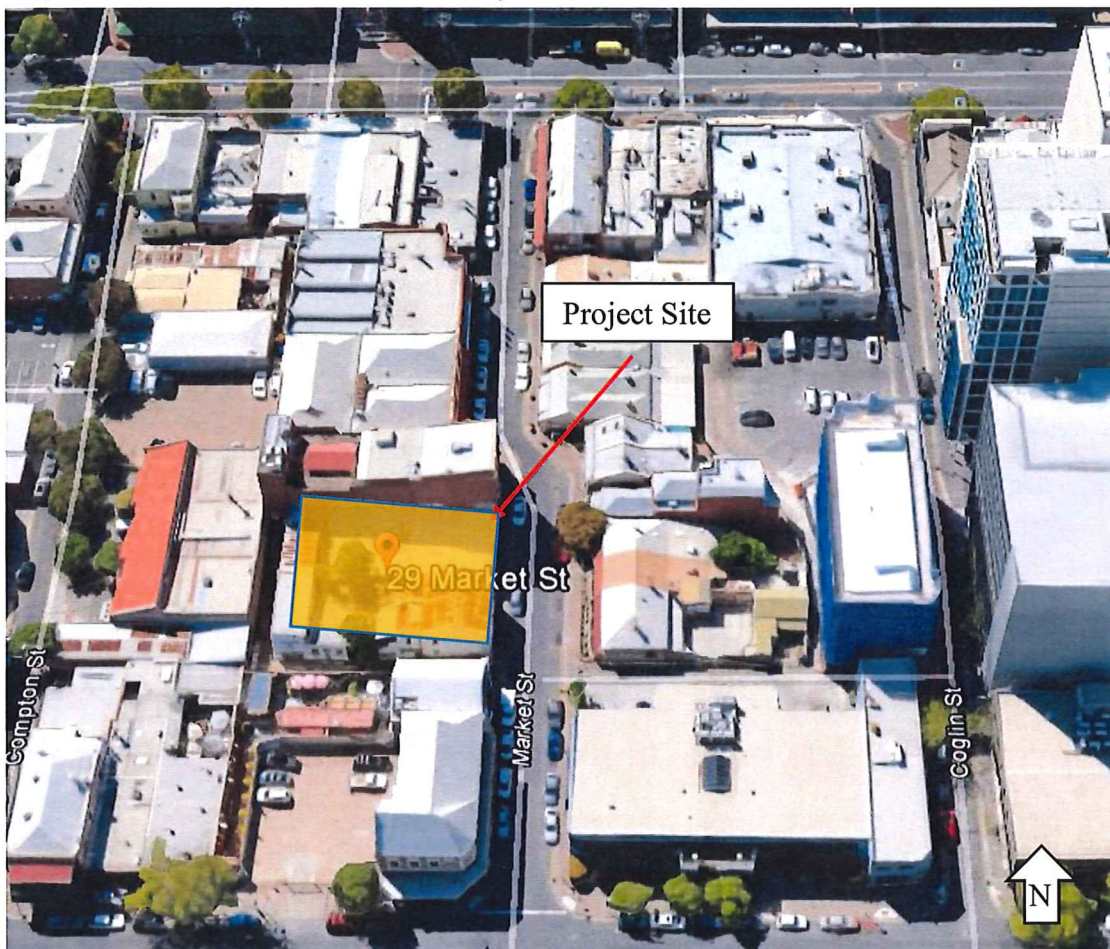


Figure 1: Location of the proposed Development – 23-29 Market Street, Adelaide.

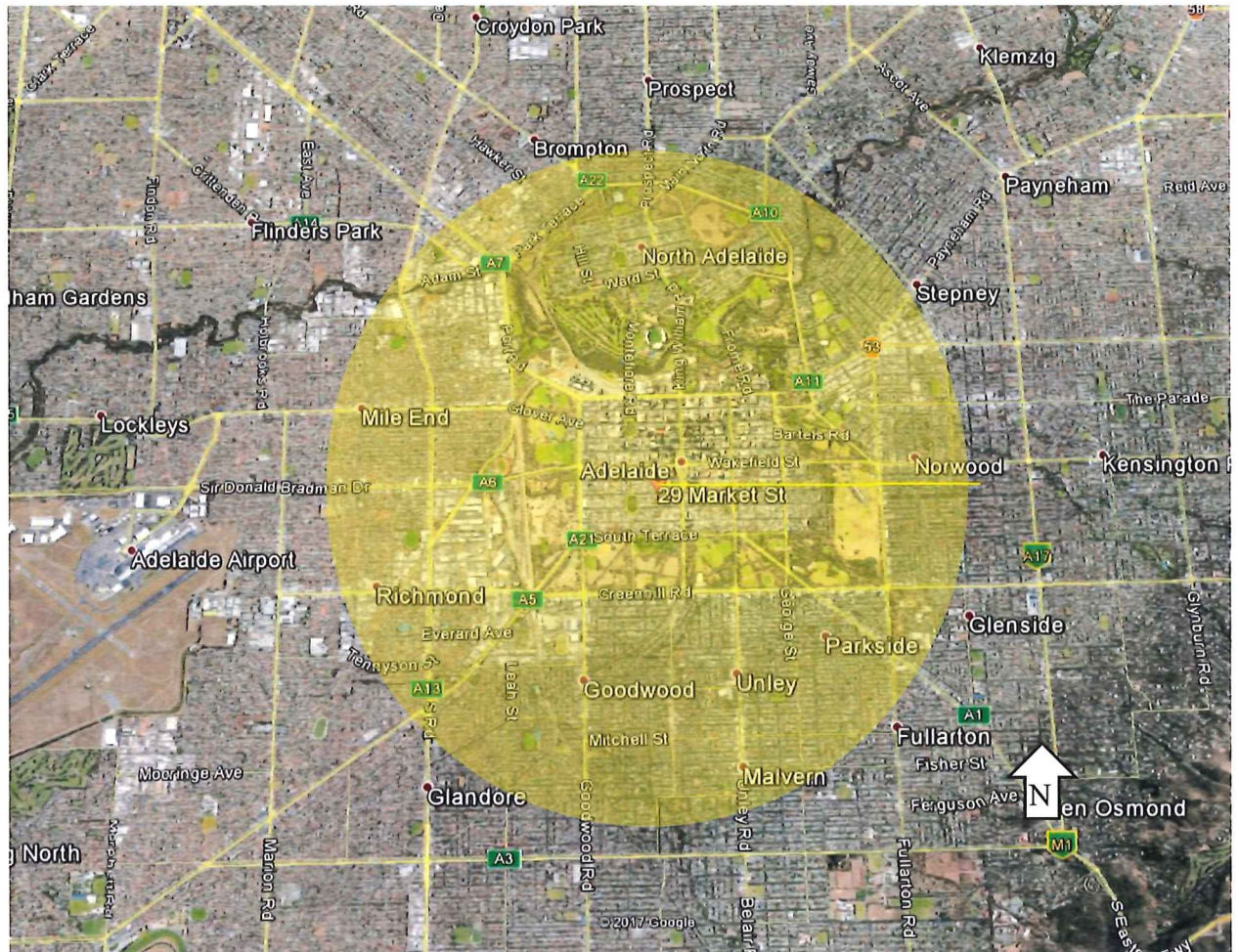


Figure 2: Satellite image of the site of the proposed residential development on 23-29 Market Street, Adelaide and surrounding terrains.

2. WIND CLIMATE

Weather records from Adelaide Airport meteorological station (1985-2011) have been obtained from the Australian Bureau of Meteorology [4] and statistically analysed to produce the directional distribution of mean (averaged over 1 hour) wind speed thresholds at a reference height of 10m, with a probability of exceedance of 0.05% (Figure 3). The 0.05% probability of exceedance for the directional wind speeds is approximately equivalent to a combined probability of exceedance for winds from all directions of 0.1%, as required by the criteria in Table 2 [5].

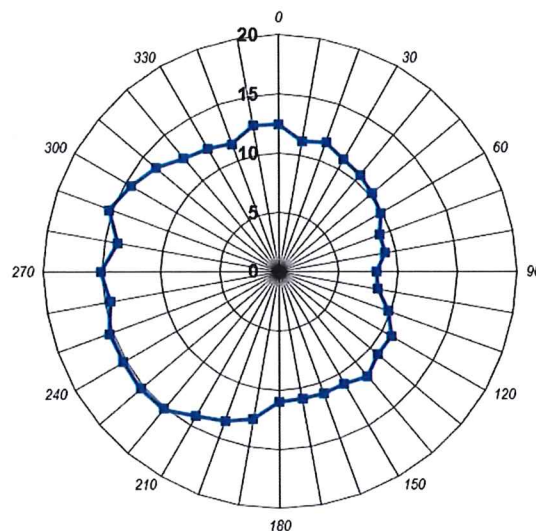


Figure 3: Directional distribution of annual maximum 10 minute mean wind speeds (m/s) at 10m height at Adelaide Airport.

The stronger winds of the Adelaide region originate from the westerly and south westerly directions, with the highest predicted wind speeds coming from the south-west.

3. WIND EXPOSURE

The surrounding terrain within a 3.5 km radius of the site consists of low and medium-rise developments and parkland in all directions with some high-rise developments to the north. The site terrain category consists of the surrounding topography within a 3.5km radius (the inner 1.5km of this is just lag distance and isn't part of the terrain category). The area considered in all directions is predominantly low rise. Therefore, the site of the proposed development is considered to have a Terrain Category 3 wind exposure, as defined in the Australian Standard for Wind Actions [4], for all wind directions with no significant topographic effects in any direction. Satellite photographs of the Project site and surrounding terrain are shown in **Figure 4** with lag distance and terrain development area.

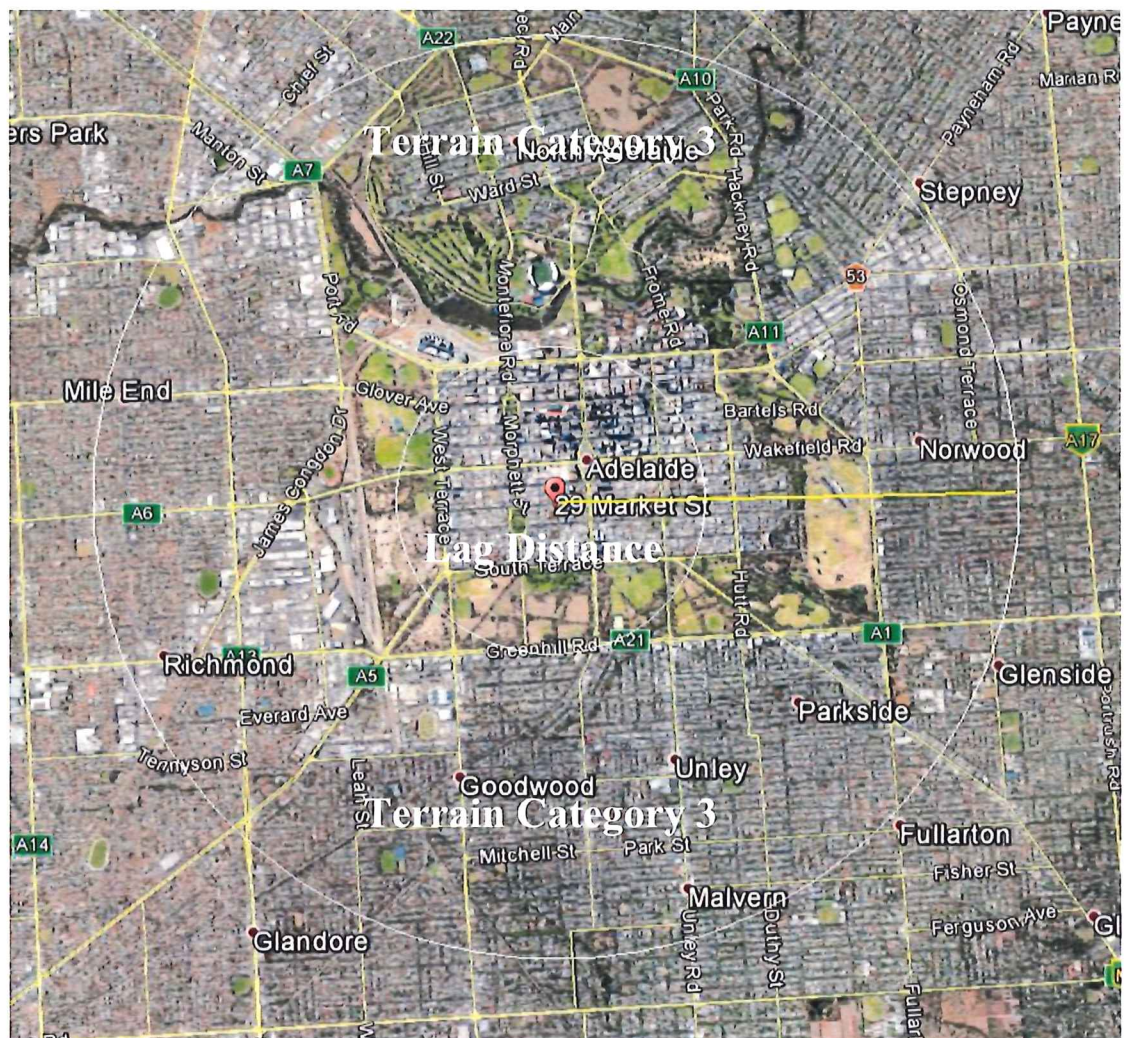


Figure 4: Exposure, Terrain Category 3 from all directions and lag distance

4. ASSESSMENT CRITERIA

GWTS's assessment criteria for pedestrian wind comfort are based on "3-second gust" criteria. A set of annual maximum peak 3-second gust velocities is derived from meteorological data for the geographical location under consideration, for all wind directions to be assessed. For all of these possible wind directions and speeds, the regions where each of the wind speed criteria may be exceeded are then considered.

Most people will consider a site unacceptable for a given activity if the mean and/or gust velocities in that area during the annual maximum wind event exceed the annual maximum wind speed criterion for that activity. The site would also be likely to be considered excessively windy for that activity during more moderate winds.

The threshold gust velocity criteria are:

Table 1 –Wind Comfort and Safety Gust Criteria for Melbourne Area

Annual Maximum 3 second Gust Speed	Result on Perceived Pedestrian Comfort
>23m/s	Unsafe (frail pedestrians knocked over)
<16 m/s	Acceptable for walking (steady steps for most pedestrians)
<13 m/s	Acceptable for short standing (window shopping, vehicle drop off, queuing)
<10 m/s	Acceptable for long standing, sitting (outdoor cafés, pool area, gardens)

Recommended Criteria

Table 2 lists the specific areas adjacent to the development and the corresponding recommended criteria. The assessment areas are also shown in **Figures 4a-4g** with the recommended criteria overlaid.

Table 2 – Recommended application of criteria

Area	Recommended Criteria
All areas	Recommended to meet the criterion for safety
Cafes and outdoor seating areas	Recommended to meet the criterion for sitting
Public Footpaths	Recommended to meet the criterion for walking
Building Entrances	Recommended to meet the criterion for standing
Balconies, Podium rooftop, Level 4 area	Recommended to meet the criterion for walking (refer to the discussion below)



 Recommended to meet criterion for walking

Figure 4b: Schematic plan view of proposed level 4 with recommended wind criteria.



 Recommended to meet criterion for walking

Figure 4c: Schematic plan view of proposed development with recommended wind criteria overlaid on level 12.

Building Roof Terrace/Deck Recommended Criterion Discussion

Building roof and balconies may not be intended for use all the time. People need to be safe and comfortable to walk around to decide to use the space for other activities. The *walking* criteria can be used in this spaces since;

- The use of this area can be avoided during high wind event;
- These areas are not public spaces and their use is not required all the time;

It is likely to be difficult to achieve wind conditions meeting a more stringent criterion than the walking criterion on the roof and balconies of the proposed Development due to their exposure and the form and proximity of adjacent developments.

It should therefore be noted that meeting the walking criteria recommended as the minimum requirement on elevated recreation and pool/gymnasium areas will not guarantee that occupants will find wind conditions in these areas acceptable.

In our experience, we suggest that outdoor recreation areas should meet the criterion for walking comfort in order that the majority of reasonable people consider such areas acceptable for their intended use from a wind point-of-view.

General adverse conditions/scenarios that may occur on a rooftop in extreme wind events include:

- The cooling effect of the wind on the human body (particularly for pool deck areas),
- The removal of lightweight items such as towels, serviettes, newspapers, lightweight furniture (e.g. plastic banana lounges),
- Difficulty hearing others speak.

5. WIND ENVIRONMENT ANALYSIS

The wind profile of the site can be factored for height above ground, estimated local terrain roughness, local turbulence and the influence of buildings to produce estimated annual average maximum 3-second moving average gust wind speeds adjacent to the proposed development. These estimates can then be compared with the applicable criteria to determine whether they would be acceptable or not.

Estimates of ground level wind speeds have been made based on the Adelaide region wind climate data, empirical aerodynamics data and upstream exposure.

Wind conditions in all ground level areas adjacent to the proposed development are predicted to meet or marginally exceed the criterion for safety. Estimates suggest westerly and south westerly wind directions could potentially result in some localized wind speed increases at ground level. Images in the following section are solely used for the purpose of visualising the wind distribution.

Winds from the North

A northerly wind is the second strongest wind direction after the westerly wind. The wind from the north will hit the northern facade of the building and is expected to create a downwash. However, the downwash would be on top of the neighbouring building, not on the pedestrian foot path as shown in Figure 5a. The downwash would create a channelling flow along Market Street as shown in Figure 5b. The energy of the channelling flow will, however, be lost at the bend before it reaches 29 Market Street. Thus, wind acceleration due to channelling is expected to be marginal.

The level 4 pool area is exposed to north wind. The neighbouring buildings on the north are not high enough to provide a shielding. Thus, a minimum of 1.5m parapet size is recommended in order to reduce wind velocity and meet the selected criteria.

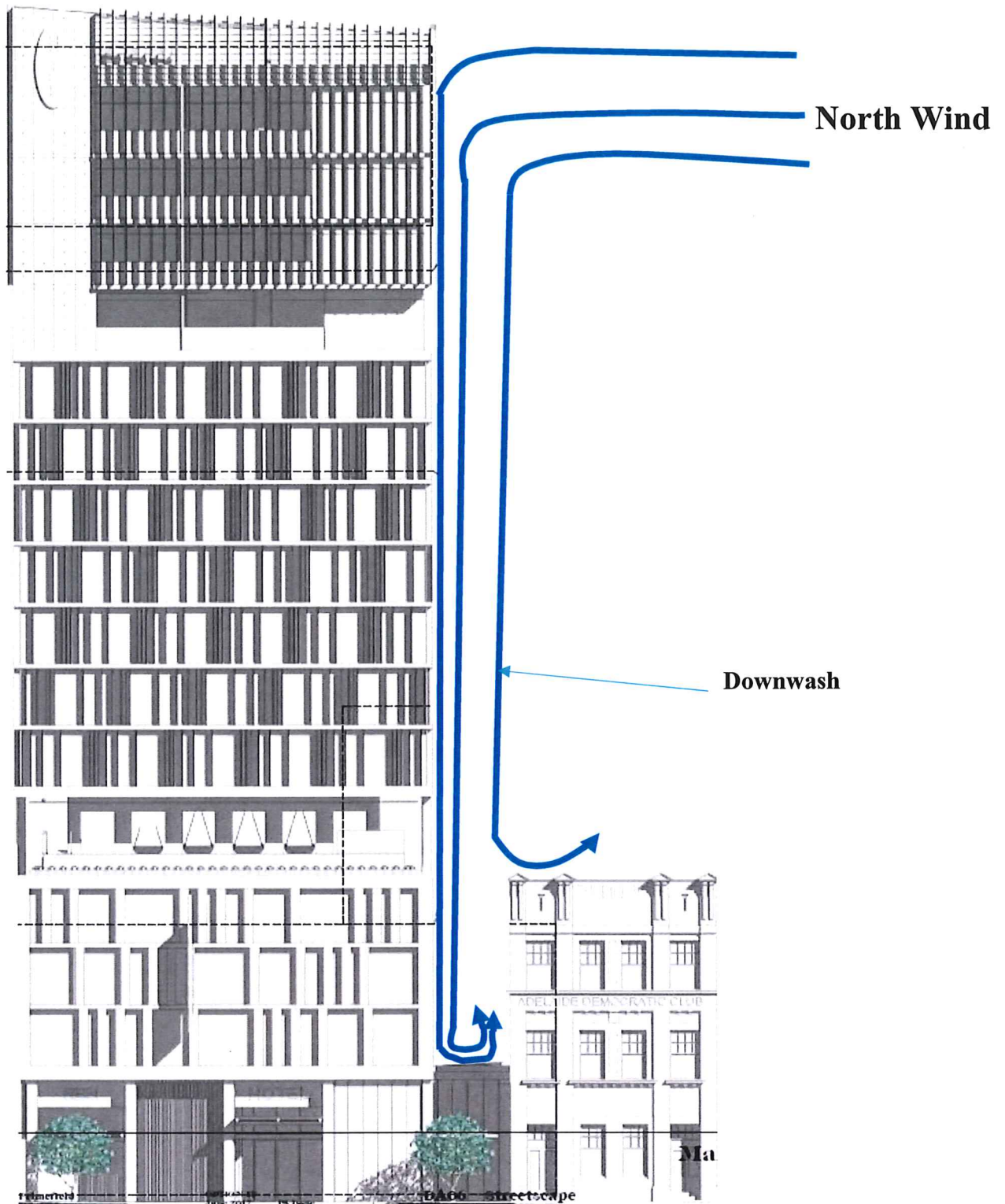


Figure 5a: Downwash due to wind from the north

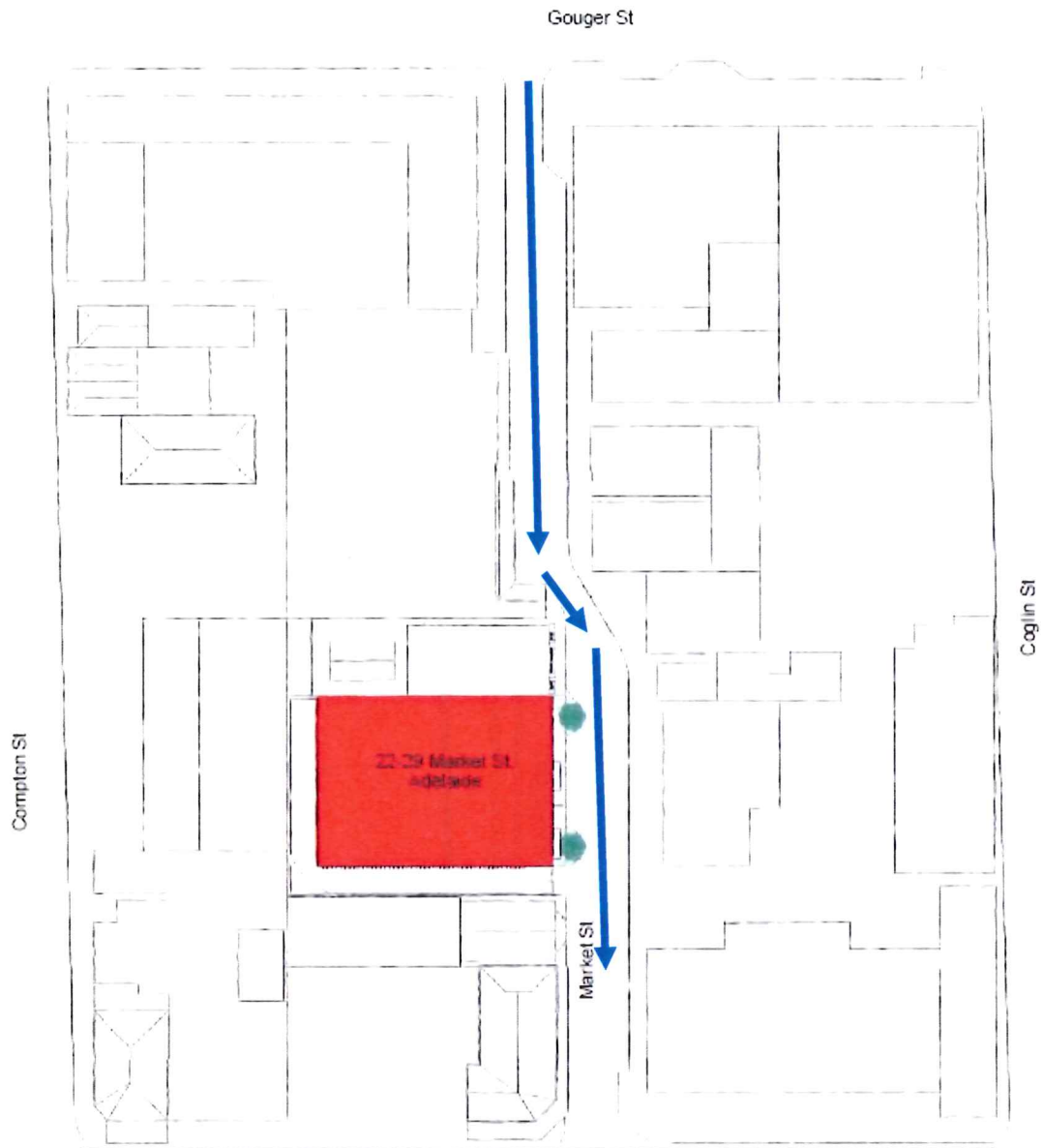


Figure 5b: Channel flow due to wind from the north

Wind from the East

Winds generated from the east are weakest in magnitude, for the city of Adelaide, as it can be seen in **Figure 3**. The main entrance to the building is located on the eastern façade with the tower set back by 3m at level 4 with articulated façade. The entrances at the middle and southeast corner of the building are provided with canopies. With the configuration on the eastern facade of the building it is expected the recommended standing and walking criteria to be achieved at ground level.

The wind from the east will create a channelling flow in the private road on the south of the proposed development. However, considering a low magnitude of the east wind combining with discontinuity of the road, the wind conditions are not expected to exceed the recommended criteria.

Wind from the South

The south wind velocity is the lowest, however, velocity of the wind from south west direction is generally high. The south wind creates a channelling flow along the Market Street. The strength of the channelling flow is not expected to be above the recommended criteria for the ground level due to weak south wind and further reduction of the flow due to displacement to side roads before reaching the proposed development.

The downwash created by the wind from the south will change the wind condition on the private road. However, the articulated façade is expected to reduce the strong wind substantially.

Winds from the West

The Wind from the west directions are the strongest winds for the City of Adelaide. The proposed development has been designed and orientated to offer a substantial protection from the city's strongest winds. Downwash is expected to occur on the western face of the building, however, articulated façade and shielding by low-rise buildings is expected to be of no concern to pedestrian comfort. Thus, it is expected that the effect of westerly winds on the proposed development will have no significant effects on the pedestrian level wind environment and is expected to be within the recommended criteria.

Outdoor Cafe area

The northeast corner of the building's outdoor cafe area requires to meet the wind comfort criterion for sitting. The downwash produced by the podium combined with the wind from the east over low-rise buildings may exceed the sitting criteria. Thus, a canopy at the corner and a parapet may be required to meet criteria for sitting.

Level 4 Pool area

Level 4 swimming pool area is exposed to directly to un obstructed wind from the east. Since the building will stand out of the surrounding buildings from all directions Level 4 is exposed. Thus, a parapet size of 1.5m recommended to fulfil the recommended criteria in these areas.

Rooftop Area

Apartment storage area and bike parks are located at the roof level. The roof top is exposed from all direction. Particularly, strong south-westerly wind may affect the wind comfort on this area. However, free standing wall of more than 3m at the roof top is expected to control the wind and fulfil the recommended criteria for this area.

Balconies

Balcony and terrace areas located at Level 12, 13, 14 and 15 at the north, eastern facade and southwest corner of the building. Accelerated corner flows, standing vortices and high exposure to corner balconies often create a windy environment that may impede the overall use of the recreational area. Owners of corner apartments may therefore resort to using their balcony in accordance with the wind condition.

The phenomenon of elevated wind conditions producing slight discomfort to pedestrians on corner balconies and terrace areas is a common occurrence for similar developments and the apartment balconies are expected to be within the recommended walking criteria.

Although the proposed development balconies will often be acceptable for outdoor recreation, conditions may occasionally exceed the criteria for human comfort during strong winds. The use of architectural articulations of the façade is expected to significantly reduce the effect of strong winds. The use of balustrade with minimum 1.5m height is recommended.

7. CONCLUSIONS

GWTS has carefully evaluated the wind environment around the proposed building by considering the form and exposure of the proposed development, the nearby existing developments, the local wind climate and the proposed use of ground level areas in and adjacent to the proposed development. Based on our experience and empirical relations for wind speed at ground level and the above consideration, expected wind speeds around the proposed building are predicted and then compared to widely used and accepted criteria for comfort and safety.

This study concludes that localized increases in ground level wind conditions due to the proposed development are unlikely to occur. The proposed design is expected to alleviate any significant adverse wind effects at pedestrian level. Some recommendations of temporary wind mitigation features have been provided.



Please note that this is an opinion statement and is not based on a wind tunnel test. If a high level of confidence is required a wind tunnel test is recommended.

7.0 REFERENCES

- 1) Australian Standard 1170.2:1989, Wind actions
- 2) Melbourne, W. H., "Criteria for Environmental Wind Conditions", Jour. Industrial Aerodynamics, Vol. 3, 241-249, 1978
- 3) Australian Wind Engineering Society, "Cladding Pressure and Environmental Wind Studies" Quality Assurance Manual, 1994
- 4) AS/NZS 1170.2 Supplement 1: 2011
- 5) *Adelaide City Development Plan (current)*, Adelaide City Council, <http://www.adelaidecitycouncil.com/planning-development/cityplanning/development-plan/>
- 6) Aynsley R, Melbourne W, Viclery B, *Architectural Aerodynamics*, Applied Science Publishers
- 7) Australasian Wind Engineering Society, *Guidelines for Pedestrian Wind Effects Criteria*, <http://www.awes.org/archives/news/pedestrian-wind-effects-criteria/>
- 8) Simiu, E., Scanlan, R.H., *Wind Effects on Structures, Fundamentals and Applications to Design*, Third Edition, John Wiley & Sons Inc. 1996

APPENDIX A - DRAWING LIST

Drawing List

 DAC Lodgement Set_280617_Part 1 of 2.p...	29/06/2017 2:09 PM	Adobe Acrobat D...	5,410 KB
 DAC Lodgement Set_280617_Part 2 of 2.p...	29/06/2017 2:09 PM	Adobe Acrobat D...	5,146 KB



Leader in sustainable waste management and recycling solutions

Market Street Development

Submission for Waste Collection Services

Prepared by Veolia Environmental Services (Australia) Pty Ltd

June 2017





CONFIDENTIALITY CONDITIONS

- (a) All information whether oral, electronic, printed or graphic contained in this document or obtained by you from Veolia (**Information**) is confidential to Veolia and shall not be used by you other than for the purpose of reviewing this document and the proposal contained herein.
- (b) You shall not copy or reproduce any Information except when, and then only to the extent, reasonably necessary for the purpose of reviewing this document and the proposal contained herein.
- (c) Upon receiving notice that our proposal has not been accepted, and if notified by Veolia, you shall destroy, in a secure manner, this document and any Information.
- (d) You shall ensure that any employee or any other person to whom you supply the Information is bound by the terms of these conditions.



Louis Petridis
Level 1, 276 Pirie Street,
Adelaide

Dear Louis,

Veolia is pleased to submit the following Waste Management Plan for the proposed development located in Market Street, Adelaide.

Veolia will have a strong focus on diverting your waste streams to recycling centres to work towards achieving cost minimisation and increasing diversion from landfill by implementing the following systems:

- Liquid Waste – recycled through our liquid plant.
 - Various sizes
- Organics Bin – all food material from kitchens
 - 240ltr MGB
- General Waste – for all contaminated wet waste streams
 - 1100ltr MGB
- Dry recycling – recycled through IWS recycling centre
 - 1100ltr MGB
- Education Material to help reduce contamination

*All these services are in line with the Adelaide City Council residential recycling plan.

Please see a copy of the waste management plan below for your consideration. I am confident Veolia can implement the above services and systems to work towards achieving cost minimisation and supply the waste management services in a safe & environmentally friendly manner.

We look forward to working with you throughout this process and into the future. Should you require additional information or clarification relating to this document, please do not hesitate to contact myself on 0419 301 449.

Regards

Anton Ianni
Account Manager



Executive Summary

Veolia's aim is to deliver viable collection, handling and transport of all waste streams for all sites whilst diverting 100% of its waste streams through a recycling process.

Market Street Development are also mindful of promoting the correct management of its waste by decreasing the amount of waste going to landfill and increasing the quantity of waste that is recyclable through a "value for money" service.

Veolia Environmental Services (Veolia) is Australia's leading provider of environmental waste management services to industry, commerce and the public. We have worked closely with government, industry and commerce for over 42 years to satisfy people's essential daily needs while respecting natural resources. Our strong and stable management team have taken the organisation from a small operation in 1969 to the current Australia-wide and international network generating Australian revenues in excess of \$700 million per annum from in excess of 100 operating sites.

Veolia is the Australian waste management, industrial cleaning and resource recovery division of the global company Veolia Environnement (VE), generating revenue in excess of AUD \$55 billion annually.

The worldwide strength of Veolia is underpinned by a strategy of long-term investment, continuous innovation and mutual partnering with our customers. Veolia works in partnership with nationally aligned accounts such as Coles, Spotless and Health Scope. Locally, Veolia has forged strong working partnerships with ISS, Burnside Village, Makris Corporation and performs municipal services for Councils such as Mt Barker, Pt Augusta, Whyalla and Pt Lincoln. Veolia has significant experience within the Local Government sector throughout Australia in areas of environmentally recognised and sustainable waste management and recycling services.

This experience enables Veolia to provide the suite of services required by market Street development, whilst maintaining the necessary standards of environmental health and safety compliance. Veolia is proud of its commitment and compliance to all aspects of Quality, Occupational Health Safety & Welfare and Environmental Management Systems to support our commitment to sustainable development.

Our proposal recognises the need to address the disposal of all waste streams generated from each area of Market Street development. Our model will focus on effective waste minimisation strategies, including the recycling or beneficial re-use of product wherever appropriate at extremely competitive rates. Veolia has adopted the principle of 'World's Best Practice' and is dedicated to achieving the highest standards in our field.



***Reductions in
landfill will reduce
Carbon Gas
Emissions and
result in lower
costs.***

In the waste management sector, disposal of biodegradable waste will ultimately attract a higher landfill cost at poorly run landfill operations. Government and commerce are becoming increasingly aware of the environmental and economic benefits of sorting all waste streams to recover high yields of recyclable waste. The increased recycling of plastics, paper, cardboard, waste oily waters, sludges, greases and other recyclable materials will improve Market Street life-cycle Greenhouse Gas (GHG) Emissions and ecological footprint. Veolia can provide monthly reports on GHG emission savings, in addition to data on volumes and weights diverted from landfill.

A major component of our proposal provides for not only the minimisation of waste, but more importantly for the diversion from landfill to our recycling facility to ensure where possible 100% of your waste streams are diverted through the recycling process. This is the key to supporting Market Street commitment to sustainable development and will also assist in the better management of costs. Veolia believes in conducting regular audits of its waste segregation management system to ensure that it complies with Market Street environmental directives. The evaluation of the effectiveness of this system may be monitored through regular agreed KPI reporting.

The impact of the Australian Carbon Tax on the Adelaide Wine centre's operations, including the area of waste management, will conceivably be significant. In this resource and carbon constrained world, it is important that Market Street develops a waste and recycling management program and aligns with an environmental service provider who is strategically positioned to help Market Street mitigate its environmental footprint.



Cost savings.

Minimise waste to landfill.

A dedicated contract manager focused on exceeding your expectations

The key characteristics of our proposal are:

Deliver Long Term Cost Savings: Through a structured program focusing on waste diversion from conventional landfill, Veolia can deliver cost savings through lower disposal costs across Market Street development. With waste now included in the Australian Carbon Tax, waste sent to conventional landfills will attract a significantly higher carbon emissions penalty than material going through Veolia's resource recovery facilities.

Towards Zero Waste to Landfill: Veolia provides access to various technologies developed both locally and overseas, which are already proven within the Veolia Group. Our proposal offers solutions that address a range of environmental concerns, with the primary focus being the diversion of waste from landfill to a recycling centre. Some sample environmental credentials afforded to Market Street development include:

- Implement Organics Recycling
- Zero Waste Approved Facility
- Implement Dry Recycling (Rear lift bins)
- Periodical audits performed to promote best practice

One Contact: Veolia is able to provide a dedicated Waste Services Team and we will assign a major account executive to Market Street development. This provides one point of contact for Market Street development to monitor waste expenditure costs and recycling performance, enabling real improvements in both over the life of the contract. Veolia will provide one phone number to Market Street development for all enquiries and this will be operational 24 hours a day, 7 days a week.

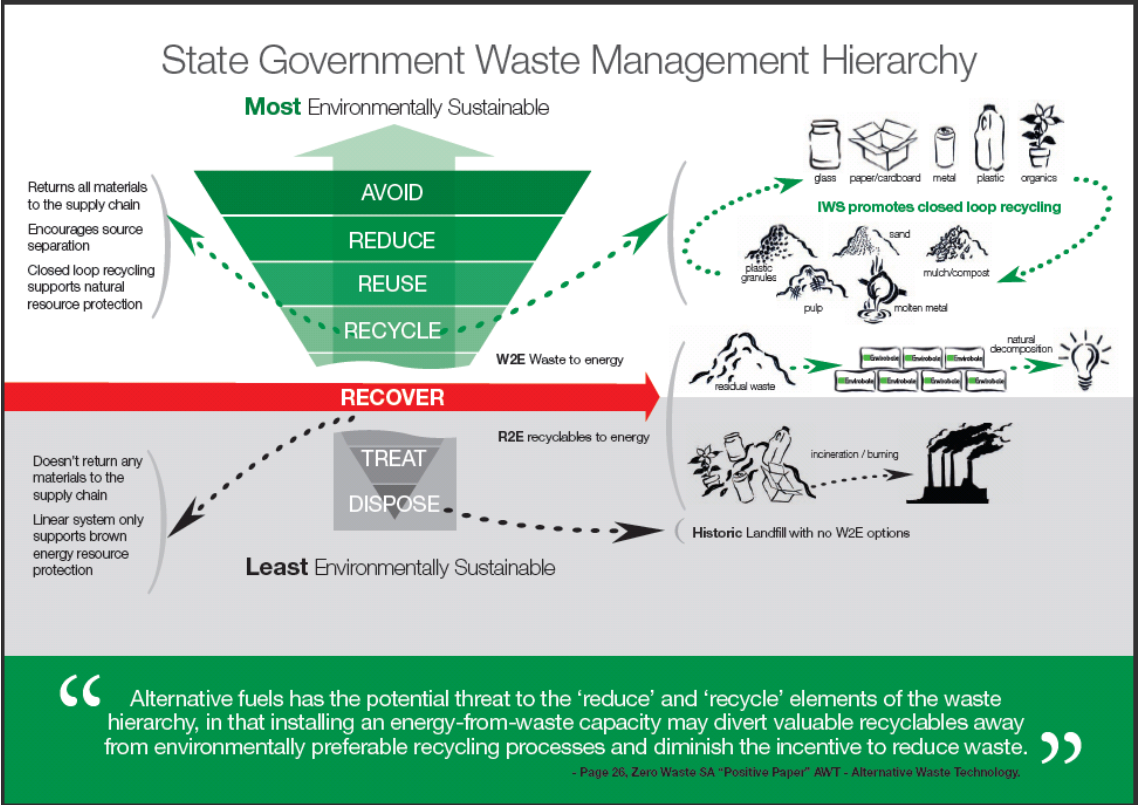
Leading Edge Reports: A monthly national report, which not only captures recycling and waste data, but calculates waste related Greenhouse Gas Emissions and savings from transport and waste disposal is available on a monthly basis for Market Street development.

We are also able to provide reporting based on:

- Cost Centre volumes and costs, waste volumes & weights, waste types, recycling volumes, recycling types, disposal costs etc.
- A feature of our reporting will be a Green House Gas (GHG) calculation, which will detail what impact Market Street development has had on the environment and the benefits they have delivered through increased recycling.



Educational Material: Veolia can supply a full range of educational material to help understand and increase the recycling outcomes.



1. Waste Management Hierarchy

Maximum diversion of resources from burning alternative fuels and historic landfill disposal.

Dry Recyclables	Comingled Recyclables	Mixed Paper & Cardboard	Food & Garden Organics	General Waste	Mixed Waste
Process Mechanically pre-sorted and then processed through the IWS Recycling Centre. Recycling Performance 90% of the recyclable content* is extracted by weight. Residual content is largely in garbage bags and is putrescible which cannot be opened due to OHS risks. Presentation to IWS Can contain between 0-30% residual waste by weight due to limited source separation.	Process Directly processed through the IWS Recycling Centre. Recycling Performance 98% of the recyclable content* is extracted by weight. Residual content is dropped out by screen and largely contains broken glass and food fines which are removed before passing through manual sorting room due to OHS risk management. Presentation to IWS Can contain between 0-15% residual waste by weight, limited contamination due to high level of source separation.	Process Directly processed through the IWS Recycling Centre. Recycling Performance 100% of the recyclable content* is processed directly into mixed paper and cardboard baling. Presentation to IWS Required to be 100% paper and cardboard.	Process Processed through the IWS Composting Process. Recycling Performance 98% of the recyclable content* is extracted by weight. Residual content is dropped out by screen and largely contains broken glass and plastic fines. Presentation to IWS Required to be 100% food organics.	Process Putrescible waste processed through carbon efficient Envirobale® System. Recovery Performance Compacted into waste bales and placed in a modular balefill where methane is extracted and converted to energy. Presentation to IWS Contains mixed general waste, no source separation occurs.	Process Mechanically pre-sorted and then processed through the IWS Recycling Centre. Recycling Performance 90% of the recyclable content* is extracted by weight. Residual content is dropped out by screening and is minimal by weight due to the high density of recyclables e.g. brick/dirt. Presentation to IWS Can contain between 0-10% residual waste by weight, limited contamination due to source separation and high density of recyclables.
<input checked="" type="checkbox"/> Recyclable Content <input checked="" type="checkbox"/> Zero Waste SA Recycle at work*	<input checked="" type="checkbox"/> Recyclable Content <input checked="" type="checkbox"/> Zero Waste SA Recycle at work*	<input checked="" type="checkbox"/> Recyclable Content <input checked="" type="checkbox"/> Zero Waste SA Recycle at work*	<input checked="" type="checkbox"/> Recyclable Content <input checked="" type="checkbox"/> Zero Waste SA Recycle at work*	<input checked="" type="checkbox"/> Envirobale®	<input checked="" type="checkbox"/> Recyclable Content

500 Churchill Road
Kilburn, SA 5084
Telephone: 08 8260 2122
Email: sa@veolia.com.au

***Recyclable Content**
(no hidden recycling content in fuels)
C&D: Mixed paper, mixed cardboard, mixed plastic, small timber and green organics, food organics, small metals.
C&D: All C&D recyclable content materials listed, large timber and organics, large metals, soil, brick and concrete.

***Zero Waste SA Recycle at Work**
IWS Recycling Centre is a ZWISA Recycle at Work Program Accredited Facility.

Lot 254 Orr Hines and Wingfield Roads
Wingfield SA 5013
Telephone: 8243 2644
Facsimile: 8243 1299
Email: iws@iwsgroup.com.au
www.iwsgroup.com.au

Printed on 100% recycled paper

2. Recycle Pak – Maximise diversion from landfill with the correct receptacles.



Triple National Certification: *Market Street development* will have peace-of-mind that their waste is being collected, recycled and disposed of in a safe and environmentally compliant manner. This is backed up by our highly enviable triple certification of ISO 14001 (Environment), ISO 9001 (Quality) and AS 4801 (Safety) management systems.



Award Winning Business: Veolia is the recipient of the Australian Business Award for Environmental Sustainability.



Veolia is also an Australian Quarantine and Inspection Service accredited service provider. The strategic direction of Veolia is one of continuous improvement in environmental technologies for the handling, processing and treatment of waste as well as improvements in education and environmental awareness programs for our customers.

As the organisation has grown, it has earned a reputation for quality, reliability, customer service and commitment to sustainable development based on 'World's Best Practice'. We look forward to working with Market Street development throughout this period and into the future. Should you require additional information or clarification relating to this document, please do not hesitate to contact myself on (08) 8260 2122.

Anton Ianni

Account Manager SA

Waste Management Plan – Apartment/Hotel/Cafe Refuse Area

Market Street

Subject	Details																																																																																		
Development Details	Residential apartments (20x Apartments with 28x bedrooms)																																																																																		
Type of waste Streams & Bin Sizes	Bin room <ul style="list-style-type: none">Organics Bin – All food material from residents<ul style="list-style-type: none">1 x 240ltr MGB 2x per weekGeneral Waste – For all Contaminated wet waste<ul style="list-style-type: none">1 x 1100ltr MGB 1x per weekDry recycling – Recycled through IWS recycling centre<ul style="list-style-type: none">1 x 240ltr MGB 2x week <p>**Please refer to waste generation table attached</p> <p>Bin Dimensions:</p> <table><tr><th colspan="7">Rear Lift Bins (Size Matrix)</th></tr><tr><th>Bin Size (Ltrs)</th><th>Wheel Diameter</th><th>Max weight in Bin</th><th>Bin Weight</th><th>Height (mm)</th><th>Width (mm)</th><th>Depth (mm)</th></tr><tr><td>140</td><td>200</td><td>48kg</td><td>11.4kg</td><td>920</td><td>535</td><td>640</td></tr><tr><td>240</td><td>200</td><td>96kg</td><td>15.5kg</td><td>1060</td><td>580</td><td>730</td></tr><tr><td>660</td><td>200</td><td>265kg</td><td>45kg</td><td>1200</td><td>1360</td><td>770</td></tr><tr><td>1100</td><td>200</td><td>440kg</td><td>58kg</td><td>1390</td><td>1360</td><td>1090</td></tr></table> <p>Rear lift Truck Dimensions:</p> <table><tr><th colspan="8">Rear Lift Truck Specifications</th></tr><tr><th>Size</th><th>length (mtrs)</th><th>width (mtrs)</th><th>height (Mtrs)</th><th>Operating Clearance</th><th>Turning Circle (Mtrs)</th><th>Gross Vehicle Mass (GVM)</th><th>Tare weight</th></tr><tr><td>4x2</td><td>8.65</td><td>2.20</td><td>3.10</td><td>NA</td><td>15.00</td><td>14t</td><td>9.67t</td></tr><tr><td>6x4</td><td>10.10</td><td>2.50</td><td>3.30</td><td>NA</td><td>15.30</td><td>22.5t</td><td>12t</td></tr><tr><td colspan="2">Notes</td><td colspan="6"></td></tr></table>	Rear Lift Bins (Size Matrix)							Bin Size (Ltrs)	Wheel Diameter	Max weight in Bin	Bin Weight	Height (mm)	Width (mm)	Depth (mm)	140	200	48kg	11.4kg	920	535	640	240	200	96kg	15.5kg	1060	580	730	660	200	265kg	45kg	1200	1360	770	1100	200	440kg	58kg	1390	1360	1090	Rear Lift Truck Specifications								Size	length (mtrs)	width (mtrs)	height (Mtrs)	Operating Clearance	Turning Circle (Mtrs)	Gross Vehicle Mass (GVM)	Tare weight	4x2	8.65	2.20	3.10	NA	15.00	14t	9.67t	6x4	10.10	2.50	3.30	NA	15.30	22.5t	12t	Notes							
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	Residential apartments (20x Apartments with 28x Bedrooms)
Service Frequency & Waste Volumes	<p>General Waste (30ltr per bedroom required)</p> <ul style="list-style-type: none"> ○ Volume – 840ltr per week ○ 1 x 1100ltr bins ○ Service schedule 1x per week = 1100ltr capacity <p>Dry Recycling (20ltr per bedroom required)</p> <ul style="list-style-type: none"> ○ Volume – 560ltr per week ○ 1 x 660ltr bins ○ Serviced 1x per week = 660ltr capacity <p>Organics (10ltr per bedroom required)</p> <ul style="list-style-type: none"> ○ Volume – 280ltr per week ○ 1x 240ltr bins ○ Serviced schedule 2x per week = 480ltrs capacity <p>– <u>6m3 per year</u>. (Need to allow room for this to be stored. (no bin) Council collection</p>
Bin Storage Locations & movement of bins	<ul style="list-style-type: none"> • Bins will be stored in the ground level bin waste room. The bins will be clearly labelled with signage encouraging the tenants to recycle as much as possible. ** As per plan attached. • The bins will be managed by the Cleaners/Facility Manager– the bins will be serviced via Market Street. • Bin storage area needs to be large enough to store bins allocated above.
Collection Points	<p>Waste & Recycling</p> <ul style="list-style-type: none"> • A Veolia truck will service the Residential refuse room via loading area at front of Hotel on Market Street.
Specialised Facilities & Equipment	<ul style="list-style-type: none"> • There will be no specialised equipment for this project
Account Management & Customer Education	<ul style="list-style-type: none"> • If awarded the waste contract, Veolia will have a dedicated Account Manager to oversee the waste management services for the Market St development. We can supply signage to help achieve improved recycling.

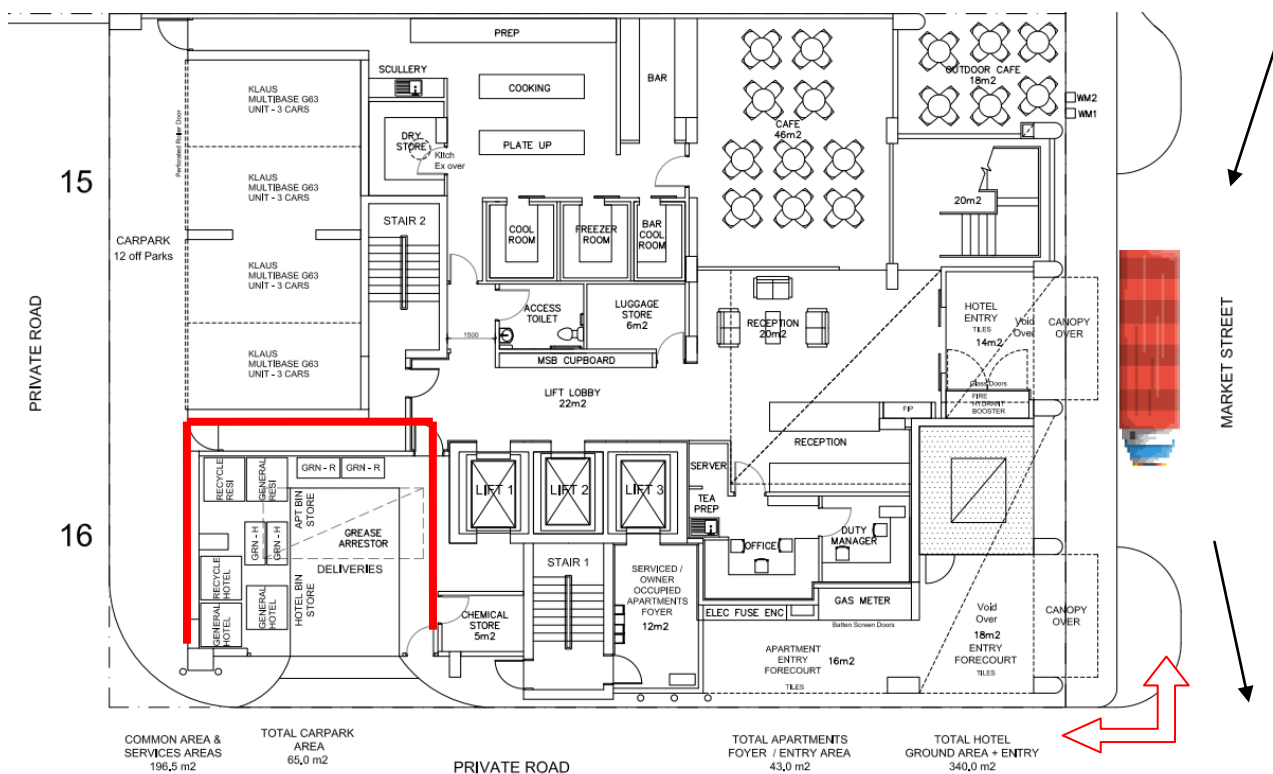
Waste Management Plan – Restaurant Refuse Area

Market Street

Subject	Details																																										
Development Details	Market Street – Hotel rooms & Restaurant/Cafe																																										
Type of waste Streams & Bin Sizes	Bin area (will be separated from the residence bin area.) <ul style="list-style-type: none">Organics Bin – All food material from Restaurant/cafe<ul style="list-style-type: none">2 x 660ltr MGBGeneral Waste – For all Contaminated wet waste Hotel/cafe<ul style="list-style-type: none">2 x 1100ltr MGBGrease Arrestor – All grease trap liquid waste from Restaurant (located in delivery area)Dry recycling – Recycled through IWS recycling centre<ul style="list-style-type: none">1 x 1100ltr MGBE Waste POA																																										
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Service Frequency & Waste Volumes	<p>General Waste</p> <ul style="list-style-type: none"> ○ Volume – 5,404L per week ○ 2 x 1100ltr bins ○ Service schedule 3x per week (TBA) <p>Dry Recycling</p> <ul style="list-style-type: none"> ○ Volume – 2,600L per week ○ 1 x 1100ltr bins ○ Serviced 3x per week <p>Organics</p> <ul style="list-style-type: none"> ○ Volume – 3,010lt per week ○ 2 x 660ltr bins ○ Serviced 3x week per week <p>Grease Arrestor</p> <ul style="list-style-type: none"> ○ Volume 2400 ltr, serviced Quarterly (TBA volume) <p>Based on 6 days trading. (If business separates correctly)</p>
Bin Storage Locations & movement of bins	<ul style="list-style-type: none"> • Bins will be stored in the ground level bin Waste room. The bins will be clearly labelled with signage encouraging the restaurant staff to recycle as much as possible. **As per plan attached • The bins will be managed by the Cleaners/Facility Manager– the bins will be serviced via Market Street • Bin storage area needs to be large enough to store bins allocated above.
Collection Points	<p>Waste & Recycling</p> <ul style="list-style-type: none"> • A Veolia truck will service the Waste room and park on Market Street
Specialised Facilities & Equipment	<ul style="list-style-type: none"> • There will be no specialised equipment for this project
Account Management & Customer Education	<ul style="list-style-type: none"> • If awarded the waste contract, Veolia will have a dedicated Account Manager to oversee the waste management services for the Market St development. We can supply signage to help achieve improved recycling.

- Grease Arrestor servicing – Grease trap to be serviced early morning before 7am.



- Driver to park out the front of building in drop off zone before 7am to service the bins up the lane way.
- Liquid truck to do the same for servicing. Liquid truck to park out the front and run hose down lane way. Path way to have Pedestrial hazard signs erected as hose is trip hazard. This to be done prior to 7am
- Residential BIN STORE needs to have two separate areas for hotel and Residential.
- MRV Trucks to drive from north to south in the one direction for safe collection of waste bins.

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Terms & Conditions

1. Definitions

'Agreement' means the agreement and the terms set out in this document.

'Contract Price' means the Contract Price as specified in this document or, if no Contract Price is specified, means the total of the Service Fees multiplied by the corresponding quantities of the Services supplied for the term of the Agreement plus all adjustments and costs in accordance with this Agreement.

'Equipment' means all containers and other plant and equipment supplied by Veolia for or under this Agreement, all of which remain the property of Veolia.

'Site' means those of the Client's premises at which the Services are carried out, and includes any new premises that the Client may relocate to for any reason.

'Service Fee' means the specified rate, price or lump sum amount for the performance of each item of the Services, as adjusted in accordance with this Agreement.

'Services' means all services of the type and nature as described in this Agreement.

2. Client Responsibilities

The Client agrees:

2.1 Service

- (a) that Veolia has the exclusive right to supply all Services to the Site;
- (b) to provide Veolia with reasonable opportunity to offer to provide Services to the Client at premises other than the Site;
- (c) to promptly inform Veolia of any change in the Client's Services' requirements;
- (d) to disclose to Veolia all information in the Client's possession relevant to the provision of the Services;
- (e) to comply with all legal requirements and the requirements of all relevant regulatory authorities relating to the Services;
- (f) that Veolia has the right to suspend the provision of the Services in the event of non-payment for the same by the Client;

2.2 Equipment

- (a) to use the Equipment only for its proper and intended purpose;
- (b) to provide Veolia such access to the Equipment and the Site as is reasonably required to enable Veolia to provide the Services safely and in accordance with this Agreement;
- (c) to maintain the cleanliness of the Equipment;
- (d) not to damage, deface or remove identifying marks from the Equipment;
- (e) to report to Veolia immediately any damage to, misuse of, or unsafe, Equipment;
- (f) to reimburse Veolia for the cost of any stolen Equipment, whether from the Site or the vicinity of the Site;

2.3 Service

- (a) to ensure that all waste supplied for collection is of the type or nature specified in this Agreement and, unless otherwise agreed by Veolia, uncompacted;
- (b) not to overload the Equipment (either by weight or volume)

2.4 Payment

- (a) to pay Veolia:
 - (i) the Contract Price as a debt due and payable to Veolia upon signing of the Agreement, such debt to be paid by monthly instalments payable over the term of this Agreement; and
 - (ii) any adjustments made by Veolia in accordance with this Agreement; and
- (b) any and all amounts invoiced in accordance with this Agreement must be paid within 14 days from the date of the invoice; and
- (c) if this Agreement is renewed, that the provisions of clause 2.4(a) will apply upon renewal to the Contract Price payable in respect of such renewed period.

2.5 Assignment

not to assign its interest under this Agreement without the prior written consent of Veolia.

3. Veolia Responsibilities

Veolia shall perform the Services in accordance with this Agreement.

4. Liabilities

4.1 Additional Charges and Fee Increases

The Client acknowledges that amounts payable by it to Veolia under this agreement may be adjusted from time to time by Veolia, acting reasonably, as a result of:

- (a) Veolia having incurred extra costs or suffered loss and damage as a result of a breach by the Client of its responsibilities under this Agreement;
- (b) the actual weight of the waste the subject of the Services exceeding the estimated weight thereof;
- (c) a change in the nature, density, quantity or timing of the Services (including any change in the type, density, weight or quantity of the waste the subject of the Services);
- (d) any increase in the Service Fees as a result of:
 - (i) any increase in the Adelaide All Groups CPI;
 - (ii) any increase in the cost of the performance of Veolia's obligations under this Agreement (including labour costs, fuel, government taxes or charges, disposal fees); or
 - (iii) any other relevant circumstance.

Veolia undertakes to provide notice to the Client of any such increases.

4.2 Client Indemnity

The Client indemnifies Veolia against loss or damage to Veolia's property and against any claim or action which may be brought or made by any person against Veolia, its employees or agents in respect of personal injury or death of any person or loss of or damage to property caused by a negligent or wrongful act or omission of the Client, its employees, other contractors or agents.

The Client's liability to indemnify Veolia is reduced proportionally to the extent that Veolia, its employees, subcontractors or agents have contributed to the injury, death, loss or damage.

4.3 Veolia Liability

Veolia's liability at law is limited to:

- (a) the resupply of the Services; or
- (b) at Veolia's option, the payment of the cost of resupply of those Services.

Except for this and to the extent permitted by law, Veolia accepts no liability whatsoever for any claim for loss or damage of any kind without limitation. Veolia will not be liable for the non-performance of the Services caused by an act, omission or event beyond its control.

5. Term

5.1 The offer in this document is valid for fourteen (14) days from the date it is made.

5.2 The operation of the Agreement is subject to Veolia having first obtained a satisfactory credit check of the Client.

5.3 The term of this Agreement:

- (a) Is an initial fixed period of three (3) years from the Contract Commencement Date ("Initial Period") specified in this Agreement, and thereafter, shall continue for successive fixed periods of three (3) years each, subject to termination in accordance with clause 6.1; or
- (b) where the Services comprise a one-off project, expires upon their completion.

5.4 The term of this Agreement continues regardless of whether the Client moves from one Site to another Site (New Site). In the event of such relocation, Veolia will provide the Services at the New Site, on the terms of this Agreement.

6. Termination

6.1 Either party may terminate the Agreement:

- (a) Immediately by written notice to the other where that other:
 - (i) becomes bankrupt, or insolvent, or becomes subject to external administration; or



Terms & Conditions

(ii) commits a substantial breach or default under the Agreement; or

(iii) repudiates the Agreement; or

(b) by giving to the other party no less than 60 days' written notice of intention to terminate, such notice to take effect at the end of the Initial Period or at the end of any further fixed period pursuant to clause 5.3.

6.2 If the Agreement is terminated by Veolia under clause 6.1(a) or by the Client under clause 6.1(b), the Client must pay Veolia the sum of:

(a) all monies due and payable under any invoices rendered but unpaid; and

(b) as liquidated damages, fifty per cent (50%) of the average monthly revenue for the number of months from termination until expiry of the then current term of the Agreement and which the Client agrees are a genuine pre-estimate of Veolia's loss. 'Average monthly revenue' is the average monthly gross amount paid or payable by the Client to Veolia under the Agreement.

7. Disputes

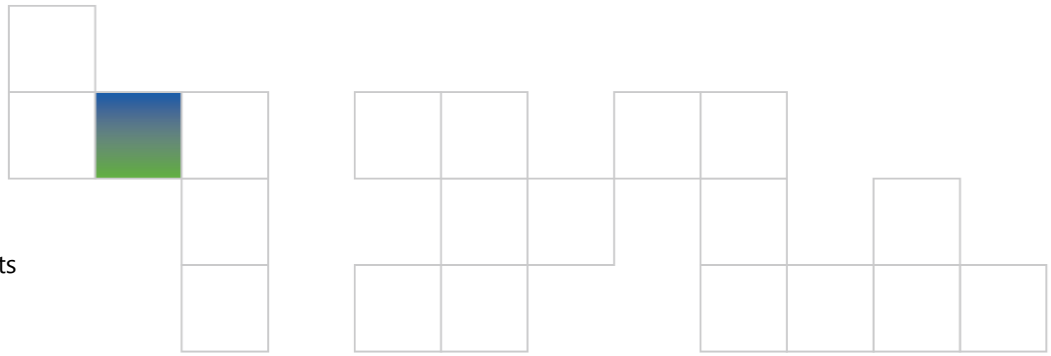
(a) If any dispute or difference arises between Veolia and the Client, other than pursuant to clause 6, it shall be referred to their respective representatives for resolution. In the event that the representatives are themselves unable to resolve the dispute, the representatives' superiors will attempt to resolve it speedily by negotiation and in good faith.

(b) In the event that Services are terminated or suspended pending resolution of a dispute under this Agreement, at Veolia's sole discretion Veolia's bin/s may remain on the Site and Veolia reserves the right to lock the bin/s until the dispute in question has been resolved or the Agreement terminated. In the event of termination, at Veolia's sole discretion, the bin/s may remain on the Site until payment of all liquidated damages, if applicable, in accordance with clause 6.2(b).



27 June 2017

Loucas Zahos Architects
270 Flinders Street
ADELAIDE SA 5000



ATTENTION: MR L Petridis

AS: 12425-003a

Dear Louis

MARKET STREET APARTMENT DEVELOPMENT ECOLOGICALLY SUSTAINABLE DESIGN (ESD)

One aspect of ecologically sustainable design focuses on improving the efficiency of energy consumption within a building, with a primary intent to minimise CO₂ emissions and the impact of inefficient buildings harming the environment.

The importance of energy efficiency in the building industry has increased significantly in recent years, to the point now that the Building Code of Australia (BCA) has introduced energy performance requirements for all classifications of buildings. Regardless of legislative requirements, the benefits of ecologically sustainable design (ESD) extend to long term energy cost savings as well as a public perception of environmental responsibility.

With this in mind, the design team have developed the below energy efficiency/sustainability initiatives. These initiatives intend to reduce the building energy consumption beyond the Building Code of Australia "Deemed-to-Satisfy" approach to Energy Efficiency, leading to a further reduction of CO₂ emissions.

The features outlined below are to be investigated further during the design development phase of the project and considered for inclusion in the development subject to feasibility and cost effectiveness.

Project Overview

The apartment project is a mixed-used development comprising:-

Ground level:	Cafe, hotel foyer, apartment foyer, carparking, delivery area and bin room.
Mezzanine level:	Meeting rooms for seminars and events.
Level 1-3:	13 hotel rooms per floor.
Level 4:	Gym and swimming pool.
Level 5-11:	11 hotel rooms per floor.
Level 12:	5 apartments per floor.
Level 13-15:	5 apartments per floor.
Level 16:	Storage area & bike parks for the apartment residents.

Passive Design Features

High performance insulation	High performance insulation is proposed with wall, floor and roof insulation R-values to meet NCC minimum requirements and best practice guidelines. Insulation will be applied to all exposed surfaces including the ceiling soffit of the ground floor entry forecourt and delivery area.
Glazing	High performance glazing with low-E coating and low solar heat gain coefficient to mitigate solar heat gains during summer.
Shading	The following shading strategies have been developed:- <ul style="list-style-type: none">▪ Vertical shading fins to serve all facades at Levels 5-11 and Levels 13-15.▪ Extension of slab/balconies to provide horizontal overhang shading devices.

Natural ventilation to apartments and hotel rooms	Every habitable apartment and hotel room will be provided with an operable window that opens to outside. Natural ventilation has two key benefits: <ul style="list-style-type: none">▪ Reduced demand for air conditioning during summer and mid-season.▪ Increased indoor air quality through provision of higher quantities of outside air.
Thermal performance	Building facade, building fabric performance and passive design of apartments to achieve a NatHERS energy rating of at least 5 Stars for each individual apartment and 6 Stars for the whole apartment building.

Energy efficiency

The following energy efficient initiatives are proposed to complement the passive design techniques:-

- Incorporate high efficiency, inverter driven, low-static pressure type air conditioning systems.
- Incorporate LED lighting throughout.
- Incorporate motion sensors for efficient control of lighting within common areas and daylight sensors for efficient control of external lighting.
- Master shutdown switch at the entry of each hotel room, allowing occupants to easily switch off all lighting and air-conditioning upon departure.

Water Efficiency

Selection of fittings and fixtures is paramount for achieving a water efficient building. All fixtures and fittings shall be selected as low-flow where possible. The following WELS ratings are proposed:-

- Bathroom and kitchen taps with a WELS rating of not less than 5 Stars (6.0 L/min)
- Shower heads with a WELS rating of not less than 3 Stars (9.0 L/min)
- Water closets with a WLS rating of not less than 4 Stars (3.5 L/flush, dual flush)

The following table demonstrates the potential water savings expected to be achieved per person (approx. 42% reduction) and resulting from the use of these low-flow fittings.

Equipment	Average apartment		Apartment within Market Street Development		
	Flow Rate	Daily Consumption	WELS	Flow Rate	Daily Consumption
Taps	9.0 L/min	48 L	5 Star	6.0 L/min	32 L
WC's	8.0 L/flush	48 L	4 Star	3.5 L/flush	21 L
Showers	15.0 L/min	135 L	3 Star	9.0 L/min	81 L
Total	-	231 L	-	-	134 L

Indoor Air Quality

In addition to provision of natural ventilation to each habitable apartment and hotel room, the following initiatives are proposed:-

- Kitchen rangehoods with exhaust discharged to outside via ductwork in lieu of recirculating type hoods.
- Low volatile organic compound (VOC) paints.

Materials

In order to minimise the environmental impact of concrete used in the project, the following initiative is proposed:-

- Portland cement content in in-situ concrete mixes (e.g. slabs, columns, piling etc) to be reduced by 25% and replaced with alternative cementitious materials such as slag and flyash to reduce carbon footprint and resource depletion.

Transport

The following initiatives shall be considered to complement the passive design techniques:-

- A total of 20 bicycle racks provided at Level 16 for the apartment residents.
- Limited car parking spaces provided within the building's site to encourage use of bicycle and other alternative low carbon means of transport.

Please do not hesitate to contact the undersigned should you require further information.

Regards

LUCID CONSULTING ENGINEERS



ANDREW SHINNICK

Building Services Manager SA

27 June 2017

Loucas Zahos Architects
Level 1/276 Flinders Street
Adelaide SA 5001

ATTENTION: MR L PETRIDIS

LCE12425 - 005

Dear Louis

**MARKET STREET APARTMENT DEVELOPMENT
BUILDING SERVICES INFRASTRUCTURE STATEMENT**

The purpose of this letter is to provide preliminary site services infrastructure information as required for the Market Street Apartment Development pre-lodgement planning phase.

Project Overview

The project is a multi-storey residential apartment development consisting of approximately 20 apartments and 117 hotel rooms. The building comprises the following arrangement:

Ground level:	Entries, Hotel, Services, Car, Bikes and Café
Mezzanine Level:	Hotel, Services, Storage and Meeting Rooms
Level 1-3:	Hotel Rooms
Level 4:	Services, Gym and Pool Area
Level 5-10:	Hotel Rooms
Level 11-15:	Apartment Levels

Electrical Infrastructure

The existing buildings are supplied from three-phase high and low voltage underground cables from Wright Street up Market Street shown in **figure 1&2**. The underground high voltage cable as shown in **figure 1** supplies a SA Power Networks (SAPN) pad mounted transformer located down a perpendicular unnamed street. Although the capacity of the transformer is unknown although due to the scale of the proposed development, it is unlikely to be adequate to service the development site.

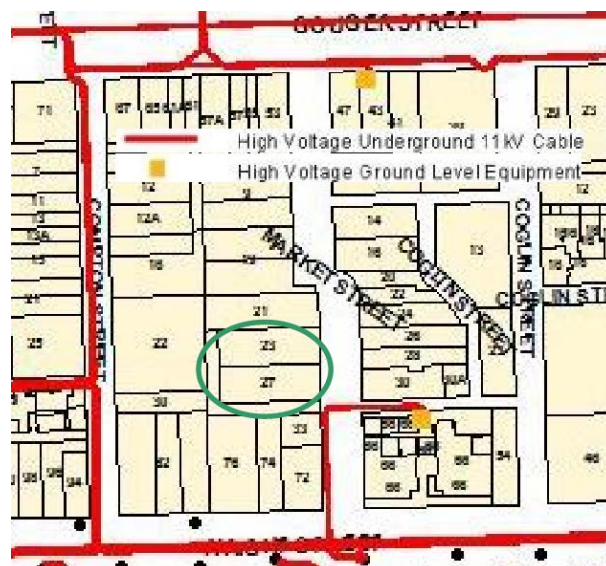


Figure 1: SAPN High Voltage and Transformer Arrangement (perpendicular street transformer)

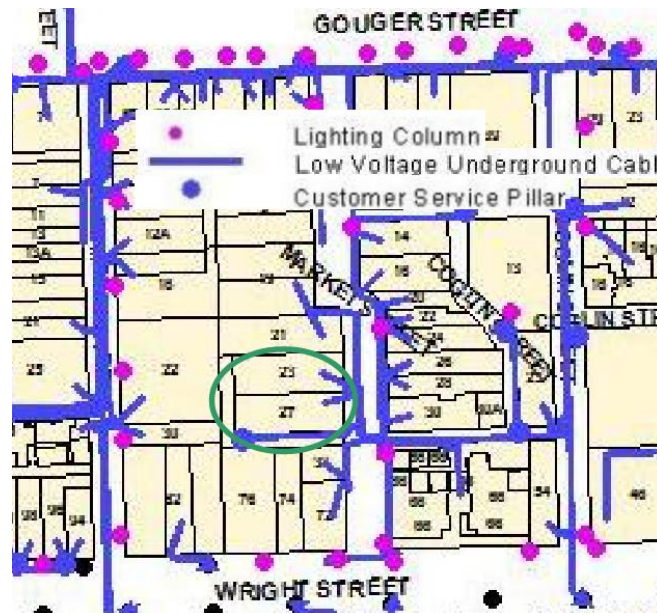


Figure 2: SAPN Low Voltage and Light Column Arrangement (perpendicular street transformer)

Based on a preliminary estimated maximum demand calculation (567kVA) calculated in accordance with AS3000. In order to support a load of this size, it is necessary to provide a new dedicated pad mounted transformer situated on site. It's proposed the new transformer will connect to the existing high voltage street mains situated on the boundary of the development site.

NBN Infrastructure

Due to the phasing out of copper communications services, a fibre (NBN or equivalent) based communications infrastructure is proposed. The development is outside the current planned roll out zone (**shown in figure 3**) but due to the scale, NBN have verbally confirmed that they will extend infrastructure to service this development at nil cost.

Explore the nbn™ network rollout map

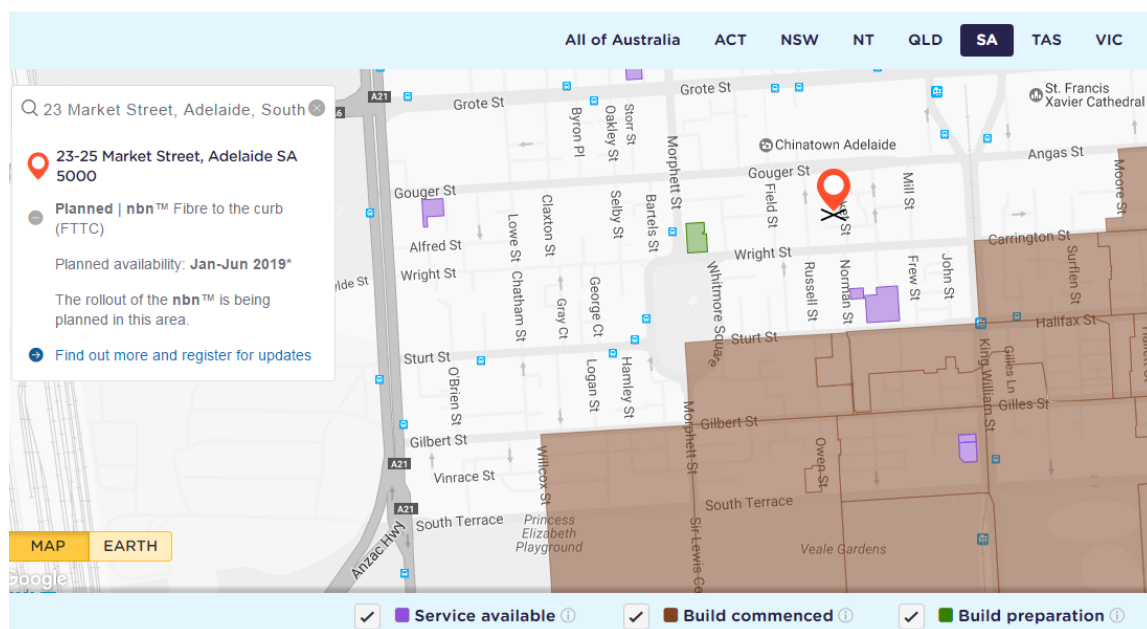


Figure 3: NBN rollout map showing current availability and planned availability.

Telstra Infrastructure

Telstra currently have copper infrastructure to the two existing tenancies supplied from Wright Street via smaller conduits (P35) on Market St.

In the event NBN cannot meet requirements of the site, upon application, Telstra will provide recommendations on their most feasible options to provide telecommunications services to the site.

Sewer Infrastructure

It is proposed to service the development via the existing sewer connection located within in the private lane to the Southern boundary of the site as shown in **Figure 3**. Sewer connections will be upgraded from 100mm to 150mm to accommodate the proposed demand.

An in-ground 5000L grease arrestor will be located on the Ground Floor level within the service parking space, this will be accessible via the private road on the Southern side of the site.

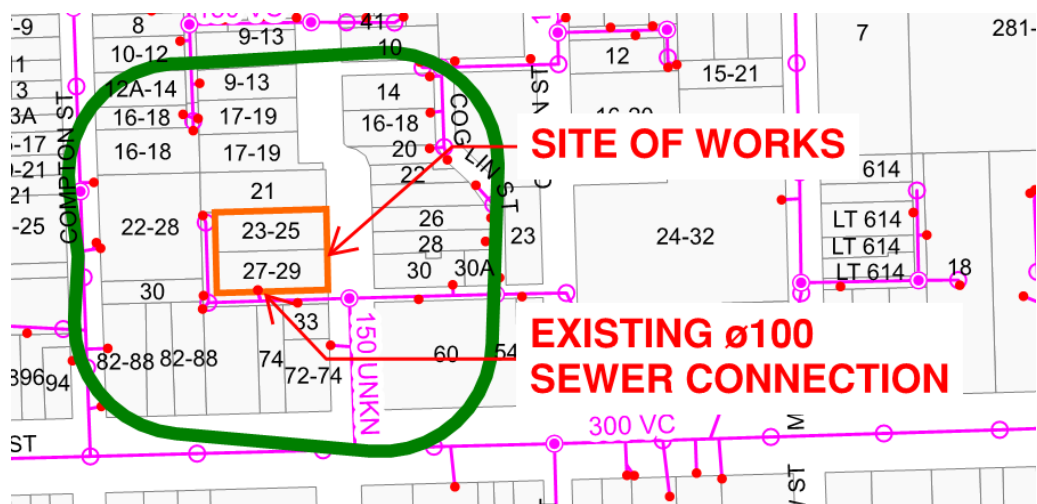


Figure 3: SA Water Sewer Main Located in Wakefield Street

Domestic Cold Water Infrastructure

Two (2) off water meters are proposed to serve the site via the 100mm SA Water main located within Market Street. Works will incorporate the disconnection of one (1) off existing 20mm water meter to the Northern side of the site and the upgrade of the existing 20mm the Southern side of the site to two (2) off 40mm new water meters.

The two off 40mm incoming mains shall supply two off break tanks located on the mezzanine level, different pump boost pump stations will service the lower levels of hotel rooms and upper levels of private apartments separately. Upgrade of the existing connection will require the establishment of two (2) off 40mm water meters within in-ground cast iron enclosures at the Eastern boundary of the site (works by SA Water Corporation), final review subject to SAWC comment in regards to capacity of the water main.

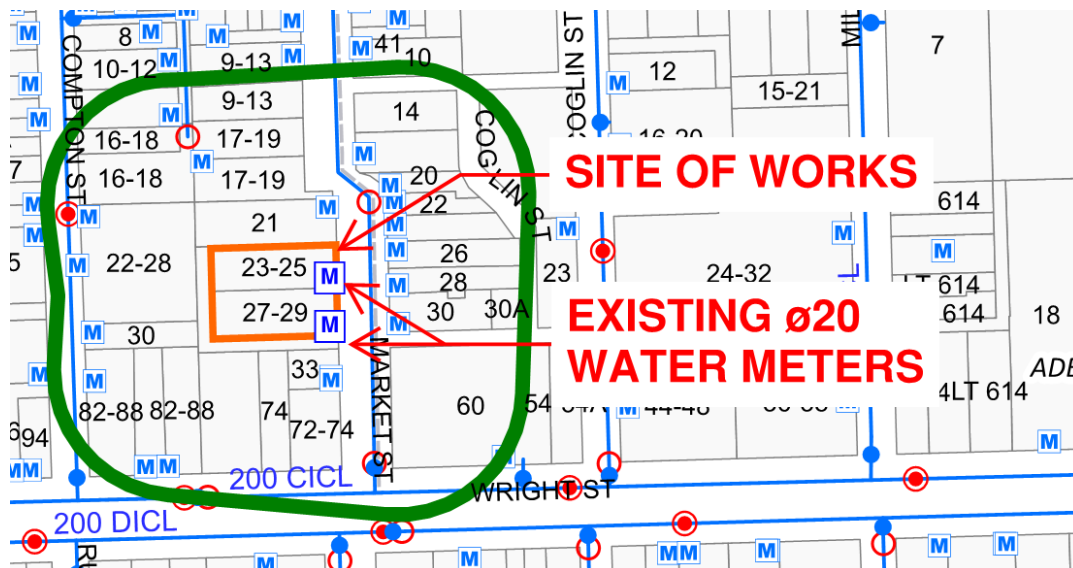


Figure 4: SA Water Mains Located in Wakefield Street

Gas Infrastructure

A medium pressure gas connection shall be made to the medium pressure natural gas mains located within Market Street. Market Street incorporates a 40mm main sleeved within 80mm steel pipe, it is proposed to make a new connection to the main within Market Street as shown in **Figure 5**.

The development will provide two off (2) natural gas meter, one off (1) to service apartment cooking and hot water plant with the second meter to service the hotel and associated plant and cooking requirements. The gas meters will be located within a ventilated gas meter enclosure opening into the apartment entry forecourt for access and maintenance with ventilation to the rear side backing onto the private lane.

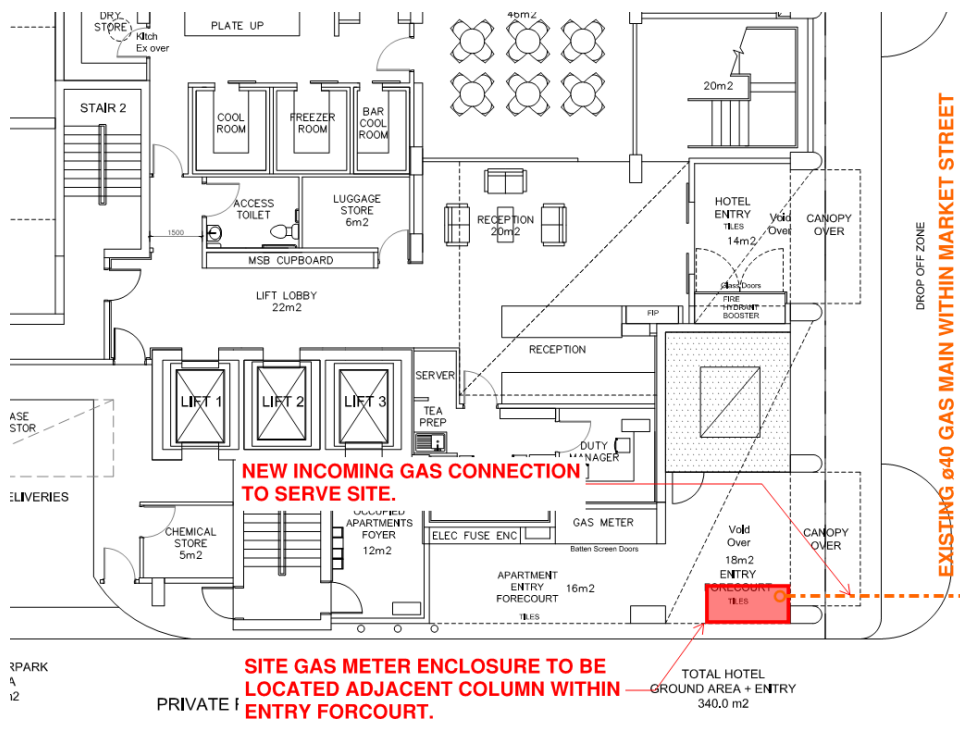


Figure 5: APA Gas Meter Enclosure

Fire Services Infrastructure

It is proposed to serve the site with a single 100mm fire connection from the 100mm SA Water main in Market Street. A fire water tank will be located on the fourth floor of the building. Water levels within this tank will be maintained via an automatic infill line from the incoming town's main.

The site will incorporate the following:

- An SAMFS booster located on Market Street, recessed into an external wall facing into the Hotel entry with 24/7 access for the SAMFS;
- A fire panel enclosure within the Hotel lobby, adjacent the fire hydrant booster location with 24/7 access for the SAMFS;
- A fire pump room located on the fourth floor incorporating duty and standby fire pumps which will be fed by the fire water tank located adjacent within the fourth-floor plant room. These pumps will serve a combined fire hydrant and sprinkler system throughout the building. A diesel driven relay pump may be provided to the combined hydrant/sprinkler system if necessary to assist fire pumping appliances when boosting.

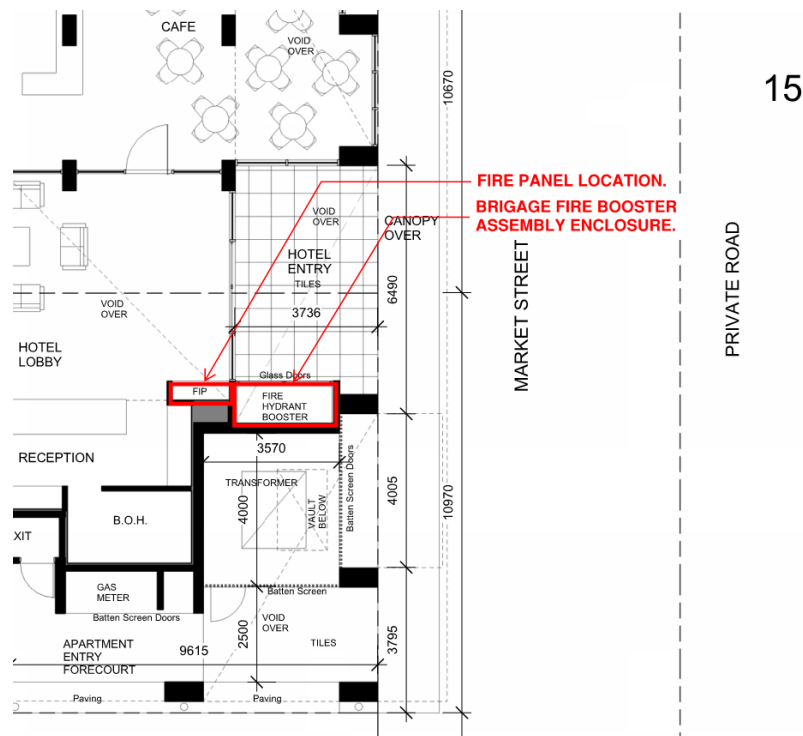


Figure 6: Fire Services Infrastructure at Ground Level

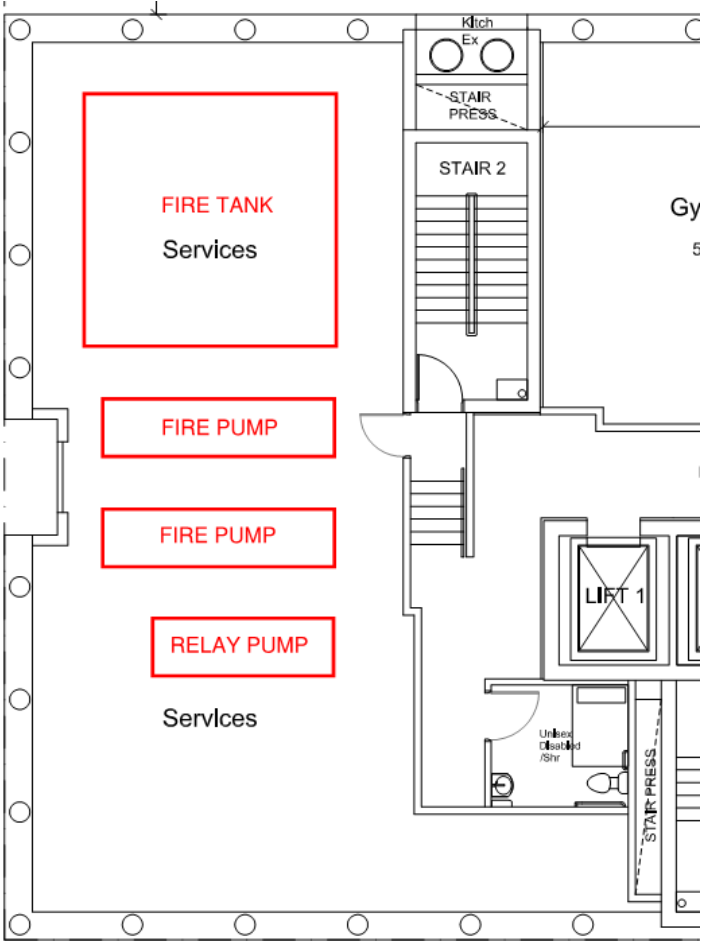


Figure 7: Fire Services Infrastructure at Level 4

Mechanical Plant

Mechanical air conditioning plant is currently proposed to be located on the Ground Floor Mezzanine, Level 4 and Roof Level. Mechanical plant on the roof will be approximately 1.80 metres tall with the final location and overall footprint to be confirmed as design progresses.

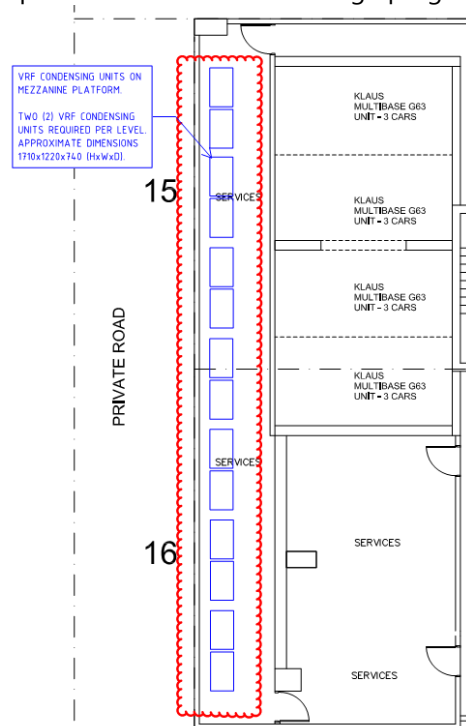


Figure 8: Ground Floor Mezzanine Condensing Unit Layout

We trust the above is satisfactory, please contact the undersigned should you require further information.

Regards,

LUCID CONSULTING ENGINEERS

ANDREW SHINNICK

Building Services Manager SA

Results from Phase I and II Environmental Assessment

23-29 Market Street, Adelaide



AECOM

Results from Phase I and II Environmental Assessment

23-29 Market Street, Adelaide

Prepared for

Legrand Developments Pty Ltd

Prepared by

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20 July 2012

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20 July 2012

Quality Information

Document Results from Phase I and II Environmental Assessment
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environmental assessment_market streetvb.docx

Date 20 July 2012

Prepared by Ashley Moule

Reviewed by Darren Jurevicius

Revision History

Revision	Revision Date	Details	Authorised	
			Name/Position	Signature
A	29 May 2012	Draft for internal review	Darren Jurevicius Environment Group Leader	
B	20 July 2012	Final	Darren Jurevicius Environment Group Leader	

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Executive Summary

AECOM Australia Pty Ltd (AECOM) was contracted by Legrand Developments Pty Ltd to conduct preliminary Stage I and II environmental assessments at 23-29 Market Street, Adelaide 5000 (the 'site').

We understand that the site is being considered for rezoning and redevelopment for Hotel and accommodation land use.

The aim is to investigate for any contamination at the site as a result of current or previous land use at concentrations likely to preclude the proposed Hotel land use.

Based on the environmental information obtained for this site, AECOM is of the opinion that there is no gross or widespread soil contamination but low insignificant traces exist in shallow soils as marked on plan. The concentrations are unlikely to preclude the proposed land use and nature of development and the risk are low from an environmental due diligence perspective.

It is recommended that a soil management plan be prepared to assist with the demolition and removal process to provide confidence that the residual issues are being addressed.

1.0 Introduction

1.1 Background

AECOM Australia Pty Ltd (AECOM) was contracted by Legrand Developments Pty Ltd to conduct Phase I and II Environmental Assessments for the site located at 23-29 Market Street, Adelaide 5000 (the 'site').

The location of the site is shown in Figure 1. A plan of the site is shown in Figure 2.

We understand that the site is being considered for multi-storey Hotel and accommodation development. We also understand that site works would include the demolition of the site structures and stripping of footing and fill materials to natural soils. We also understand that there are no basements proposed for this development. Groundwater would not be abstracted for use as this is readily available through the municipal system.

The aim was to assess the potential for gross or widespread soil and/or groundwater contamination to exist as a result of current or previous land use at concentrations likely to preclude the proposed use of the site.

This report provides the results from the desk top and intrusive assessment conducted.

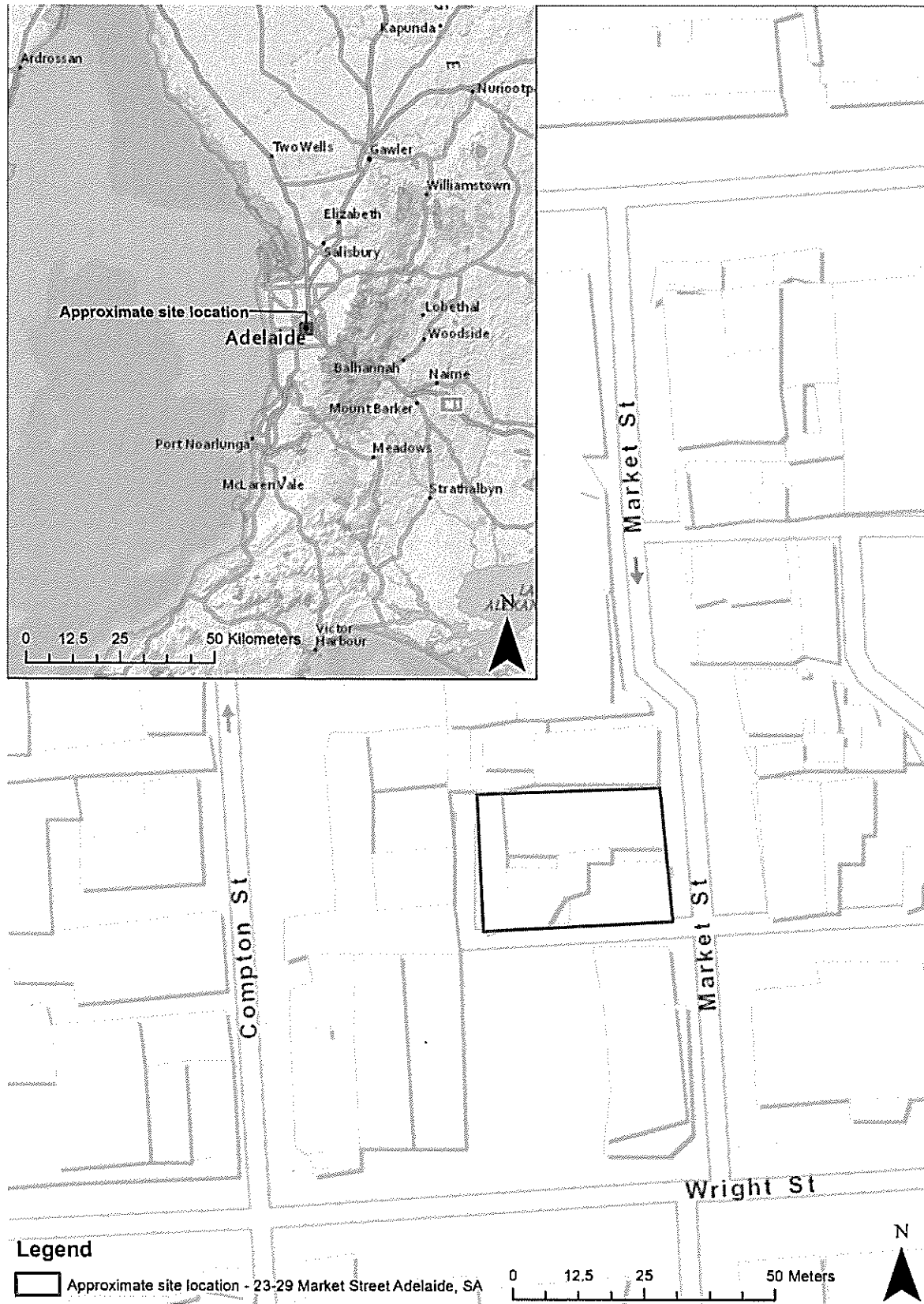
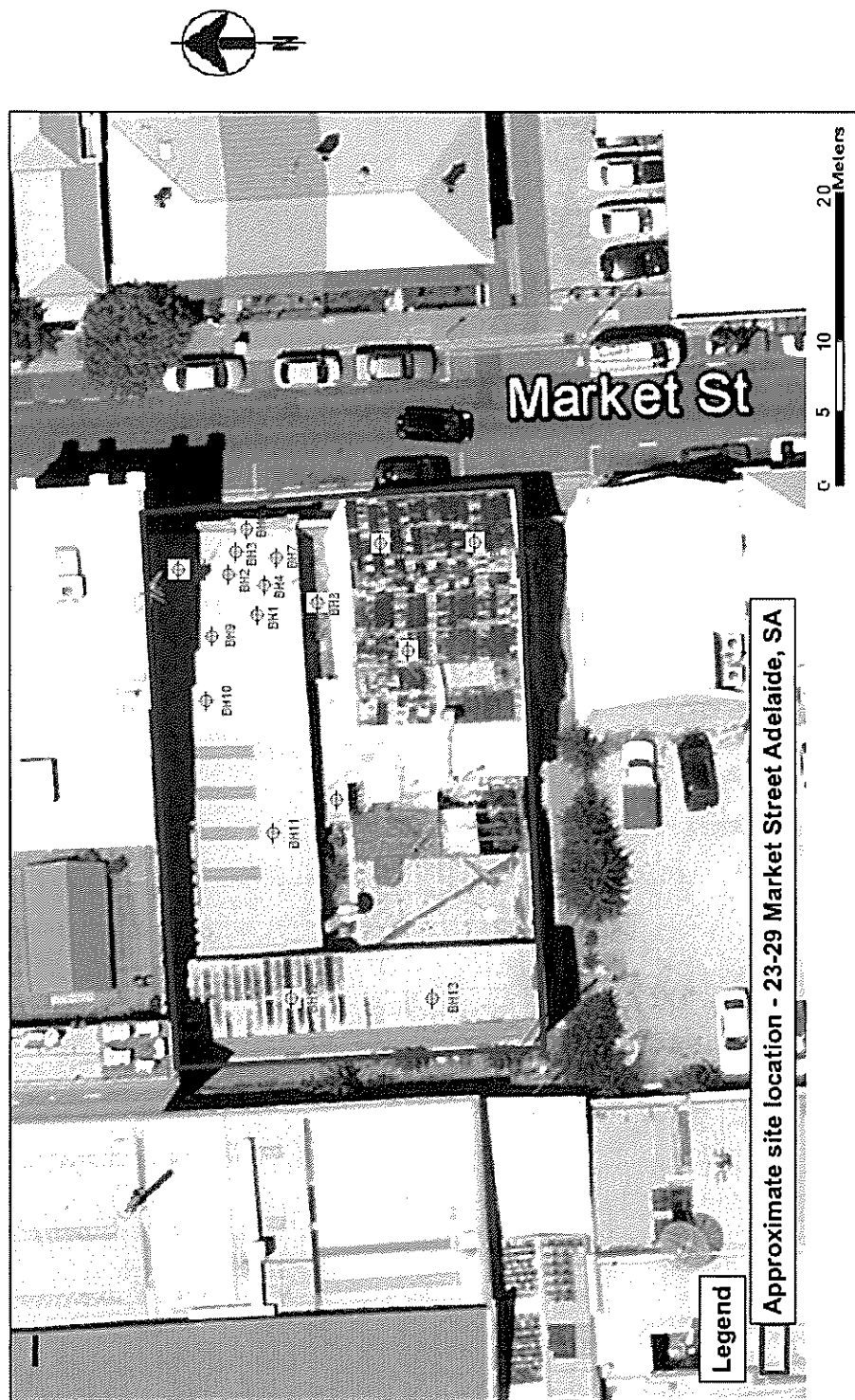


Figure 1 Site context



- ⊕ BH1-3 Sampled on 02/05/2012
- ⊕ BH4 Sampled on 03/05/2012
- ⊕ BH5-6 Sampled on 08/05/2012
- ⊕ BH8-9 Sampled on 09/05/2012
- ⊕ BH10-17 Sampled on 17/05/2012

Figure 2 Site plan and sampling locations

1.2 Scope of work

The scope of work conducted by AECOM included the following:

- site history assessment which included consideration of information from the following sources:
 - consideration of information from the Preliminary Soil Investigation report for the site (AEC Environmental, 2006) for the site;
 - site walkover.
 - SafeworkSA Dangerous Goods Licence Search.
 - environment Protection Agency (EPA) Section 7 Search.
 - Department of Planning, Transport and Infrastructure (DPTI) Property Assist Certificate of Title search.
 - Department of Environment and Natural Resources (DENR) Mapland historical aerial photograph search.
 - Department of Primary Industries and Resources of South Australia (PIRSA) groundwater well search.
 - historical certificate of title search at the Lands Titles Office.
 - Appendix A of the SA EPA Guidelines Site Contamination – Acid Sulfate Soil Materials (November 2007).
 - anecdotal information.
- advancement of seventeen (17) soil boreholes to depths ranging from 0.75m to 15.5m-
- retrieval of soil samples from selected depths based on soil profile and field observations within the 16 boreholes (one borehole could not be sampled due to refusal)-
- screening of selected soil samples in the field using a Photo Ionisation Detector (PID) to assess the presence of volatile organic compounds.
- logging of the materials encountered.
- chemical analysis of selected soil samples.
- implementation of a QA/QC program.
- data interpretation and reporting.

The field work was conducted in general accordance with:

- National Environment Protection (Assessment of Site Contamination) Measure – December 1999
- Australian Standard AS4482.1 – 2005 *"Guide to the sampling and investigation of potentially contaminated soil. Part 1: Non-volatile and semi-volatile compounds"*
- NSW EPA Guidelines for Assessing Service Station Sites (NSW EPA, 1994)
- AECOM's Environmental Field Procedures.

2.0 Regulatory and Assessment Framework

2.1 Site Contamination

Soil contamination has the potential to impact adversely on human health and the environment; but in order for a significant or identifiable risk to be present, there must be an exposure pathway. The exposure pathway comprises the following:

- Source - The presence of a substance that may cause harm.
- Receptor - The presence of a receptor which might be harmed at an exposure point.
- Pathway - The existence of a means or mechanism of exposing a receptor to the source.

In the absence of a plausible exposure pathway there can be minimal risk. Therefore, the presence of 'something measureable' i.e. concentrations of a chemical or presence of asbestos does not necessarily imply that there is measurable human harm. It is necessary to have a significant source of contamination; an appropriate or effective pathway for this to be presented to a receptor, and the receptor must have a negative response to this exposure.

Hence the nature and importance of sources, receptors and exposure routes will vary with every site and situation, characteristics, intended end use and the environmental setting.

It should also be noted that management measures to address any aspect of the above can reduce the significance of any risks.

2.2 Environment Protection Act, 1993

In South Australia, the assessment, management and remediation of site contamination is regulated by the *Environment Protection Act 1993 (EP Act)*. The EP Act defines site contamination in section 5B as follows:

(1) For the purposes of this Act, site contamination exists at a site if—

- (a) chemical substances are present on or below the surface of the site in concentrations above the background concentrations (if any); and
- (b) the chemical substances have, at least in part, come to be present there as a result of an activity at the site or elsewhere; and
- (c) the presence of the chemical substances in those concentrations has resulted in—
 - (i) actual or potential harm to the health or safety of human beings that is not trivial, taking into account current or proposed land uses; or
 - (ii) actual or potential harm to water that is not trivial; or
 - (iii) other actual or potential environmental harm that is not trivial, taking into account current or proposed land uses.

(2) For the purposes of this Act, environmental harm is caused by the presence of chemical substances—

- (a) whether the harm is a direct or indirect result of the presence of the chemical substances; and
- (b) whether the harm results from the presence of the chemical substances alone or the combined effects of the presence of the chemical substances and other factors.

(3) For the purposes of this Act, site contamination does not exist at a site if circumstances of a kind prescribed by regulation apply to the site.

Based on the above, the first stage in determining whether or not site contamination exists is to assess whether chemical substances have been added to the site through an activity and whether these substances are above background concentrations. The second stage is to assess whether the chemical substances have resulted in actual or potential harm to the health or safety of human beings or the environment that is not trivial.

The professional assessment of site contamination and consequential risk to human health and the environment is guided by the *National Environment Protection (Assessment of Site Contamination) Measure 1999 (NEPM)*, Australian Standards and several guidelines prepared by the EPA. The NEPM operates as an environment protection policy under the EP Act.

If site contamination is determined to be present at a site, the EP Act provides mechanisms to assign responsibility for the contamination and appropriate assessment and/or remediation of the contamination.

2.3 Assessment Guidelines

2.3.1 General

The scope of works and methodology adopted for the site history research were generally based on the guidance provided in the following documents:

- ANZECC/NHMR.C (1992). *Australian and New Zealand Guidelines for the Assessment and Management of Contaminated Sites*.
- Edwards J.W., Van Alphen M. and Langley A. (1994). *Identification and Assessment of Contaminated Land: Improving Site History Appraisal*. Contaminated Sites Monograph Series No 3, SA Health Commission, Adelaide.
- National Environmental Protection Council (1999). *National Environmental Protection (Assessment of Site Contamination) Measure (NEPM)*.

2.3.2 National Environment Protection Measure

The NEPM provides a nationally consistent framework for assessing the presence and significance of site contamination in soil and groundwater. The NEPM methodology is based on assessing the potential for an unacceptable risk to human health or the environment by comparing concentrations of chemical substances to conservative, generic investigation levels for various environmental settings and land use scenarios.

Investigation levels are defined in the NEPM as 'concentrations of a contaminant above which further appropriate investigation and evaluation will be required. They are not clean up or response levels. A response level is defined as 'the concentration of a contaminant at a specific site based on a site assessment for which some form of response is required to provide an adequate margin of safety to protect public health and/or the environment'.

The NEPM health investigation levels (HILs) are based on conservative assumptions around providing protection to a young child living or playing on the site and subjected to exposure to contaminated soils. The most stringent HILs are assigned to sensitive land uses such as residential, child care centres and primary schools.

Where the land use provides for reduced access to soils, or reduced time in the setting for a child (e.g. high density residential apartments or an industrial site), higher HILs are set respectively in the NEPM.

In the event that an investigation level is exceeded at a site, the nature of the appropriate response is typically determined by site-specific environmental or human health risk assessment.

NEPM Setting D is considered to be appropriate for this site.

3.0 Site description

3.1 Site definition

The site comprises two titles with a total 21.64m frontage and with additional private road access. Copies of the certificate of title are included in Appendix A.

The address is 23-29 Market Street, Adelaide, South Australia 5000 (Certificate of Title Volume 5120, Folio 821; and Volume 5721, Folio 378), as shown in Figure 1 and Figure 2.

The site has a plan area of approximately 0.065 hectares and is situated in the Adelaide Central Business District (CBD) and Zoned Mixed Use - City of Adelaide.

We also understand that the site has already had Planning Approval for 5 level building, 32 apartments and roof deck garden, commercial tenancy and car parking on ground floor.

3.2 Site walkover and photographs

The site currently comprises two buildings and central access lane from Market Street to the west of the property and also a lane along the southern boundary of the site. A site visit was conducted by AECOM on the 02 May 2012 by Ashley Moule (Principal Environmental Engineer). Site photographs are provided in Figures 4-15.

An aerial photograph outlines the site layout in Figure 3. Key site buildings are marked on Figure 3 and discussed below.

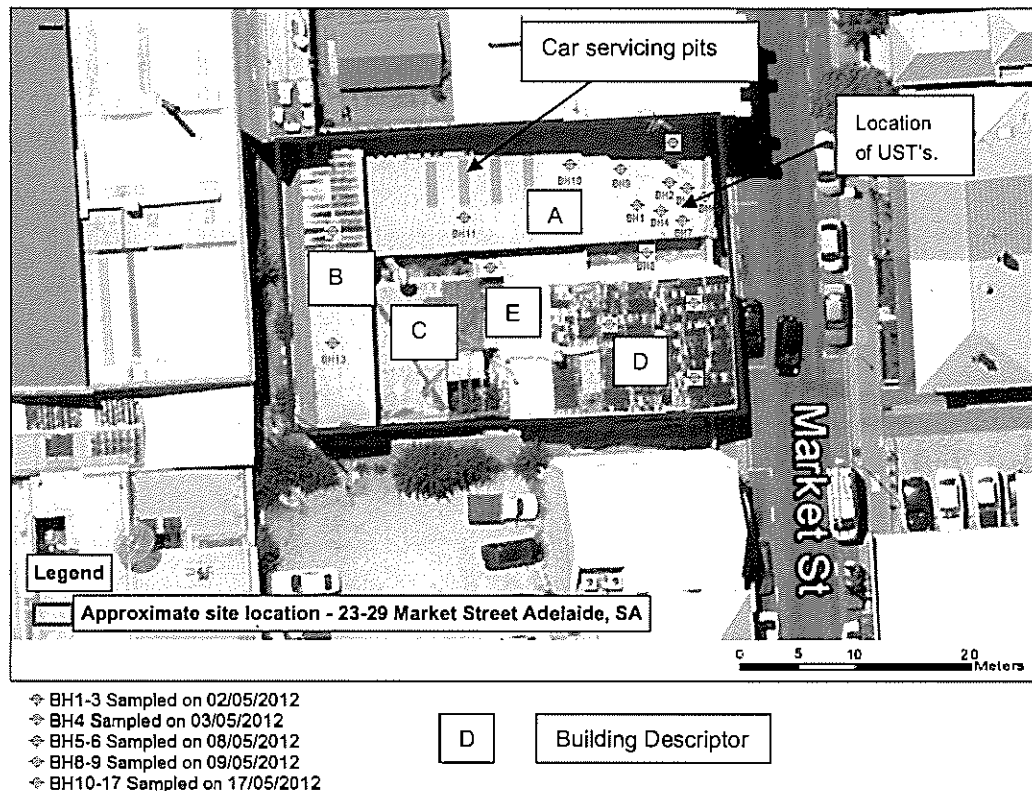


Figure 3 Site plan.

With reference to Figure 3, the following site descriptions are provided:

Building A: Building A is accessed from Market Street by a front door and also a roller door. Entering the building from Market Street there are two underground fuel storage tanks. One of the tanks appears to be beneath two offices. Heading further west there is an access door to the laneway between buildings A and D. There are two potential car service pits/hydraulic car lifts. The rear of the building has a separate room.



Figure 4 Photo from Market Street, facing south west, showing Building A, the laneway and Building D to the left.

We understand that Team Textiles Pty Ltd main business area was the supply of commercial fabrics.

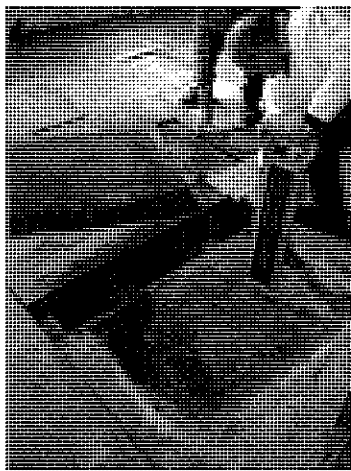


Figure 5 View of one of the pits in Building A



Figure 6 View of sampling area within Building A facing Market Street entrance



Figure 7 View of inside of building A.



Figure 8 View of area adjacent to sampling locations

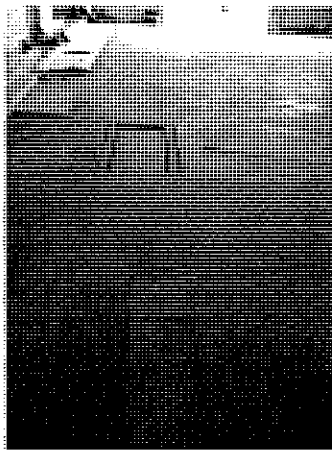


Figure 9 View of sampling area facing Market Street entrance

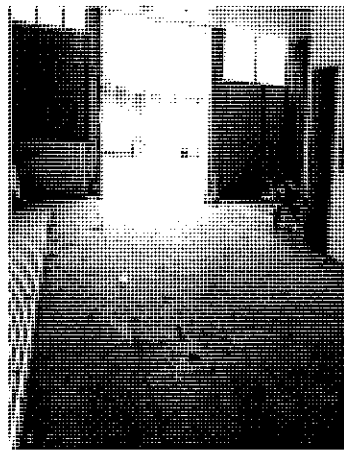


Figure 10 View of inside of building A, showing roller door and area where the UST's were located and offices to the right.

Building D:

Access to Building D is shown in Figure 11.



Figure 11 Looking at Building D and laneway to the south of Building D.

The inside of Building D is shown in Figures 12-14.

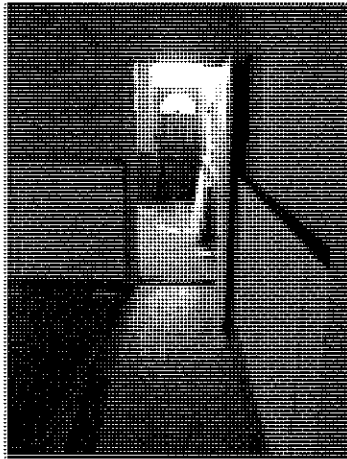


Figure 12 View of inside of Building D.



Figure 13 View of outside of Building D, denoted as E on Figure 3.

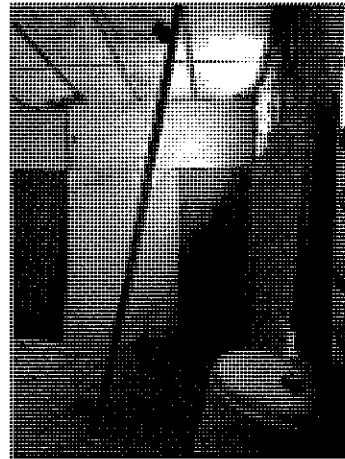


Figure 14 View of inside of Building C.

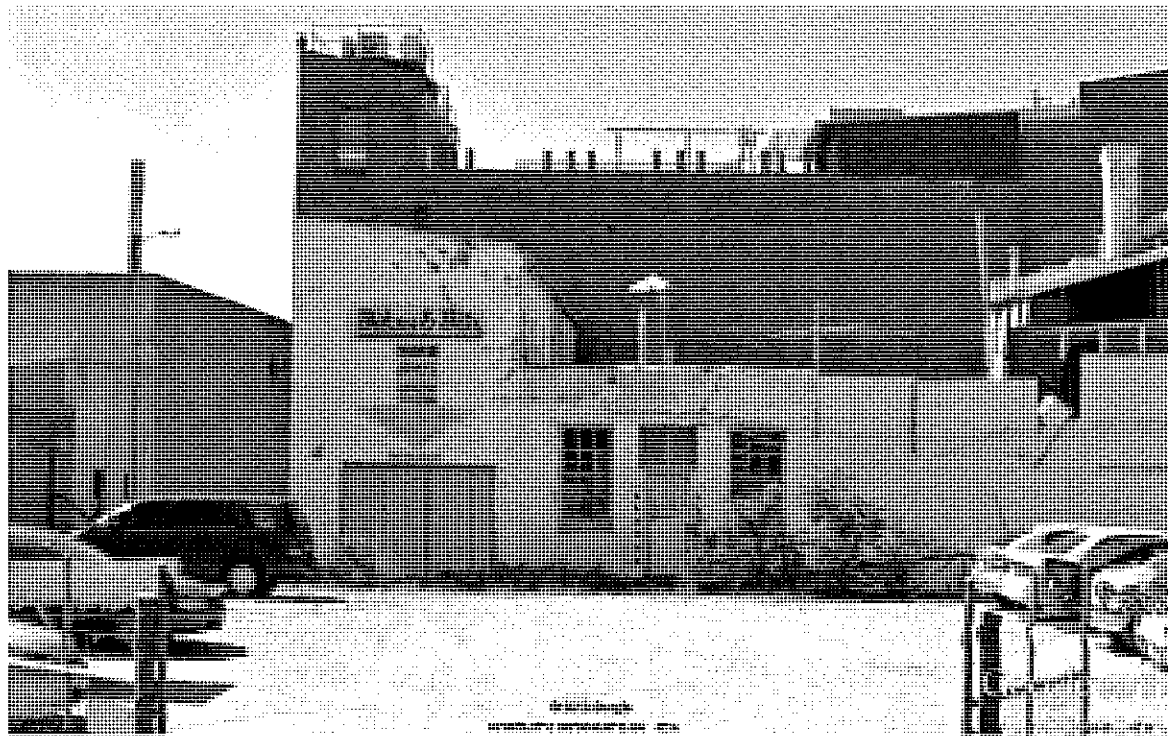


Figure 15 View of areas marked as B, C and E. Taken looking north from Wright Street. Note potential bike hire and repair service centre.

3.3 Surrounding land use

The surrounding land use was observed to comprise the following:

- North: commercial land use
- East: Market Street, then on the other side of the road is residential and commercial land uses
- West: commercial land use
- South: commercial land use/car parking/office space

The surrounding area is generally level.

3.4 Regional hydrogeology

A database search of existing groundwater well records using the Department of Primary Industries and Resources SA (PIRSA) Drill Hole Enquiry System was conducted. This shows no existing wells on the site; however, the locations of groundwater wells surrounding the site and their associated details are provided in Appendix F.

Within the vicinity of the site, there appears to be groundwater at a depth of approximately 15-57m. The yield from the wells in the area ranged from 0.25-0.63L/sec where recorded. The Total Dissolved Solids (TDS) ranged from approximately 1014-10601mg/L.

The regional groundwater would be expected to flow in a westerly to north-westerly direction.

3.5 Regional geology

Red-brown clay or sandy clay soils with blocky structure with low lime sand increasing with depth (PIRSA 2010).

3.6 Previous Environmental Assessment

Adelaide Environmental Consulting Pty Ltd conducted a limited soil assessment around the two underground fuel storage tanks and produced a letter report dated 18 August 2006 (Reference 2295).

Four boreholes were advanced in the vicinity of the tanks.

The conclusions are provided below.

"Three of the four bores drilled around the tank area had indicators of fuel based contamination noted during the field investigation (BH1, BH3 and BH4). Odours were noted in the soils from BH1 (1.2-1.4 metres depth), BH3 (1.5-1.9 metres depth) and BH4 (1.8 to 2.0 metres depth). Dark grey/black staining was noted in BH1 at 2.1-2.5 metres, BH3 at 2.0-3.0 metres and BH4 at 1.8-2.0 metres. There were no elevated results reported in samples submitted for laboratory tests.

Overall, the investigation results indicate some fuel related contamination at locations BH1, BH3 and BH4, as evidenced by the slight odour and staining observed between one and three metres depth at these locations. Subsequent laboratory testing on samples showed results below adopted investigation levels."

A copy of this report is included in Appendix J.

4.0 Site history research

4.1 History of ownership

The Lands Title Office records for the site were researched. A summary of the site history of ownership is presented in Appendix B.

The history of site ownership for the Certificate of Title can be summarised as follows:

5120/821:

- 1993-current – Liptak Projects Market Street Pty. Ltd.
- 1984-1992 - Terrence Patrick Nixon of 23-25 Market Street Adelaide 5000 Company Director
- 1944-1983 - Leslie Ellis Norman of Market Street Adelaide Motor Engineer
- 1932-1943 - Henry Allchurch of 22 Woottona Terrace Saint Georges Farmer
- 1922-1931 - Frank Newland of Adelaide agent
- 1877-1921 – George Henry Osborn of Kent Town Builder

5721/378

- 1999-current - Liptak Projects Market Street Pty. Ltd.
- 1944-1998 - Alfred John Allard of Market Street Adelaide sign writer and Daisy Allard his wife
- 1932-1943 - Henry Allchurch of 22 Woottona Terrace Saint Georges Farmer
- 1922-1931 - Frank Newland of Adelaide agent
- 1877-1921 – George Henry Osborn of Kent Town Builder

4.2 Aerial photographs

Selected aerial photographs of the area were assessed at approximately 10 year intervals from 1949. Copies of selected aerial photographs are provided in Appendix C. The aerial photograph data and observations are presented in Table 1.

Table 1 Historical aerial photograph review

Year	Observations
1949	The image is presented in black and white and is of low resolution. The site is completely occupied by buildings that appear to be industrial in nature. There appear to be 3 separate buildings.
1959	The image is presented in black and white and is of low resolution. The site remains unchanged from the previous image.
1969	The image is presented in black and white and is of low resolution. The site remains unchanged from the previous image.
1979	The image is presented in colour. The site remains unchanged from the previous image.
1989	The image is presented in colour and is of low resolution. The site remains unchanged from the previous image.
1999	The image is presented in colour and is of low resolution. The site remains unchanged from the previous image.
2012	The image is presented in colour and of high resolution. The same three buildings remain on the site and appear to be being used for warehouse/industrial purposes.

4.3 Dangerous goods search

The Department of Workplace Services (Safework SA) indicated that there are no dangerous goods licences recorded in the vicinity of the site (refer to Appendix D). However, we note that there are two Underground Storage tanks (UST) on site.

4.4 EPA Section 7 search

A Section 7 search was made under the *Land and Business (Sales and Conveyancing) Act 1994*. The Section 7 information indicated that no current environmental Performance Agreements, Environment Protection Orders, or Clean-up Orders are registered on the site. No known wastes are listed or have been produced on the site. A copy of the Section 7 information is included in Appendix E.

4.5 Acid sulphate soils

There was no evidence of the field indicators used to identify acid sulphate soils as listed in Appendix A of the SA EPA Guidelines Site Contamination – Acid Sulphate Soil Materials (2007).

5.0 Areas of environmental interest

Based on this site history assessment, the chemicals presented in Table 2 are indicative of the potential historical and current land uses of the site.

Table 2 Summary of potential areas and chemicals of interest (COIs)

Activity of interest	Areas of environmental interest	Chemicals of environmental interest	Medium of interest	Exposure pathways and likely significance/risk for sensitive land use
The residual concentrations of herbicides and pesticides, if any.	Site	pH, heavy metals (8), organochlorine pesticides	Soil	Low. Dermal adsorption and ingestion.
The nature and extent of uncontrolled fill on-site.	Site	pH, heavy metals (8), organochlorine pesticides PAH and VIC EPA Screen	Soil	Moderate. Dermal adsorption and ingestion and migration into groundwater.
In order to establish any links between potential soil and groundwater contamination and underground fuel storage tanks.	Groundwater	VIC EPA Screen which includes: Heavy Metals (8), Total Recoverable Hydrocarbons, Monocyclic Aromatic Hydrocarbons, Organochlorine Pesticides, Chlorinated Hydrocarbons, Halogenated Volatile Organics, Phenols, Polychlorinated Biphenyls, pH,	Soil and possibly Groundwater	Moderate. Dermal adsorption and ingestion and migration into groundwater.

6.0 Soil Assessment

6.1 Fieldwork

The soil assessment was conducted in stages and the scope evolved from being asked to assess around the fuel storage tanks (as a higher risk item) and then broadened into supplementary assessment around the fuel tanks, site history research and assessment at locations that could be readily assessed on the remainder of the site.

There were considerable access issues with respect to height clearances, services, building configurations and the conditions of some areas of the site that presented possible unsafe work areas.

Field work was conducted on 2, 3, 8, 9 and 17 May 2012 by an Environmental Scientist from AECOM.

In total, seventeen (17) soil boreholes (BH1-17) were drilled using a trailer mounted solid auger drilling rig and push tube techniques (advanced using a hand held hydraulic jack hammer) to various depths up to the deepest hole at 15.5m below ground level.

The description of soils encountered is shown in Appendix H.

The sample locations are shown approximately on Figure 2.

6.2 Field work methodology

The soil assessment methodology followed during fieldwork is presented in Table 3 below.

Table 3 Soil assessment methodology

Activity	Details
Sampling method	Soil samples were obtained using a trailer mounted solid auger drilling rig and push tube techniques (advanced using a hand held hydraulic jack hammer)
Soil logging	Boreholes were logged on site by an Environmental Scientist. The engineering bore logs are presented in Appendix D.
Soil sampling	Soil samples were collected by hand with fresh gloved hands for each soil sample at depths depending on the sampling plan and site/soil observations including staining, odour and/or comment about the likelihood of fill.
Sample preservation	Samples were placed in laboratory supplied glass jars and stored in a chilled esky. Samples were then transferred directly to or collected by the analytical laboratory.
Soil screening	Selected soil samples were screened in the field for the presence of volatile organic compounds using a Photo Ionisation Detector (PID), which was calibrated on the day of sampling using isobutylene gas.
Sample identification	Samples were labelled using the borehole number followed by the depth at which the sample was recovered.
Chain of custody	Chain of custody procedures are required for all sample transfers. Custody sheets list sample numbers, date of collection and analyses required and are signed by each person transferring and accepting custody.

6.3 Chemical analysis

Primary soil samples were submitted to the NATA accredited analytical laboratory of MGT-Labmark Environmental Laboratories (MGT) for chemical analysis under standard AECOM chain of custody documentation. ALS Environmental Pty Ltd (ALS) was used to assess an inter-laboratory split samples. ALS is also NATA accredited.

A summary of the analytical testing is presented on a copy of the chain of custody documentation that is included in Appendix G. The analytical methods are shown on the copies of the analytical laboratory certificates in

Appendix G. Table 4 identifies the corresponding sample identifications and analytes that were tested by MGT and ALS.

Table 4 Sample ID and Laboratory Analysis

Sample ID	Sample Date	Report Date	Laboratory	Analyte	Matrix
Fieldwork Conducted on 2 and 3 May 2012					
BH2/1, BH2/2, BH3/1, BH3/2, BH3/3, BH3/4, DUPF	02/05/2012	14/05/2012	MGT	Lead	Soil
BH1/7, BH2/1, BH2/2, BH2/6, BH3/1, BH3/2, BH3/3, BH3/4, DUPF, BH4/3, BH4/5, BH4/8	02/05/2012 and 03/05/2012	14/05/2012	MGT	PAH	Soil
BH1/7, BH2/1, BH2/2, BH2/6, BH3/1, BH3/2, BH3/3, BH3/4, DUPF, TRIP1, BH4/3, BH4/5, BH4/8	02/05/2012 and 03/05/2012	14/05/2012	MGT	TPH/BTEX	Soil
RINSATE	02/05/2012 and 03/05/2012	14/05/2012	MGT	TPH/BTEX	Water
DUPE	02/05/2012	14/05/2012	ALS	TPH/BTEX	Soil
Fieldwork Conducted on 8 and 9 May 2012					
BH5/1, BH5/3, BH5/6, DUP R, DUP T, BH6/1, BH6/3, BH6/4, BH6/5, BH9/4, BH9/5, BH9/6, BH9/7	08/05/2012 and 09/05/2012	18/05/2012	MGT	PAH	Soil
BH5/1, BH5/3, BH5/6, DUP R, DUP T, BH6/1, BH6/3, BH6/4, BH6/5, TRIP 1, BH9/4, BH9/5, BH9/6, BH9/7	08/05/2012 and 09/05/2012	18/05/2012	MGT	TPH/BTEX	Soil
BH5/3	08/05/2012	18/05/2012	MGT	VIC EPA Screen	Soil
RINSATE 2	08/05/2012 and 09/05/2012	18/05/2012	MGT	TPH/BTEX	Water
Fieldwork Conducted on 17 May 2012					
BH10_0.0-0.15, BH14_0.5-0.7, BH11_0.5-0.6, BH12_0.0-0.15, BH12_0.15-0.3, BH17_0.45-0.6, BH13_0.0-0.15, QC5, QC1, BH15_0.0-0.15, BH17_0.15-0.3	17 May 2012	22 May 2012	MGT	pH, HM(8)	Soil
BH10_0.0-0.15, BH14_0.5-0.7, BH12_0.0-0.15, BH12_0.15-0.3, BH17_0.45-0.6, BH13_0.0-0.15, QC5, QC1, BH15_0.0-0.15, BH17_0.15-0.3	17 May 2012	22 May 2012	MGT	OC's	Soil

Sample ID	Sample Date	Report Date	Laboratory	Analyte	Matrix
BH12_0.0-0.15, BH12_0.15-0.3, BH17_0.45-0.6,	17 May 2012	22 May 2012	MGT	VIC EPA Screen	Soil
BH10_0.0-0.15	17 May 2012	22 May 2012	MGT	TPH/BTEX	Soil
QC5,	17 May 2012	22 May 2012	MGT	pH, HM(8), OC's, PAH	Soil
R1	17 May 2012	22 May 2012	MGT	OC's	Water
QC1	17 May 2012	22 May 2012	MGT	pH, HM(8), OC's	Soil
QC2	17 May 2012	25 May 2012	ALS	pH, HM(8), OC's	Soil

6.4 Regulatory guidelines

The National Environmental Protection (Assessment of Site Contamination) Measure 1999 (NEPM) presents health based investigation levels for residential land use. The NEPM also provides Ecological Investigation Levels (EILs) for assessment of potential environmental impacts. NEPM Setting D for higher density residential land use is considered to be appropriate for this site. In the absence of other applicable guidelines, hydrocarbon threshold concentrations have been adopted from the NSW EPA Guidelines for Assessing Service Station Sites (NSW 2011).

6.5 Results

6.5.1 Subsurface conditions

A large proportion of the site is sealed with concrete and buildings.

The soils beneath the site surface, generally comprised shallow fill materials comprising gravel, clayey sands/sandy clays, bricks and ash and cinders to depths of less than 1.0m.

These soils were underlain with natural clay soils of medium to high plasticity.

There was visual or olfactory evidence of potential soil contamination observed in the soil boreholes within the vicinity of the underground fuel storage tanks.

The description of soils is presented in Appendix G.

6.5.2 PID results

The PID results from the soil samples obtained all ranged between 0 and 3.9 ppm. This indicates the likelihood of volatile gases present in the soils is low.

These are summarised on the logging sheets provided in Appendix G.

6.5.3 Laboratory results

The laboratory testing conducted is outlined in Table 4. The testing conducted is shown on the chain of custody documents and certified laboratory certificates which are included in Appendix H.

Samples were analysed for Heavy Metals (8), Total Recoverable Hydrocarbons, Monocyclic Aromatic Hydrocarbons, Organochlorine Pesticides, Chlorinated Hydrocarbons, Halogenated Volatile Organics, Phenols, Polychlorinated Biphenyls and pH.

The concentrations reported did not exceed the limit of laboratory reporting or guideline concentrations with the exception of:

- Lead in samples BH15 0-0.15 (700 mg/kg) and BH13 0-0.15 (330 mg/kg) which exceeds the NSW EPA Service Station Guidelines (set at 300 mg/kg)
- Lead in sample BH15 0-0.15 (700 mg/kg) which exceeds the NEPM EIL (set at 600 mg/kg).
- Copper in BH13 0-0.15 (860 mg/kg) which exceeds the NEPM EIL (set at 100 mg/kg)
- TPH C₁₀-C₃₆ in BH12 0.15-0.3 (3900 mg/kg) which exceeds the NSW EPA Service Station guidelines (set at 1000 mg/kg)
- TPH C₆-C₉ in BH9 (160 mg/kg) which exceeds the NSW EPA Service Station guidelines (set at 65 mg/kg)
- Benzo (a) pyrene in BH3/2 (4 mg/kg) which is equal to the NEPM Setting D (set at 4 mg/kg) and exceeds the NSW Service Station guidelines (set at 1 mg/kg)
- Benzo (a) pyrene in BH 5/3 (2.4 mg/kg) which exceeds the NSW Service Station guidelines (set at 1 mg/kg)
- Total PAH BH3/2 (30 mg/kg) which exceeds the NSW Service Station guidelines (set at 20 mg/kg).

6.6 Quality assurance/quality control (QA/QC)

6.6.1 Field QC

All work completed on the site was conducted in general accordance with standard industry environmental protocols. The key elements of the QA/QC program are presented in Table 5.

Table 5 Elements of the QA/QC program

Action	Description
Record Keeping	Records of field activities including borehole logs, PID results, sample collection are maintained on standard field logging sheets.
Soil Descriptions	Use of a standard field sampling log for the supervision and logging of the soil boreholes and subsequent sampling.
Sample Labelling	A unique sample number was used for each sample to clearly specify the sample origin (borehole number and date), preservation standards and analytical requirements.
Chain of Custody	Chain of custody procedures are required for all sample transfers. Custody sheets list sample numbers, date of collection and analyses required and are signed by each person transferring and accepting custody.
Sample Storage	The collected soil samples were transferred to approved sampling containers with appropriate preservation as required and then placed in cool storage prior to transfer to the laboratory.
PID	Use of a calibrated PID meter. Calibration certificates were retained for the day of use and are kept on file.
Duplicate Sampling	Collection of field duplicate (blind replicate) soil samples to provide a check on sample variability and laboratory performance and accuracy.
Decontamination	All equipment used in the sampling process was decontaminated using Decon 90, a phosphate free detergent, prior to mobilisation and between sampling locations to reduce the risks of cross contamination, followed by rinsing with potable water.

6.6.2 Duplicate sample analysis

Validation and interpretation of the QC data was undertaken by calculating the relative percentage differences (RPDs) for the primary sample and duplicate sample concentrations. RPD results are included in the summary tables.

The RPD value for an analyte was calculated using the formula:

$$\text{RPD (\%)} = 100[(x1 - x2)/x]$$

where x1, x2 = duplicate results and x = mean of duplicate results.

According to AS4482.1-2005, typical RPD values for soils range from ± 30 to $\pm 50\%$; an RPD within the range of -50% to 50% is considered to show acceptable agreement and, conversely, data is considered to have poor agreement where an RPD is outside this range.

The duplicate sample analysis is provided in Table 6.

Table 6 Summary of duplicate sample analysis

Primary and Duplicate IDs	Analytes	Laboratory
Intra-laboratory Duplicates		
BH3/1 (0.93-2.5m) – DUPF	TPH, BTEX, PAH, Lead	MGT
BH5/1 (1.6-1.7m) – DUPR	TPH, BTEX, PAH	MGT
BH6/5 (1.4-1.5m) – DUPT	TPH, BTEX, PAH	MGT
BH12/2 (0.15-0.3m) QC5	VIC EPA Screen pH, HM, OC, PAH	MGT
BH14/3 (0.5-0.7m) – QC1	pH, HM, OC	MGT
Inter-laboratory Duplicates		
BH2/6 (3.5-6.0m) DUPE	TPH, BTEX, PAH TPH, BTEX	ALS
BH14/3 (0.5-0.7m) – QC2	pH, HM, OC	ALS

6.6.3 Intra-laboratory duplicates

Collection of field duplicate (blind replicate) soil samples to provide a check on sample variability and laboratory performance and accuracy.

Primary sample ID 'BH3/1 (0.93-2.5m)' was paired with duplicate sample 'DUPF' and analysed by MGT as an intra-laboratory split sample. Primary sample 'BH3/1 (0.93-2.5m)' and duplicate sample 'DUPF' were analysed for TPH, BTEX, PAH and Lead. The RPD% calculation between the duplicate split pair is presented in Table 7 below.

Table 7 Intra-Laboratory Duplicate Split Sample Results

Analytes	BH3/1 (0.93-2.5m)	DUPF	RPD%
Lead	9.6	10	4.1
The RPD values are generally within the same order of magnitude and are acceptable for the purpose of this assessment. Please note the RPD% was not calculated if the concentrations were less than the laboratory reporting limits.			

Primary sample ID 'BH5/1 (1.6-1.7m)' was paired with duplicate sample 'DUPR' and analysed by MGT as an intra-laboratory split sample. Primary sample 'BH5/1 (1.6-1.7m)' and duplicate sample 'DUPR' were analysed for TPH, BTEX and PAH. The results were all less than the laboratory reporting limits and hence the RPD% was not calculated.

Primary sample ID 'BH6/5 (1.4-1.5m)' was paired with duplicate sample 'DUPT' and analysed by MGT as an intra-laboratory split sample. Primary sample 'BH6/5 (1.4-1.5m)' and duplicate sample 'DUPT' were analysed for TPH, BTEX and PAH. The results were all less than the laboratory reporting limits and hence the RPD% was not calculated.

Primary sample ID 'BH12/2 (0.15-0.3m)' was paired with duplicate sample 'QC5' and analysed by MGT as an intra-laboratory split sample. Primary sample 'BH12/2 (0.15-0.3m)' was analysed for a VIC EPA Screen. Duplicate sample 'QC5' was analysed for pH, Heavy Metals (8), OCs and PAH. The RPD% calculation between the duplicate split pair is presented in Table 8 below.

Table 8 Intra-Laboratory Duplicate Split Sample Results

Analytes	BH12/2 (0.15-0.3m)	QC5	RPD%
pH			
pH	8.8	8.9	1.1
Heavy Metals			
Cadmium	1.1	0.8	31.6
Chromium (Total)	8.2	7.2	13.0
Copper	64	37	53.5
Lead	190	120	45.2
Nickel	8.4	6.6	24.0
Zinc	49	30	48.1
The RPD values are generally within the same order of magnitude, with the exception of one (1) value for Copper. This is likely due to heterogeneity in the soil and is considered to be acceptable for the purposes of this assessment. Please note the RPD% was not calculated if the concentrations were less than the laboratory reporting limits.			

Primary sample ID 'BH14/3 (0.5-0.7m)' was paired with duplicate sample 'QC1' and analysed by MGT as an intra-laboratory split sample. Primary sample 'BH14/3 (0.5-0.7m)' and duplicate sample 'QC1' were analysed for pH, Heavy Metals (8) and OCs. The RPD% calculation between the duplicate split pair is presented in Table 9 below.

Table 9 Intra-Laboratory Duplicate Split Sample Results

Analytes	BH14/3 (0.5-0.7m)	QC1	RPD%
pH			
pH	8.8	8.8	0
Heavy Metals			
Chromium (Total)	20	23	14.0
Copper	12	13	8.0
Lead	11	10	9.5
Nickel	11	12	8.7
Zinc	23	25	8.3
The RPD values are generally within the same order of magnitude and are considered to be acceptable for the purposes of this assessment. Please note the RPD% was not calculated if the concentrations were less than the laboratory reporting limits.			

6.6.4 Inter-laboratory duplicates

Primary sample ID 'BH2/6 (3.5-6.0m)' was paired with duplicate sample 'DUPE' as an inter-laboratory split sample. Primary sample 'BH2/6 (3.5-6.0m)' was analysed by MGT for TPH, BTEX and PAH. Duplicate sample 'DUPE' was analysed by ALS for TPH and BTEX. The results were all less than the laboratory reporting limits and hence the RPD% was not calculated.

Primary sample ID 'BH14/3 (0.5-0.7m)' was paired with duplicate sample 'QC2' as an inter-laboratory split sample. Primary sample 'BH14/3 (0.5-0.7m)' was analysed by MGT and duplicate sample 'QC2' was analysed by ALS. Both samples were analysed for pH, Heavy Metals (8) and OCs. The RPD% calculation between the duplicate split pair is presented in Table 10 below.

Table 10 Intra-Laboratory Duplicate Split Sample Results

Analytes	BH14/3 (0.5-0.7m)	QC2	RPD%
pH			
pH	8.8	8.9	1.1
Heavy Metals			
Arsenic	< 2	7	-
Chromium (Total)	20	49	84.1
Copper	12	34	95.7
Lead	11	43	118.5
Nickel	11	30	92.7
Zinc	23	121	136.1
The RPD values are generally outside the order of magnitude. This is likely due to heterogeneity in the soil and is considered to be acceptable for the purposes of this assessment. Please note the RPD% was not calculated if the concentrations were less than the laboratory reporting limits.			

6.6.5 Rinsates

The laboratory results were less than the laboratory reporting limits which indicates the likelihood of cross contamination between boreholes is very low. A copy of these is presented in Appendix H.

6.6.6 Trip blanks

Trip blanks are known concentrations added to the esky and accompany samples to the laboratory and can be used to establish whether samples have been tampered with and to check on laboratory accuracy/repeatability.

6.6.7 Sampling equipment

All PIDs were calibrated and a certificate of calibration is retained on file.

6.6.8 Laboratory QC results

As part of MGT's and ALS' in-house QA/QC procedures, laboratory duplicate samples, laboratory spike samples and method blank samples were tested. The RPD values for metals and organics should be within the control limits of $\pm 50\%$ for duplicate samples as recommended by AS4482.1.

7.0 Groundwater Assessment

In order to assess the potential for groundwater impact a borehole was advanced to a depth of 15.5m bgl.

Groundwater was not encountered during drilling however a groundwater well was installed and the well monitored for water being present.

The depth of drilling was limited by the rig and mast clearance and also a layer of calcareous soils where refusal was encountered.

The drilling depth was restricted because of the clearance height needed by a larger drill rig,

The presence of water was assessed on the 9 May 2012, 12 May 2012, 15 May 2012 and 22 May 2012 by AECOM and still remained dry.

The groundwater well construction details are shown in Appendix G. A copy of the well permit is shown in Appendix H.

The groundwater well location is shown in Figure 2 as BH9.

The soils encountered during the drilling of the groundwater wells are described in Appendix H.

The subsurface soil profile generally consisted of fill material including a pale brown sand with fine to medium sized gravels to a depth of 0.6m. This was generally underlain by clays to depths of 15.5m

There was visual or olfactory evidence of potential hydrocarbon odour at depths from 1.4 to 2.8m.

Groundwater was expected to be at a depth between 15m and 20m, based on the standing water level of nearby groundwater wells obtained from the results of a search of the Department of Manufacturing, Innovation, Trade, Resources and Energy (DMITRE) database of Latest Water Information for Drill Holes. It is most likely the water level at the site is at least 18m below ground level.

We understand that groundwater would not be abstracted at this site.

8.0 Discussion

AECOM Australia Pty Ltd (AECOM) was contracted by Legrand Developments Pty Ltd to conduct Stage I and II environmental assessments at 23-29 Market Street, Adelaide 5000 (the 'site').

We understand that the site is being considered for rezoning and redevelopment for Hotel land use.

The aim was to investigate for any contamination at the site as a result of current or previous land use at concentrations likely to preclude the proposed Hotel and accommodation land use.

The work has included site history research, soil boreholes and chemical testing and an attempt to intersect groundwater.

We understand that the proposed development works are to comprise the demolition of all current site buildings and infrastructure. We also understand that shallow fill will be stripped to natural soils in order to provide an appropriate structural base for the proposed building.

We understand that the proposed development is to comprise a multi storey Hotel building. There would be no basement carparking. The site would be largely sealed with concrete underlain with forticon and base course soils and therefore there would be limited opportunity for access to subsurface soils once developed.

The site history research indicated that there was some incidence for soil contamination to be present at this site. This included the presence of two small underground fuel storage tanks. Although the UST has not been in use for many past years (over 30 years) there is however some evidence of degraded fuel in the soils around the UST.

There were also individual concentrations of lead, copper, zinc, TPH, PAH and B(a)p restricted within the top fill.

It is our understanding that the proposed demolitions works would also involve removing the underground fuel storage tanks, impacted soils and shallow fill as part of the required soil and foundation preparation works which would stop any further risk of contamination.

Based on the environmental information obtained for this site, AECOM is of the opinion that there is no gross or widespread soil contamination existing as the level of concentration is unlikely to preclude the proposed land use. The minor soil impacts are limited to shallow soils and are considered unlikely to result in impact to groundwater which was not found in the deepest bore at 15 m. These shallow soils would be removed as part of site development works.

It is recommended that a soil management plan be prepared to assist with the demolition and removal process to provide assurance that any minor residual issues are being addressed.

9.0 Limitations

This document was prepared by AECOM Australia Pty Ltd (AECOM) for the sole use of Legrand Developments Pty Ltd, the only intended beneficiary of our work. Any advice, opinions or recommendations contained in this document should be read and relied upon only in the context of the document as a whole and are considered current to the date of this document. Any other party should satisfy themselves that the scope of work conducted and reported herein meets their specific needs before relying on this document. AECOM cannot be held liable for any third party reliance on this document, as AECOM is not aware of the specific needs of the third party. No other party should rely on the document without the prior written consent of AECOM, and AECOM undertakes no duty to, nor accepts any responsibility to, any third party who may rely upon this document.

This document was prepared for the specific purpose described in our proposal dated 16 April 2012 and as agreed to by Legrand Developments Pty Ltd from a technical perspective, the subsurface environment at any site may present substantial uncertainty. It is a heterogeneous, complex environment, in which small subsurface features or changes in geologic conditions can have substantial impacts on water and chemical movement. Uncertainties may also affect source characterisation assessment of chemical fate and transport in the environment, assessment of exposure risks and health effects, and remedial action performance.

AECOM's professional opinions are based upon its professional judgement, experience, and training. These opinions are also based upon data derived from the testing and analysis described in this document. It is possible that additional testing and analysis might produce different results and/or different opinions. AECOM has limited its investigation to the scope agreed upon with its client. AECOM believes that its opinions are reasonably supported by the testing and analysis that have been done, and that those opinions have been developed according to the professional standard of care for the environmental consulting profession in this area at the date of this document. That standard of care may change and new methods and practices of exploration, testing, analysis and remediation may develop in the future, which might produce different results. AECOM's professional opinions contained in this document are subject to modification if additional information is obtained, through further investigation, observations, or validation testing and analysis during remedial activities.

			GROSS AREA SCHEDULE - FINAL DAC LODGEMENT			28-Jun-17
OPTION 1F - 11 LEVELS HOTEL + SERVICED/OWNER OCCUPIED APARTMENTS						
Design Phase - 17 Floor Levels (REVISED AFTER ODASA MEETING (07/06/17))						
LEVEL	FUNCTION	Common & Services Areas (M²)	Hotel Areas (M²)	Apartmts & Foyer/Entry + Entry Voids(M²)	Carpark & Misc. Areas (M²)	Gross Area (M²)
Ground	Entry - Hotel - Common	197	340	43	65	645
Mezzanine	Entry - Hotel - Common	202	272	106	65	645
SUB-TOTAL		399	612	149	130	1290
LEVEL	FUNCTION		Common Area (M²)	Hotel Room Areas (M²)	Apartment & Balcony Areas (M²)	Gross Area (M²)
1	Hotel Rooms - 13 off		154	387		545
2	Hotel Rooms - 13 off		151	387		543
3	Hotel Rooms - 13 off		151	387		543
4	Hotel Rooms - 0 off	(Gym- 245)	297	0		542
5	Hotel Rooms - 11 off		148	341		488
6	Hotel Rooms - 11 off		148	341		488
7	Hotel Rooms - 11 off		148	341		488
8	Hotel Rooms - 11 off		148	341		488
9	Hotel Rooms - 11 off		148	341		488
10	Hotel Rooms - 11 off		148	341		488
11	Hotel Rooms - 11 off		148	341		488
	TOTAL - 116 off Hotel Rooms					
12	Serviced/Owner Occupied Apartments - 5 off		143		347	490
13	Serviced/Owner Occupied Apartments - 5 off		119		357	476
14	Serviced/Owner Occupied Apartments - 5 off		119		357	476
15	Serviced/Owner Occupied Apartments - 5 off		119		357	476
	TOTAL - 20 off Apartments.					
SUB-TOTAL			2289	3548	1418	7507
Roof	476m²					
TOTAL						8797

23-29 Market St Adelaide

GROSS/NET AREA - FURTHER REVISED POST-LODGEMENT SCHEME 53.80M (TOP OF ROOF PARAPET) Option 1E

Note: Highest Point of Roof screens set at 4m above roof parapet.(57.86m)

				AREA - Square Metres						Storage - Cubic Square Metres								
LEVEL	Apt. / Hotel No.	Name	Beds	Apartment / Hotel Size	Min. Unit Space Required	Area Sufficient	Balcony	Private Open Space required	Difference	Apartment / Hotel Storage	Storage Lockers / Store Room	Total Storage	Storage required	Difference	Storage Sufficient	Bicycle Park	Carparks	Private Open Deck / Pool Areas
1											6							
	101	Hotel rm. 101	1	29	N/A		N/A	N/A		5.5			N/A			N/A	N/A	
	102	Hotel rm. 102	1	29.5	N/A		N/A	N/A		3.7			N/A			N/A	N/A	
	103	Hotel rm. 103	1	29.5	N/A		N/A	N/A		3.7			N/A			N/A	N/A	
	104	Hotel rm. 104	1	29.5	N/A		N/A	N/A		3.7			N/A			N/A	N/A	
	105	Hotel rm. 105	1	29.5	N/A		N/A	N/A		3.7			N/A			N/A	N/A	
	106	Hotel rm. 106	1	28.5	N/A		N/A	N/A		3.7			N/A			N/A	N/A	
	107	Hotel rm. 107	1	29	N/A		N/A	N/A		3.7			N/A			N/A	N/A	
	108	Hotel rm. 108	1	30	N/A		N/A	N/A		4			N/A			N/A	N/A	
	109	Hotel rm. 109	1	29	N/A		N/A	N/A		3.3			N/A			N/A	N/A	
	110	Hotel rm. 110	1	31.5	N/A		N/A	N/A		3.4			N/A			N/A	N/A	
	111	Hotel rm. 111	1	26.5	N/A		N/A	N/A		4.5			N/A			N/A	N/A	
	112	Hotel rm. 112	1	38.5	N/A		N/A	N/A		3.8			N/A			N/A	N/A	
113	Hotel rm. 113	1	27	N/A		N/A	N/A		3.8			N/A			N/A	N/A		
2											6							
	201	Hotel rm. 201	1	29	N/A		N/A	N/A		5.5			N/A			N/A	N/A	
	202	Hotel rm. 202	1	29.5	N/A		N/A	N/A		3.7			N/A			N/A	N/A	
	203	Hotel rm. 203	1	29.5	N/A		N/A	N/A		3.7			N/A			N/A	N/A	
	204	Hotel rm. 204	1	29.5	N/A		N/A	N/A		3.7			N/A			N/A	N/A	
	205	Hotel rm. 205	1	29.5	N/A		N/A	N/A		3.7			N/A			N/A	N/A	
	206	Hotel rm. 206	1	28.5	N/A		N/A	N/A		3.7			N/A			N/A	N/A	
	207	Hotel rm. 207	1	29	N/A		N/A	N/A		3.7			N/A			N/A	N/A	
	208	Hotel rm. 208	1	30	N/A		N/A	N/A		4			N/A			N/A	N/A	
	209	Hotel rm. 209	1	29	N/A		N/A	N/A		3.3			N/A			N/A	N/A	
	210	Hotel rm. 210	1	31.5	N/A		N/A	N/A		3.4			N/A			N/A	N/A	
	211	Hotel rm. 211	1	26.5	N/A		N/A	N/A		4.5			N/A			N/A	N/A	
	212	Hotel rm. 212	1	38.5	N/A		N/A	N/A		3.8			N/A			N/A	N/A	
213	Hotel rm. 213	1	27	N/A		N/A	N/A		3.8			N/A			N/A	N/A		
3											6							
	301	Hotel rm. 301	1	29	N/A		N/A	N/A		5.5			N/A			N/A	N/A	
	302	Hotel rm. 302	1	29.5	N/A		N/A	N/A		3.7			N/A			N/A	N/A	
	303	Hotel rm. 303	1	29.5	N/A		N/A	N/A		3.7			N/A			N/A	N/A	
	304	Hotel rm. 304	1	29.5	N/A		N/A	N/A		3.7			N/A			N/A	N/A	
	305	Hotel rm. 305	1	29.5	N/A		N/A	N/A		3.7			N/A			N/A	N/A	
	306	Hotel rm. 306	1	28.5	N/A		N/A	N/A		3.7			N/A			N/A	N/A	
	307	Hotel rm. 307	1	29	N/A		N/A	N/A		3.7			N/A			N/A	N/A	

APARTMENT/HOTEL SCHEDULE OF PROVISIONS (Includes Provisions of Adelaide City Council Development Plan) - (JUNE 2017)

				AREA - Square Metres						Storage - Cubic Square Metres								
LEVEL	Room No.	Name	Beds	Apartment / Hotel Size	Min. Unit Space Required	Area Sufficient	Balcony	Private Open Space required	Difference	Apartment / Hotel Storage	Storage Lockers / Store Room	Total Storage	Storage required	Difference	Storage Sufficient	Bicycle Park	Carparks	Private Open Deck / Pool Areas
4																		
		Pool Area																183
		Gym Area																62
5											13.5							
	501	Hotel rm. 501	1	29.5	N/A		N/A	N/A		5.5			N/A			N/A	N/A	
	502	Hotel rm. 502	1	29.5	N/A		N/A	N/A		3.7			N/A			N/A	N/A	
	503	Hotel rm. 503	1	30	N/A		N/A	N/A		3.7			N/A			N/A	N/A	
	504	Hotel rm. 504	1	30	N/A		N/A	N/A		3.7			N/A			N/A	N/A	
	505	Hotel rm. 505	1	29.5	N/A		N/A	N/A		3.7			N/A			N/A	N/A	
	506	Hotel rm. 506	1	28.5	N/A		N/A	N/A		3.7			N/A			N/A	N/A	
	507	Hotel rm. 507	1	29	N/A		N/A	N/A		3.8			N/A			N/A	N/A	
	508	Hotel rm. 508	1	32	N/A		N/A	N/A		5.3			N/A			N/A	N/A	
	509	Hotel rm. 509	1	36	N/A		N/A	N/A		3.4			N/A			N/A	N/A	
	510	Hotel rm. 510	1	32.5	N/A		N/A	N/A		5			N/A			N/A	N/A	
	511	Hotel rm. 511	1	34	N/A		N/A	N/A		3			N/A			N/A	N/A	
6											13.5							
	601	Hotel rm. 601	1	29.5	N/A		N/A	N/A		5.5			N/A			N/A	N/A	
	602	Hotel rm. 602	1	29.5	N/A		N/A	N/A		3.7			N/A			N/A	N/A	
	603	Hotel rm. 603	1	30	N/A		N/A	N/A		3.7			N/A			N/A	N/A	
	604	Hotel rm. 604	1	30	N/A		N/A	N/A		3.7			N/A			N/A	N/A	
	605	Hotel rm. 605	1	29.5	N/A		N/A	N/A		3.7			N/A			N/A	N/A	
	606	Hotel rm. 606	1	28.5	N/A		N/A	N/A		3.7			N/A			N/A	N/A	
	607	Hotel rm. 607	1	29	N/A		N/A	N/A		3.8			N/A			N/A	N/A	
	608	Hotel rm. 608	1	32	N/A		N/A	N/A		5.3			N/A			N/A	N/A	
	609	Hotel rm. 609	1	36	N/A		N/A	N/A		3.4			N/A			N/A	N/A	
	610	Hotel rm. 610	1	32.5	N/A		N/A	N/A		5			N/A			N/A	N/A	
	611	Hotel rm. 611	1	34	N/A		N/A	N/A		3			N/A			N/A	N/A	
7											13.5							
	701	Hotel rm. 701	1	29.5	N/A		N/A	N/A		5.5			N/A			N/A	N/A	
	702	Hotel rm. 702	1	29.5	N/A		N/A	N/A		3.7			N/A			N/A	N/A	
	703	Hotel rm. 703	1	30	N/A		N/A	N/A		3.7			N/A			N/A	N/A	
	704	Hotel rm. 704	1	30	N/A		N/A	N/A		3.7			N/A			N/A	N/A	
	705	Hotel rm. 705	1	29.5	N/A		N/A	N/A		3.7			N/A			N/A	N/A	
	706	Hotel rm. 706	1	28.5	N/A		N/A	N/A		3.7			N/A			N/A	N/A	
	707	Hotel rm. 707	1	29	N/A		N/A	N/A		3.8			N/A			N/A	N/A	
	708	Hotel rm. 708	1	32	N/A		N/A	N/A		5.3			N/A			N/A	N/A	
	709	Hotel rm. 709	1	36	N/A		N/A	N/A		3.4			N/A			N/A	N/A	
	710	Hotel rm. 710	1	32.5	N/A		N/A	N/A		5			N/A			N/A	N/A	
	711	Hotel rm. 711	1	34	N/A		N/A	N/A		3			N/A			N/A	N/A	

				AREA - Square Metres						Storage - Cubic Square Metres								
LEVEL	Room No.	Name	Beds	Apartment / Hotel Size	Min. Unit Space Required	Area Sufficient	Balcony	Private Open Space required	Difference	Apartment / Hotel Storage	Storage Lockers / Store Room	Total Storage	Storage required	Difference	Storage Sufficient	Bicycle Park	Carparks	Private Open Deck / Pool Areas
8											13.5							
	801	Hotel rm. 801	1	29.5	N/A		N/A	N/A		5.5			N/A			N/A	N/A	
	802	Hotel rm. 802	1	29.5	N/A		N/A	N/A		3.7			N/A			N/A	N/A	
	803	Hotel rm. 803	1	30	N/A		N/A	N/A		3.7			N/A			N/A	N/A	
	804	Hotel rm. 804	1	30	N/A		N/A	N/A		3.7			N/A			N/A	N/A	
	805	Hotel rm. 805	1	29.5	N/A		N/A	N/A		3.7			N/A			N/A	N/A	
	806	Hotel rm. 806	1	28.5	N/A		N/A	N/A		3.7			N/A			N/A	N/A	
	807	Hotel rm. 807	1	29	N/A		N/A	N/A		3.8			N/A			N/A	N/A	
	808	Hotel rm. 808	1	32	N/A		N/A	N/A		5.3			N/A			N/A	N/A	
	809	Hotel rm. 809	1	36	N/A		N/A	N/A		3.4			N/A			N/A	N/A	
	810	Hotel rm. 810	1	32.5	N/A		N/A	N/A		5			N/A			N/A	N/A	
	811	Hotel rm. 811	1	34	N/A		N/A	N/A		3			N/A			N/A	N/A	
9											13.5							
	901	Hotel rm. 901	1	29.5	N/A		N/A	N/A		5.5			N/A			N/A	N/A	
	902	Hotel rm. 902	1	29.5	N/A		N/A	N/A		3.7			N/A			N/A	N/A	
	903	Hotel rm. 903	1	30	N/A		N/A	N/A		3.7			N/A			N/A	N/A	
	904	Hotel rm. 904	1	30	N/A		N/A	N/A		3.7			N/A			N/A	N/A	
	905	Hotel rm. 905	1	29.5	N/A		N/A	N/A		3.7			N/A			N/A	N/A	
	906	Hotel rm. 906	1	28.5	N/A		N/A	N/A		3.7			N/A			N/A	N/A	
	907	Hotel rm. 907	1	29	N/A		N/A	N/A		3.8			N/A			N/A	N/A	
	908	Hotel rm. 908	1	32	N/A		N/A	N/A		5.3			N/A			N/A	N/A	
	909	Hotel rm. 909	1	36	N/A		N/A	N/A		3.4			N/A			N/A	N/A	
	910	Hotel rm. 910	1	32.5	N/A		N/A	N/A		5			N/A			N/A	N/A	
	911	Hotel rm. 911	1	34	N/A		N/A	N/A		3			N/A			N/A	N/A	
10											13.5							
	1001	Hotel rm. 1001	1	29.5	N/A		N/A	N/A		5.5			N/A			N/A	N/A	
	1002	Hotel rm. 1002	1	29.5	N/A		N/A	N/A		3.7			N/A			N/A	N/A	
	1003	Hotel rm. 1003	1	30	N/A		N/A	N/A		3.7			N/A			N/A	N/A	
	1004	Hotel rm. 1004	1	30	N/A		N/A	N/A		3.7			N/A			N/A	N/A	
	1005	Hotel rm. 1005	1	29.5	N/A		N/A	N/A		3.7			N/A			N/A	N/A	
	1006	Hotel rm. 1006	1	28.5	N/A		N/A	N/A		3.7			N/A			N/A	N/A	
	1007	Hotel rm. 1007	1	29	N/A		N/A	N/A		3.8			N/A			N/A	N/A	
	1008	Hotel rm. 1008	1	32	N/A		N/A	N/A		5.3			N/A			N/A	N/A	
	1009	Hotel rm. 1009	1	36	N/A		N/A	N/A		3.4			N/A			N/A	N/A	
	1100	Hotel rm. 1100	1	32.5	N/A													

				AREA - Square Metres						Storage - Cubic Square Metres								
LEVEL	Room No.	Name	Beds	Apartment / Hotel Size	Min. Unit Space Required	Area Sufficient	Balcony	Private Open Space required	Difference	Apartment / Hotel Storage	Storage Lockers / Store Room	Total Storage	Storage required	Difference	Storage Sufficient	Bicycle Park	Carparks	Private Open Deck / Pool Areas
11											13.5							
	1101	Hotel rm. 1101	1	29.5	N/A		N/A	N/A		5.5			N/A			N/A	N/A	
	1102	Hotel rm. 1102	1	29.5	N/A		N/A	N/A		3.7			N/A			N/A	N/A	
	1103	Hotel rm. 1103	1	30	N/A		N/A	N/A		3.7			N/A			N/A	N/A	
	1104	Hotel rm. 1104	1	30	N/A		N/A	N/A		3.7			N/A			N/A	N/A	
	1105	Hotel rm. 1105	1	29.5	N/A		N/A	N/A		3.7			N/A			N/A	N/A	
	1106	Hotel rm. 1106	1	28.5	N/A		N/A	N/A		3.7			N/A			N/A	N/A	
	1107	Hotel rm. 1107	1	29	N/A		N/A	N/A		3.8			N/A			N/A	N/A	
	1108	Hotel rm. 1108	1	32	N/A		N/A	N/A		5.3			N/A			N/A	N/A	
	1109	Hotel rm. 1109	1	36	N/A		N/A	N/A		3.4			N/A			N/A	N/A	
	1100	Hotel rm. 1100	1	32.5	N/A		N/A	N/A		5			N/A			N/A	N/A	
1110	Hotel rm. 1110	1	34	N/A		N/A	N/A		3			N/A			N/A	N/A		
TOTALS			116	3544.5	N/A	N/A	N/A	N/A		463	112.5		N/A			N/A	N/A	245
12																		
	1201	Apt. 1201	2	73.5	65	√	11	11	0	8.8	1.5	10.3	10	0.3	√	1	1	
	1202	Apt. 1202	1	50	50	√	8	8	0	6.5	1.5	8	8	0	√	1	1	
	1203	Apt. 1203	1	50	50	√	8	8	0	5.4	2.6	8	8	0	√	1	0	
	1204	Apt. 1204	2	77.5	65	√	11	11	0	10.4	1.2	11.6	10	1.6	√	1	1	
	1205	Apt. 1205	1	50	50	√	8	8	0	6.2	2.1	8.3	8	0.3	√	1	0	
13																		
	1301	Apt. 1301	2	78.5	65	√	11.5	11	0.5	8.8	1.5	10.3	10	0.3	√	1	1	
	1302	Apt. 1302	1	52	50	√	8	8	0	6.5	1.5	8	8	0	√	1	1	
	1303	Apt. 1303	1	51	50	√	8	8	0	5.5	2.6	8.1	8	0.1	√	1	0	
	1304	Apt. 1304	2	78.5	65	√	11	11	0	10.4	1.2	11.6	10	1.6	√	1	1	
	1305	Apt. 1305	1	50	50	√	8	8	0	6.2	2.1	8.3	8	0.3	√	1	0	
14																		
	1401	Apt. 1401	2	78.5	65	√	11.5	11	0.5	8.8	1.5	10.3	10	0.3	√	1	1	
	1402	Apt. 1402	1	52	50	√	8	8	0	6.5	1.5	8	8	0	√	1	1	
	1403	Apt. 1403	1	51	50	√	8	8	0	5.5	2.6	8.1	8	0.1	√	1	0	
	1404	Apt. 1404	2	78.5	65	√	11	11	0	10.4	1.2	11.6	10	1.6	√	1	1	
	1405	Apt. 1405	1	50	50	√	8											

APARTMENT/HOTEL SCHEDULE OF PROVISIONS (Includes Provisions of Adelaide City Council Development Plan) - (JUNE 2017)

				AREA - Square Metres						Storage - Cubic Square Metres								
LEVEL	Room No.	Name	Beds	Apartment / Hotel Size	Min. Unit Space Required	Area Sufficient	Balcony	Private Open Space required	Difference	Apartment / Hotel Storage	Storage Lockers / Store Room	Total Storage	Storage required	Difference	Storage Sufficient	Bicycle Park	Carparks	Private Open Deck / Pool Areas
15																		
	1501	Apt. 1501	2	78.5	65	√	11.5	11	0.5	8.8	1.5	10.3	10	0.3	√	1	1	
	1502	Apt. 1502	1	52	50	√	8	8	0	6.5	1.5	8	8	0	√	1	1	
	1503	Apt. 1503	1	51	50	√	8	8	0	5.5	2.6	8.1	8	0.1	√	1	0	
	1504	Apt. 1504	2	78.5	65	√	11	11	0	10.4	1.2	11.6	10	1.6	√	1	1	
	1505	Apt. 1505	1	50	50	√	8	8	0	6.2	2.1	8.3	8	0.3	√	1	0	
Roof Level																		
		Services																
		324sqm																
TOTALS			28	1231	N/A	N/A	185.5	N/A	1.5	149.5	35.6	185.1	N/A	9.1	N/A	20	12	0

APARTMENT & HOTEL ROOM NOTES

Note: Storage Areas include: Wardrobes, Linen, Pantry, Miscellaneous Cupboards and Storage Lockers

Apartments - Storage cub.m. allowance for all Apartments complies with the Development Plan. There is a surplus of 9.1 cub.m Storage. Storage Lockers are at Mezz. Level.

Apartments - Apartment Area Sizes also comply with The Development Plan. (Areas as indicated on the table)

Apartments - Private Open Space allocation for the Apartments at Levels 11 to 15 - Typical Balcony Area Sizes comply with the Development Plan. (Areas as indicated on the table)

Apartments - Private Open Space as provided for the Apartments is sufficient.

Apartments - Storage Lockers + Bicycle Parks are at Roof Deck level

Hotel Rooms - Storage cub.m. allowance for the Hotel Rms - TOTAL Storage for 11 Levels of Hotel Rms is shown as 463 cub.m. Store Rm Allocation is 112.5 sqm.

Hotel Rooms - Hotel Room Sizes are nominal standard sizes. (Areas as indicated on the table)

Hotel Rooms - There is Private Open Space for the Hotel at Level 4 - Pool Area & Gymnasium , which provides 245 sqm of Private Open Space - This is applicable for the Hotel Rms and Apartments

Note:

APARTMENTS - NO. OFF - 20 off

CARPARKS -NUMBER OFF - 12 off

BIKE PARKS -NUMBER OFF - 20 off

LOCKERS -NUMBER OFF - 20 off

ATTACHMENT 4

COUNCIL COMMENTS



CITY OF
ADELAIDE

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ABN 20 903 762 572

Enquiries: **Edouard Pool 8203 7771**
F/S10/0022/2017

Reference:

27 July 2017

045

130101201230221020112131120130220013

Development Assessment Commission
GPO Box 1815
Adelaide SA 5001

Attention: Robert Kleeman

Dear Mr Kleeman

Application: S10/22/2017

Applicant: PRIMEFIELD PROPERTY P/L

Address: 23-29 Market Street, ADELAIDE SA 5000

Description: Demolish existing buildings and construct a mixed use hotel, apartments, ground level parking and commercial tenancies.

Council has the following comment(s) to make on the above application:

Encroachment

- The proposed canopies satisfy the City of Adelaide Encroachment policy achieving a minimum height of 3.0 metres above the footpath and 600 millimetre setback off the face of kerb.

Infrastructure

There is no objection to approving this development from Infrastructure Management (land tenure, traffic/transport, levels, storm water, lighting, street trees/landscaping, urban elements, roads/footpaths, property Buildings, Traffic Signals, etc) perspective, subject to the following matters being addressed:

Lighting

- The proposed development works will not impact on the public lighting within the proximity of the development site. Public lighting is installed on the other side of the street and not within the site boundary proximity of the development site.

- If temporary hoarding or site works require modification of existing Council and/or SA Power Network's public lighting (including associated infrastructure such as cabling etc), it shall meet Councils' requirements. The works shall be carried out to meet Councils' requirements and all costs borne directly by the developer.
- All modifications requiring temporary removal/relocation/provision of temporary lighting/reinstatement of existing Council and/or SA Power Network's public lighting (including associated infrastructure such as cabling etc) shall meet Councils' requirements. The works shall be carried out to meet Councils' requirements and all costs borne directly by the developer.
- All damage to the City of Adelaide's infrastructure, including damage to public lighting and underground ducting etc caused by projects works or loading of site crane onto pathways will be repaired to meet Councils requirements at the cost of the developer.
- If new canopies are to be constructed as part of these works, then lighting to meet the City of Adelaide's under veranda requirements shall be installed.
- Obtrusive Lighting – Lighting design and installation to be fully compliant with Australian Standard - AS 4282 – 1997 Control of the obtrusive effects of outdoor lighting. Sign off by consultant required to confirm compliance. In addition, provide relevant lighting calculation grid detailing property boundary lines for Councils review and records.

Urban Elements

- There is a butt out bin adjacent to the development and this will need to be relocated prior to any works starting. Council's Asset Manager is to be contacted to arrange this works.

Property

- No approval for re-alignment of the road should be assumed without comment/approval of Council's Transportation Team.
- It is noted that there was a possible streetscape upgrade planned for Market Street during the 2017/18 financial year by the City of Adelaide, however that the trees, paving and protuberances that are shown on the application are specifically excluded from the application.
- The landscaping and streetscape proposals will need to be considered in the future in the context of the plans for the whole streetscape.

Cleansing Operations

- There are no issues with the proposed waste management plan and note the design is based upon a risk treatment plan to achieve safe service delivery.

Traffic / Transport

Car park layout and design – the applicant must advise that design of access ways, car parking spaces, aisles, manoeuvring areas and sight lines shall address Australian Standard 2890.1.

- Bicycle parking
 - a. The number of bicycle spaces does not meet that required by the Development Plan. In conjunction with the next point, this should be addressed accordingly. Supplement of bicycle parking on footpath in the immediate vicinity is not feasible due to the limited footpath width.
 - b. Bicycle parking is proposed on the roof of the building. This should be revised based on the relevant Australian Standard:

AS 2890.3
2.1 - Bicycle parking facilities shall be designed so they are safe for all users of the designated space, securely fixed and **conveniently located** for users
- The development proposes alteration of the public road area with the installation of kerb protuberances and changes to the existing on-street parking restrictions.
 - a. Kerb protuberances – any reference to the proposed kerbing protuberances should be removed from the applicants plans and as such not be included in this application. Notwithstanding, the City of Adelaide is keen to work with the applicant on any streetscaping proposal. Accordingly, the applicant can progress this aspect of the development by liaising with the City of Adelaide's Team Leader – Design Strategy.
 - b. Proposed on-street loading zones – there is no objection in principle to the proposed alteration to the existing parking zones, but this would need to be facilitated by the City of Adelaide's On-Street Parking coordinators.

Local Heritage

The proposed development is a mixed use development comprising a hotel and apartments at 23-29 Market Street. It includes demolition of the existing buildings on the subject site.

Adjacent, to the west of the subject site, is the historic Adelaide Democratic Club building. Constructed in 1915, it is three storeys in height with a red brick façade with glazed brick plinth and rendered embellishments. The rendered parapet with brackets and pediments is finely detailed and horizontal rendered bands at lower levels have rendered dentil moulds beneath. The historic building is of relatively high integrity, at least externally, retaining much of its early fabric and form. The form and Federation style detailing reflect the period in which it was built. It is listed as a Local Heritage Place (City Significance) in the Adelaide (City) Development Plan.

Opposite the subject site, on the eastern side of Market Street, there are six historic cottages. The cottages are also listed as Local Heritage Places in the Adelaide (City) Development Plan.

The subject site is located in the Capital City Zone of Council's development plan wherein a building height limit of 43 metres is anticipated.

The proposed development is 58.1 metres in height with 17 levels of tenancies and accommodation, including a mezzanine level.

Although the height of the proposed development exceeds that anticipated by relevant policy for the Zone, it is the relationship between the podium element of the proposed development and adjacent and nearby heritage places that is of principal importance in considering its impact on adjacent and nearby heritage places.

The proposed development has three distinct components: a podium element of a similar height to the adjacent heritage building, an intermediate element that reads as lightweight and transparent with minimal structure evident and a series of fins providing sun-shading and articulation and an upper element that has a solid façade on the southern end and a finer grain derived from equally spaced vertical aluminium fins elsewhere on the facades.

Between each of the three elements the façades of the proposed development recede, providing a distinct break and helping to reduce overall bulk. Importantly, on the eastern elevation, the break between the podium level and the intermediate level is substantial with a deep recess on level four. Above this the tower has a front setback of 3 metres which emphasises the streetscape prominence of the podium element and consequently its relationship in scale with the adjacent historic building and provides a transition to the lower scale of the historic cottages opposite.

The relationship between the podium element and the historic building adjacent is strengthened by the design composition. In the proposed development, dominant beams and columns frame areas of glass and void in

a rhythmic arrangement that is compatible in scale and proportion with but does not mimic the austere and defined geometry of the structure and finer grain detail of the historic building adjacent. The juxtaposition works well.

The relationship between the podium element and the historic building and its transition of scale to historic cottages on the eastern side of Market Street is fundamental to assessment of heritage impact in regard to Council Wide Heritage and Conservation Objective 43 and PDCs 137 and 140 in particular. As documented, the podium element is a similar height to the historic building which assists in maintaining the streetscape prominence of the historic building, achieving a complementary relationship between the two and providing an appropriate transition to the lower scale historic buildings on the eastern side of Market Street. I recommend however that the height of the historic building as it is shown on the streetscape elevations be checked to make sure that its vertical proportions are not distorted, making it appear higher in the documentation than it is in reality.

There is good separation between the proposed development and the historic building adjacent with a 3.4 metre setback on the northern side of the proposed development between the tower and the historic building and sufficient setbacks at lower levels to read and interpret the three-dimensional qualities of the historic building adjacent. The podium element of the proposed development is located on the Market Street boundary, reinforcing streetscape character and achieving consistency with Council Wide Heritage and Conservation PDC 140(b).

Proposed materials are simple and modern, reflective of the design composition. They contrast with the materials and more textured finish of materials on the historic buildings but do not detract from the context and setting of the historic buildings (Council Wide Heritage and Conservation PDCs 137 and 140(a) are relevant).

In summary, the proposed development is supportable in terms of heritage impact and reasonably consistent with relevant development plan policy pertaining to heritage and conservation subject to confirmation that the height of the proposed podium element and the height of the adjacent historic building are as closely related as is suggested in the documentation. If the relationship is not as depicted in the documentation I recommend review and amendment of the design with close reference to the height of the historic building.

Should you have any enquiries regarding this correspondence please contact Edouard Pool, Planner on telephone 8203 7771 or via e-mail at e.poo@cityofadelaide.com.au.

Yours faithfully

Rebecca Rutschack
TEAM LEADER - PLANNING ASSESSMENT



**Agenda Item 2.2.2
7 September 2017**

ATTACHMENT 5

AGENCY COMMENTS

File No:
2014/11234/01

9 August 2017

Ref No:
11786384

Mr Tom Victory
Principal Planning Officer
Strategic Development Assessment
Planning and Development
Department of Planning, Transport and Infrastructure
Level 5, 50 Flinders Street
Adelaide SA 5000

For the attention of the
State Commission Assessment Panel (SCAP) (formally DAC)

23-29 Market Street, Adelaide

Further to the referral DA 020/A052/17 received 5 July 2017 and additional material provided 2 August 2017 pertaining to the development application at the above address and in my capacity as a statutory referral in the State Commission Assessment Panel (SCAP), I would like to offer the following comments for your consideration.

The project was presented to the Design Review panel on two occasions, over which period the design progressed. The proponent's positive engagement with the Design Review process is acknowledged.

I support the project team's aspirations to provide hotel and apartment accommodation that positively contributes to the activation of this part of the city. I am of the opinion that any development of this scale in this part of the city has a responsibility to deliver a high quality design outcome particularly in terms of the form, massing, residential amenity and expression of the proposed building relative to its current and future context.

The site is located on the west side of Market Street and north of Wright Street. The subject land is rectangular in shape and has a total approximate site area of 645 square metres. The surrounding area is characterised by a mixture of one to three storey buildings of varying character fronting onto Market Street. Adjacent the site to the north is a three storey Local heritage place, the Adelaide Democratic Club (ADC), designed in 1915. Immediately opposite the site are six Local heritage listed single storey houses. Market Street is a narrow, one way, single lane street with parallel car parking to both sides of the street. Acknowledging the emerging character of the immediate area, this proposal has the potential to positively influence the future context of this part of the city.

The proposal is for a 17 level mixed use development with an above ground height of 58.1 metres to the uppermost point of the facade. In principle I support the

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File No:
2014/11234/01

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11786384

proposed height, contingent on the proposal achieving a high quality design outcome, particularly in terms of the scale, form, residential amenity, contribution to the public realm and architectural expression of the proposed building relative to its current and future context. The proposed scale in the current predominantly one to three storey context results in a high degree of visibility in 360 degrees. Therefore any development on this site must make a generous and positive contribution to the streetscape and city skyline on all elevations.

In addition to locating the two levels of above ground car parking at the rear of the site, the proposal makes positive contributions to the streetscape with the provision of indoor and outdoor cafe spaces at ground level and public hotel lobby spaces with a feature stair at the ground and mezzanine levels of the podium. I support the design team's ambition to maximise opportunities to activate the current and future streetscape of Market Street through location of services away from the Market Street frontage. I encourage the design team to continue discussions with services consultants and authorities through the next phase of design development to ensure delivery of the design team's ambition.

The proposal intends to define the building into three elements, a base, middle and top, with the design intent to reduce the overall building bulk. The three elements are articulated by horizontal shadow lines created by the provision of recessed building facades at levels four and 12. I support the proposed design approach in principle, and acknowledge that the architectural expression of the three elements has been refined since the last Design Review session to be more consistent with the intended design concept and form composition.

The solid base element from ground floor level to level three, comprises hotel rooms and associated facilities. The ground floor and mezzanine levels of the podium extend to all site boundaries, with the exception of a 3.4 by 5.245 metre recess at the north east corner of the site. I support the provision of the recess and the resultant visual separation between the proposal and the adjacent ADC building. Above the mezzanine level, the podium is set back 3.4 metres from the northern boundary and three metres from the eastern boundary. I strongly support the provision of sufficient setback above the podium form, as in my view, it successfully reinforces the scale of the street and responds positively to the adjacent ADC building and the fine grain character of the area.

The facade of the podium is composed of vertical and horizontal projecting concrete elements that reference the ADC building with regards to building articulation and overall above-ground height. In principle I support the design approach for a contemporary interpretation of the adjacent Local heritage place and acknowledgement of its role in informing the architectural expression of the podium. I also support the rationalisation of the composition of the ground floor elevation to strengthen the reference to the rhythm and pattern of the ADC.

An 'infinity' pool is proposed at level four. While I support the provision of the pool and the associated communal facilities at the top of the podium, I am concerned by the compromised amenity of the pool area. I acknowledge amendments to increase the proposed seating areas with direct solar access, however I recommend further

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review of the areas around the pool to ensure optimum user amenity, including solar access and an integrated approach to landscape design.

The middle element from levels four to 11 comprises hotel rooms and is characterised by a glazed facade articulated by horizontally expressed slab edges and deep aluminium fins in varying colours. While I support the expression of the middle element in general, I recommend use of material with finishes and colours integral to the fabric rather than applied finishes, to ensure longevity, durability and ease of maintenance.

The top 'crown' element from levels 13 to 15 comprises apartments and is separated from the middle element by the transition floor plate on level 12. Vertical blades are proposed to this top element with the intent to appear lightweight and distinctive from the middle and base elements of the building. I am concerned by the intensity and depth of the vertical blades, as they have the potential to compromise the outlook for the residents. I recommend further design development of facade treatments to the upper portion of the building with the view to provide high amenity for the residents with regards to outlook and access to light and ventilation.

A typical hotel floor contains 11 hotel rooms and apartment floors include four to five residential apartments per level. I support the size and layouts of the proposed apartments in general as they afford outlook and access to natural light and ventilation to all habitable rooms. I note the sizes of the apartments and private open spaces meet the minimum requirements of the Development Plan. I recommend review of further opportunities to improve amenity for residents through provision of private open space in excess of the minimum requirements. I also recommend further consideration of provision of natural light and ventilation to the common circulation areas.

The top of the building 'crown' is sloped to maximise the northerly aspect and the efficiency of the solar panels installed on the roof which I support. I also support provision of the communal rooftop garden, in response to the sustainable design requirements for over-height developments set out by the Capital City Development Plan Amendment. I recommend provision of a maintenance strategy for the rooftop garden to ensure successful delivery and longevity of this open space.

Ecologically Sustainable Development (ESD) initiatives include passive design principles of natural ventilation, daylight access and solar shading, and selection of materials, fixtures and fittings which I support. I recommend incorporation of ESD principles in the ongoing design development. I also recommend further analysis of the solar loads to the western facade is undertaken with the view to address any potential heat and glare impacts on user comfort. In my opinion, the architectural expression should reflect the ESD strategies of the project.

I also anticipate as the design progresses, a signage and branding strategy will be developed. In my view, the signage should be an integral element of the overall architectural expression and its night-time presentation should be considered.

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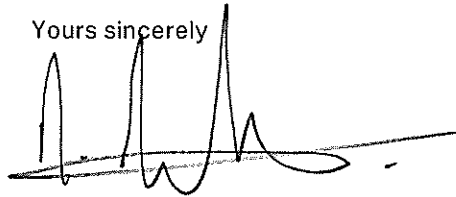
File No:
2014/11234/01

Ref No:
11786384

To ensure the most successful design outcome is achieved, the State Commission Assessment Panel may wish to consider particular aspects of the project which would benefit from protection as part of the planning permission such as:

- Review of painted concrete finishes.
- Further design development of facade treatments to the upper portion of the building with the view to provide high amenity for the residents with regards to outlook and access to light and ventilation.
- Confirmation of the maintenance strategy for the rooftop garden.
- Review of the solar loads to the western facade to ensure loads are adequately addressed.
- Signage and wayfinding strategies that are an integral part of the facade design.
- A high quality of external materials supported by the provision of a materials sample board.

Yours sincerely



Nick Tridente
Associate Government Architect

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10 July 2017

Department of Planning, Transport & Infrastructure
GPO Box 1815
ADELAIDE SA 5001

To Whom It May Concern,

The application has been assessed and the development at a height of RL101.960m Australian Height Datum (AHD) penetrate the Adelaide Airport Obstacle Limitation surfaces (OLS) which is protected airspace for aircraft operations.

The application will require approval in accordance with the Airports Act 1996 and the Airports (Protection of Airspace) Regulations 1996 and therefore will be forwarded to the Department of Infrastructure and Regional Development for their approval.

The developments will penetrate the OLS by approximately 10.4 metres.

If the development is approved by the Department of Infrastructure and Regional Development any associated lighting would also need to conform to the airport lighting restrictions and shielded from aircraft flight paths.

Crane operations associated with construction, if approved, will also be subject to a separate application.

Should you require any additional information or wish to discuss this matter further please contact the undersigned on 8308 9245.

Yours sincerely,



Brett Eaton

ATTACHMENT 6

ADDITIONAL INFORMATION



Tom Victory
Planning & Development Department of Planning,
Transport & Infrastructure
Level 5, 50 Flinders Street
Adelaide, SA 5000

1st August 2017

Attention: **Tom Victory**

MARKET STREET, ADELAIDE

Subject: DEVELOPMENT PLAN

Dear Sir,

Thank you for your time today and the verbal feedback regarding the change to the Development Plan at the end-stream the processing of this application.

A) PROPOSED CHANGES TO MEET NEW DEVELOPMENT PLAN

As we outlined in the spirit of obtaining positive outcomes from all potential setbacks the following changes to the proposal will be implemented to closer align it with the current Development Plan Amendment which came into force some 6 months after our first dialogue with DPTI on the project but just before "official" lodgement.

As your department would be aware the changes to the height of the building were resolved and supported throughout the Design Review process and principally relate to various setback and articulation preferences positively endorsed by our team through the consultation journey.

The new Development Plan (and in particular PDC 21 of the Capital City Zone) talks to the requirement for building heights over the maximum set for the zone. It is to these provisions we propose the changes and or points as follows:

i) PDC 21 (b) Part (i) Provisions

As outlined in the GHD Planning Report, the building design as it stands addresses and can be said to already meet Features (b) (i) (1) and (b)(i)(6). In addition to these two features however we propose the following changes to meet a further two Features.

a) Onsite Car Parking

Of the 12(twelve) proposed car parks onsite at present 4 (four) will now be dedicated to the Hotel use with the balance of 8 (eight) being allocated to the residential. This will bring the rate of cars to just under 0.5 spaces per dwelling meeting the Feature (b)(i)(5) requirement.

b) 3+ Bedrooms

Levels 14 and 15 have been modified to include one 3 bedroom apartment per level, bringing the total of 3-bedroom apartments to just over the 10% of total requirements.

ii) PDC 21 (b) Part (ii) Requirements

As far as the four sustainable design measures are concerned we also have met these provisions by the following major change(s) :

- a) Redesigning the Rooftop, to now include a Landscaped green useable Rooftop garden which features the following:
 - i) Extensive irrigated and greened planter boxes of 900mm of depth.
 - ii) Fully Irrigated living green walls.
 - iii) Timber arbor/pergola with climbers/creepers.
 - iv) 2 larger planters which would house trees.
 - v) Extensive solar array (245w X 70 solar panels) over the weather protected veranda.
 - vi) Facilities which provide high amenity in a garden setting for the occupants of both the Hotel and the apartments.We refer you to the new drawing included herein within the planning set which outlines these elements.
- b) By virtue of inclusion of the Rooftop Garden (Item 1 above) as well as the proposed greenwalls already incorporated in the ground and mezzanine levels we suggest this measure is met.
- c) The façade of this whole building has a complex array of shading devices and fins which assist in shading the building from various sun angles (refer elevations and perspectives). There is no 'western side of a street facing façade' in this project as specified in this clause.
- d) Finally, Item 4 of the sustainable measures is met by inclusion of the private open rooftop space and the pool and gym level facilities.

B) PROCESS TO DATE

We wish to thank DPTI for working positively with our team to date. We attach for your reference and for the record a schedule of the various communications, presentations and meetings since January of this year to do with this project. The table which is not exhaustive nonetheless indicates the cooperation and synergy our team has demonstrated as well as the cooperation shown by ODASSA and DPTI in the development of this application to meet the exacting standards of both the various planning regulations and of course the site itself.

We believe the project has benefitted from positive and constructive input however in terms of finalising the commercial hotel operations and getting on with the challenging business of market sales and final plans , we are in danger of achieving 'the perfect surgical operation but with a dead patient on the table'.

Accordingly, we respectfully request the process timing is now brought to a head and a slot sought in the DAC meeting schedule as soon as you have considered the further changes outlined above in conjunction with any further comments back from the referrers you have gone to.

C) DOCUMENT ISSUE

In terms of the latter and the individual conversations we have had with each referrer this week we are not expecting anything major from their initial comments however we acknowledge they have not had the benefit of reviewing the rooftop garden.

Accordingly as discussed with you today , to fast track the the implementation of this additional information we are issuing it in parallel to the following:

- a) DPTI - yourself, Ben Scholes and Jason Bailey
- b) ODASA - Belinda Chan
- c) ACC - Eduardo Poole and David Bland

The additional (or amended) sheets are as follows:

- 1) Drawing DA 03 Issue P6
- 2) Drawing DA 04 Issue P6
- 3) Drawing DA 05 Issue P6 and
- 4) Drawing Roof Garden Level P1

These drawings should be read in conjunction with the DA set already issued . Drawings DA 03 , 04 and 05 should replace drawings in the existing set. Item 4 is a new drawing.

C) TIMING

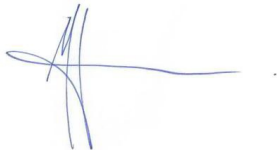
As mentioned by yourself today there may be other matters that come back to you after the various referrers summarise their comments to you by weeks end.

We would like the opportunity of dealing with those matters (assuming they may or will arise) by either forwarding them via email or indeed a phone call to Louis Petridis or myself so we may attend to them promptly.

Our priority is to assist you to be able to finalise your report for the earliest DAC meeting.

Thanking you again and awaiting your further advice.

Yours Faithfully
Loucas & Zahos Pty Ltd



Michael Loucas
Director

Sent to: Tom Victory, DPTI
Cc Ben Scholes, DPTI
Jason Bailey, DPTI
Belinda Chan, ODASA
Eduardo Poole, ACC
David Bland, ACC
Mark Separovic, GHD

Tom Victory
DPTI - Dept of Planning Transport and Infrastructure
Level 5, 50 Flinders St.,
Adelaide SA 5000

11 August 2017

Attention: Tom Victory

PROJECT

**Subject: 23-29 MARKET ST
DEVELOPMENT APPLICATION – DPTI AND ODASA RESPONSES**

We refer to your email dated 10th August 2017 in regards to further amendments requested by DPTI and ODASA to our original Development Application of 29 June 2017, and we provide the following responses :

Item 1

The Infinity Pool - The DPA has asked for a Roof garden which has been provided and we consider this to be the primary common area and of high amenity .

The infinity pool area is a secondary non mandatory common area , which we have amended to allow an increased seating area in the north west corner . There is still remains significant sheltered seating areas remaining .

Item 2

Material Finishes – We have used Coloured concrete “ colour through “ for most of the building . Where there had been feature highlights, slab edges or columns at articulation levels we had proposed painting of these minor feature elements in Solver 3 part coating system with 15 year Warranty. I have attached the warranty from a previous project and the specification of the paint system . We have found that when you pour one colour of concrete and then try to pour another contrasting colour they bleed into each other causing poor finish at the joint (see image below). However if DPTI and ODASA prefer these painted highlights to be colour through concrete we can specify colour through throughout .





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Item 3

Vertical Blades in the Crown - the vertical blades have been used before on other projects . I have attached photos of 276 Flinders Street . This building has the same length and width fins and same spacing and I have attached photos of this project showing internal and external views including corners . We have never had problems with this configuration previously .



Internal View from 276 Flinders Street



Corner view from 276 Flinders Street



External Corner view from 276 Flinders Street



External view from 276 Flinders Street

Item 4

Private open space - with the Recently Added rooftop garden and level 4 swimming pool areas we have far exceeded requirements for private open space for residents.

Item 5

Roof top garden maintenance strategy – There will be plantings in planter boxes with a minimum soil depth of 0.6 metre. Planter boxes will generally have a lightweight soil profile designed to be irrigated by a centrally controlled, automatic dripline system with drainage integrated into the building systems. Typically, these planter boxes will also have moisture retention media mixed through and within the base of the planters.

Plant selections will be made to suit the different types of landscaping spaces found throughout the building.

These areas include;

- Ground floor entry internal lobby area
- Level 4 Pool Area
- Common Roof garden



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ARCHITECTS

Plant selection will also be assessed in relation to light requirements. The following categories will guide selection;

Full Sun – minimum 6 hours of direct sunlight

Partial Sun / Partial Shade – 3 to 6 hours of direct sunlight

Full Shade – less than 3 hours of direct sunlight

The following plant species schedule will form the core from which appropriate selections will be made to the areas identified above;

BOTANICAL NAME	COMMON NAME	HEIGHT X WIDTH	FOLIAGE	FLOWER
Shrubs and Groundcovers				
Acacia 'Mini Cog'	Mini Cog Wattle			
Acanthus Mollis		1m x 1m	Green	
Aeonium Arboretum 'Atropurpureum'	Purple Houseleek Tree			
Aeonium Arboretum 'Green'	Green Houseleek Tree			
Agave Attenuata	Foxtail Agave			
Ajuga 'Catlins Gold'	Carpet Bugleweed			
Ajuga Reptans 'Caitlins Giant'			Bronze	Purple
Bambusa Lako	Black Bamboo			
Buxux Microphylla Japonica	Japanese Box			
Correa Alba	Native Fuschia	1.5m	Grey/Green	Red
Dianella 'Little Jess'	Flax Lily			
Dichondra 'Silver Falls'	Silver Dichondra			
Erigeron 'Spindrift'	Spindrift Seaside Daisy			
Liriope 'Just Right'	Lilyturf			
Liriope 'Muscari'				
Philodendron 'Xanadu'	'Xanadu'			
Plectranthus Argentatus	Silver Spurflower			
Rhaphis Excelsa	Lady Palm			
Rosemarinus 'Prostratus	Creeping Rosemary			
Sansevieria Trifasciata	Snake Plant			
Virbirum Tinus	Laurestine	3m	Dark Green	White
Westering 'Mundi'	Native Rosemary			
Climbers				
Hibbertia Scandens	Golden Guinea Vine			
Trachelospermum Jasminoides	Star Jasmine			
Jasminum Polyanthum	Chinese Jasmine		Green	Burgundy/Pink
Pyrostaegia Igneasyn.	Orange trumpet		Green	Orange
Bignonia Venusta	Vine			

A management plan will be created for the Body Corporate to ensure that the ongoing maintenance for plantings and associated infrastructure are included in their annual budget expenditure.

This will include the following;

Irrigation maintenance manual including controller manual, testing schedule and procedures.

Planting maintenance schedules, fertilising, trimming and watering.

Alternative planting schedule for re-planting of plants which have failed.



Item 6

Solar Loads – our client has commissioned Sustainability House to perform Energy Audits and provide design advice to the Market Street Project. Although it is early in the project, they have undertaken detailed report for the residential levels and that report is attached.

They have undertaken work on the Hotel level but that input is more general as per attached email. There is general a requirement for high performance tinted glass which we have allowed for. There may be a slight decrease in glassed area for which we have detailed insulated panels behind obscure glass. The report also details insulation and walling requirements.

Item 7

Signage – We have designed the signage to integrate with our architectural design. However the signage will not be able to be confirmed until there is a Hotel Operator contractually sign on to manage the building. We have sought input from Hotel Operators but they have advised that until a sign is approved they are not interested in looking at contracts.

We also expected that the signage would be a part of a separated application as it usually is with Adelaide City Council Planners.

Item 8

Materials Board – we are preparing a material board for the SCAP meeting as requested and should be submitted by late next week subject to availability of physical samples.

We trust that the above responses address the concerns of DPTI and ODASA and look forward to our continued mutually beneficial relationship, and request confirmation of the SCAP Hearing date.

Please feel free to contact myself on 8290 3200 should you have any further questions.

Yours Faithfully
Loucas & Zahos Pty Ltd

Louis Petridis
Senior Architect

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Sent to Tom Victory, DPTI
Ben Scholes, DPTI
Jason Baily, DPTI
Brett Miller, DPTI
Belinda Chan, ODASA
Michael Loucas, LZA
Mark Separovic, GHD



LOUCAS | ZAHOS
ARCHITECTS

APPENDICES

Louis Petridis

Subject: granosite warranty perioiod
Attachments: GS345.8 GranoShield Matt Low Profile tiltup precast.pdf

From: DORRINGTON, DAMIEN [<mailto:Damien.Dorrington@valspar.com>]
Sent: Tuesday, 10 September 2013 11:56 AM
To: Louis Petridis <LouisP@adel.lz.com.au>
Subject: FW: what is granosite warranty perioiod

Hi Louis,

We would be able to offer a 15 year warranty on the Granosite System GS345.8 (please see the attached), GranoShield Matt on precast/tilt-up concrete.

We can send out a 'draft warranty' before the project begins, which will list the approved painting system for the specific substrate, the period it will be warranted for, what the system will be warranted against, and will detail warranty conditions.

On completion of the project and when we receive an applicators warranty, we can then issue a Manufacturer's Warranty, given that our recommended system/s are followed.

Kind Regards

Damien Dorrington | Commercial Projects | Valspar ANZ

☎ +61 8 8368 1212 | 🖨 +61 8 8368 1250 | 📞 +61 420 939 322 | 💻 damien.dorrington@valspar.com
✉ 560 Churchill Road, Kilburn SA 5084

LEADING PAINT BRANDS



Paintworks Specification GS 345.8

System	GranoShield® Matt Low Profile
Substrate	Exterior – New and uncoated tilt-up & pre-cast panels
Category	Premium Texture – Water Based

Product Features

GranoShield® Matt is a pure acrylic matt finish, high performance coating.

Surface Preparation

The surface must be free from bondbreakers, release agents, dirt, dust, or other contaminants that may interfere with adhesion. Bondbreakers or release agents must be removed with GranoTilt-Clean™ (G1.13) prior to coating. To test for bondbreakers, wet the surface. If the water beads and runs off, the bondbreaker has not been removed. If the water soaks into the surface the bondbreaker has been removed. Grind off any protruding formwork joints. Examine for air holes and defects, fill with GranoPatch® Smooth (G1.04), block down, sand to an even finish, dust off. Ensure all new cementitious substrates are fully cured prior to coating. There must be less than 15% moisture content in the surface at the time of application to ensure optimum coating performance.

Application Details	Data Sheet	Coverage	Film Thickness (microns)		Dry Times	
			Wet	Dry	Touch	Topcoat
First Coat: GranoPrime® S (equipment: roller or spray)	G1.03	0.07 L/M²	65	10	30 minutes	2 hours
Second Coat: GranoShield® Matt (equipment: 10 – 12mm pile roller)	G2.27	0.25 L/M²	250	117	4 hours	6 hours
Third Coat: GranoShield® Matt (equipment: 10 – 12mm pile roller)	G2.27	0.25 L/M²	250	117	4 hours	6 hours

Recommended Uses For exterior or interior use.

Additional Notes

Surface preparation is the responsibility of the Builder, Renovator or Main Contractor and the Applicator. To achieve the indicated performance, it must be carried out according to Watty's recommendations. It is recommended that application be carried out by a skilled applicator, who is totally conversant with the Watty Granosite products and systems, to validate full material warranty conditions.

Caution

Provide adequate ventilation during use. Application **should not** be carried out if the air temperature or the substrate temperature is below 10°C or above 35°C. The temperature must not fall below 10°C during the drying process.

1. This information is provided with respect to the listed Granosite products. Watty recommends that:

- (a) you review the Technical Data Sheets (TDS) and Material Safety Data Sheets (MSDS) before you use or handle the product; (b) the product be used only in accordance with the information provided by Watty; (c) the product be transported, stored and handled in accordance with the information on the MSDS and relevant TDS; and (d) you thoroughly test the product, using the recommended application method on a sample of intended substrate, before using the product.
- The information in this technical data sheet was prepared using information gathered during product development. While Watty endeavours to update this information and maintain the accuracy and currency of its contents, Watty cannot guarantee that the information provided is wholly comprehensive.
- Watty recommends that you conduct such additional investigations as may be necessary to satisfy yourself of the accuracy, currency and comprehensiveness of the information on which you rely in using and handling the product. If you require further information please contact your nearest Watty Office.
- To the full extent permitted by law, Watty's liability for breach of a condition or warranty implied into the contract for sale between Watty and you by law is limited at Watty's election to: (a) the replacement of the product; or (b) payment of the cost of replacing the product.

Preliminary Results Report – Class 2 Section J

National Construction Code Series
Building Code of Australia 2016, Volume 1

Reference: SH88649

Date: 20 July 2017

BCA compliance assessment of:
Proposed Apartment Development (BCA Class 2)

23-29 Market Street,
Adelaide, SA 5000

Client Reference: Market Street Development

Report commissioned by:
Loucas Zahos Architects
270 Flinders Street, Adelaide SA 5000

On behalf of:
Primefield Property

Principal Assessor: Jim Woolcock
Member of BDAV, AIBA, HIA and MBA



Contact:
Ashlee Goodchild
commercial@sustainabilityhouse.com.au

Building Fabric and Specifications Required

The following assumptions regarding the material and constructions for the development have been assessed. Please review and advise consultant of any inaccuracies;

Specifications for Insulation, Glazing and Building Sealing listed below are required to ALL units to achieve compliance for energy efficiency as a minimum. Additional individual specifications may be required for selected units only, these are listed within the results table on the following page.

Building Fabric

Description		Added R-Value
Walls		
Party Walls:	Double Stud party wall, with 25mm Shaftliner in between and 20mm air gap either side, with 13mm plasterboard linings	5.00 (2x R2.5 batts, 1x batt in each stud)
External Walls:	200mm Concrete with furring channel and 13mm plasterboard lining	2.50
	Fibre Cement Sheet fixed to 40mm top hat on Stud Framed with 13mm Plasterboard Lining	2.50
	Double Glazed Spandrel with 50mm Kingspan K17 Insulated Plasterboard Lining	2.00
Corridor Walls:	Staggered Stud framed wall with 13mm plasterboard linings	2.50
Stair / Lift Walls	200mm Concrete with furring channel and 13mm plasterboard lining	2.50
Internal Walls:	Internal Plasterboard Stud Wall	
Floor		
Levels 12-15:	Suspended Concrete Slab	
Elevated Floors, Balcony Below:	Suspended Concrete Slab with soffit insulation	2.00
Floor Coverings:	As per plans (Floating Timber to Kitchen/Dining/Living and Passages/Entry) (Carpet to bedrooms) (Tiles to bathrooms and Laundry)	

Roof

Top Floor Units: Suspended Concrete Slab with Roof Deck Above

Ceiling

Top Floor Units: Plasterboard Lining fixed to Suspended Slab 5.00

Internal Ceilings (unit above): Plasterboard Lining fixed to Suspended Slab

Glazing

All windows and Sliding Doors: Aluminium Framed Double Glazing - Assumed Manufacturer Capral
Sliding Doors : U-Value = 3.2, SHGC = 0.48 CAP-057-13
Awning/Fixed Windows : U-Value = 3.4, SHGC = 0.54 CAS-006-08
Hinge Glass Doors : U-Value = 3.6, SHGC = 0.44 CAP-048-06

Building Sealing

External Doors and windows weather-stripped (as per part J3.4)

Exhaust fans sealed to outside air with self-closing damper to non-habitable areas (in addition to part J3.5)

Exhaust fans/Rangehood sealed to outside air with self-closing damper (as per part J3.5)

Standard Surface Mounted Bayonet Lighting only, NO recessed downlights

NatHERS Results

As part of the preliminary assessment 5 units have been assessed to provide indicative results for the development as a whole. Please note: These results are a preliminary guide only and the final results will not be confirmed until all units have been assessed.

Section J Compliance requires that the development achieve an average 6 star rating, with no individual unit achieving less than 5 stars.

Level	Apt No.	Individual Specifications Required	total load (MJ/m2)	star rating
Level 12	1	<i>Window reductions as per markup attached – Dimension notated is the maximum width of full height glazing for that wall. This can be broken up as suits your façade design. Results will need to be confirmed again once glazing location is decided.</i>	100	5.8
	2		104.3	5.7
	3		103.6	5.7
	4		85.9	6.4
	5		63.5	7.3
Level 13	6 (Apt 01)		100.2	5.8
	7 (Apt 02)		105	5.7
	8 (Apt 03)		103.9	5.7
	9 (Apt 04)		86.1	6.4
	10 (Apt 05)		63.5	7.3
Level 14	11		100	5.8
	12		104.3	5.7
	13		103.6	5.7
	14		85.9	6.4
	15		63.5	7.3
Level 15	16		114.9	5.3
	17		114.4	5.3
	18		121.4	5.1
	19		102.2	5.8
	20		82.8	6.5

Final Minimum	5.1
Final Average	6.00

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Louis Petridis

Subject: Market Street Development - Hotel Section

From: matthewm@suho.com.au [mailto:matthewm@suho.com.au] **On Behalf Of** Commercial Sustainability House
Sent: Friday, 21 July 2017 8:27 AM
To: Louis Petridis <louis@lz.com.au>
Subject: Re: Market Street Development

Hi Louis,

Thanks for the chat yesterday.

In order to avoid any glazing area reductions and keep single glazing to the class 3 part of the building the SHGC of the glass will need to be 0.5 or less.

This is a relatively dark tint and selecting a green glass will be the best option to still maximise the Visible Light Transmission. (VLT generally decreases with SHGC)

Please do not hesitate to contact me with any questions.

Thanks and regards,

Matthew McCallum
ESD Consultant / SUHOstudio Lead Designer
B. DesSt. M. Arch

Re-branding coming soon!



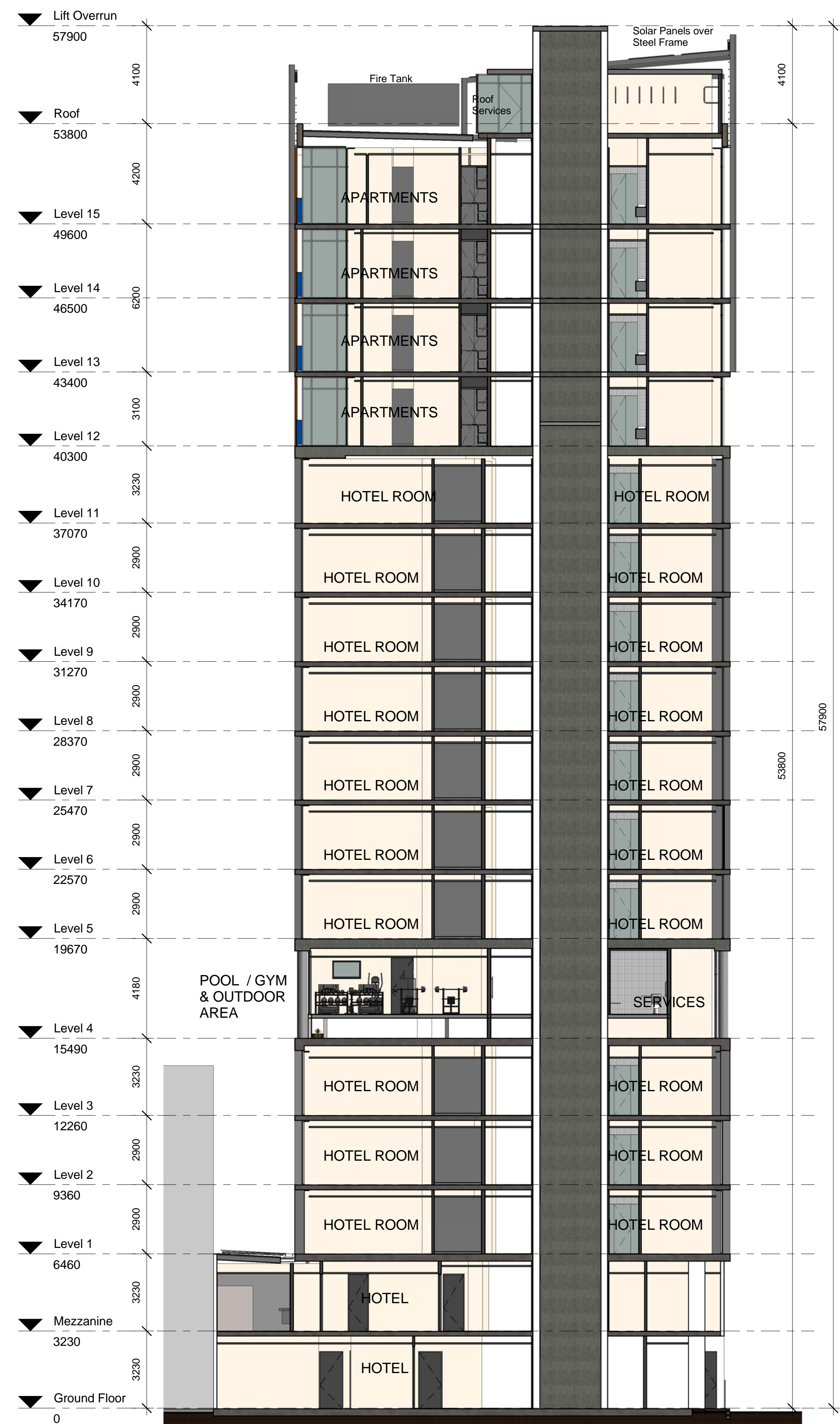
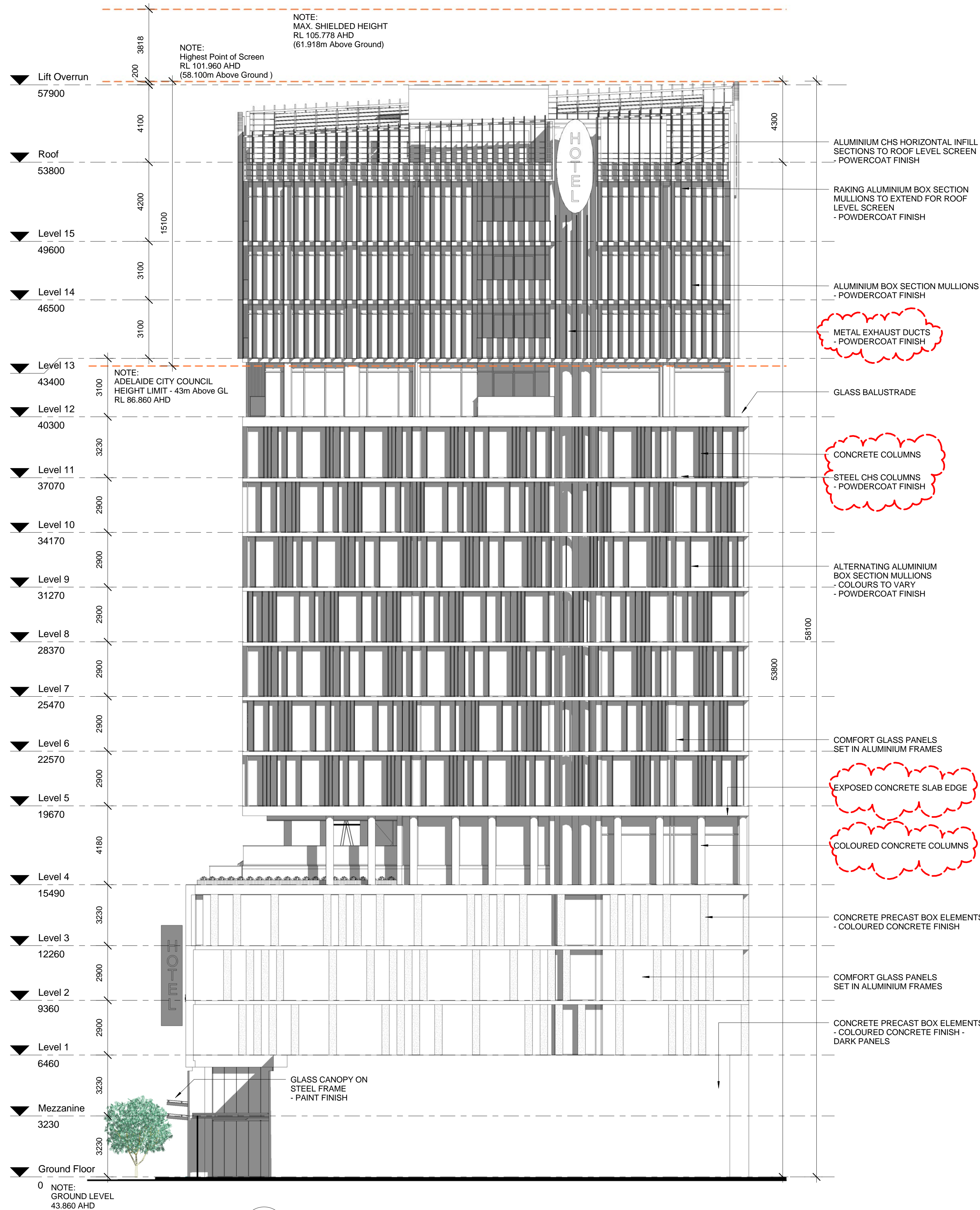
Unit 8 /938 South Road
Edwardstown SA 5039

Ph: 1300 308 525
Fax: 08 8297 7814
www.suho.com.au

THINK GREEN & READ IT ON THE SCREEN – Please consider the environment before printing this email.

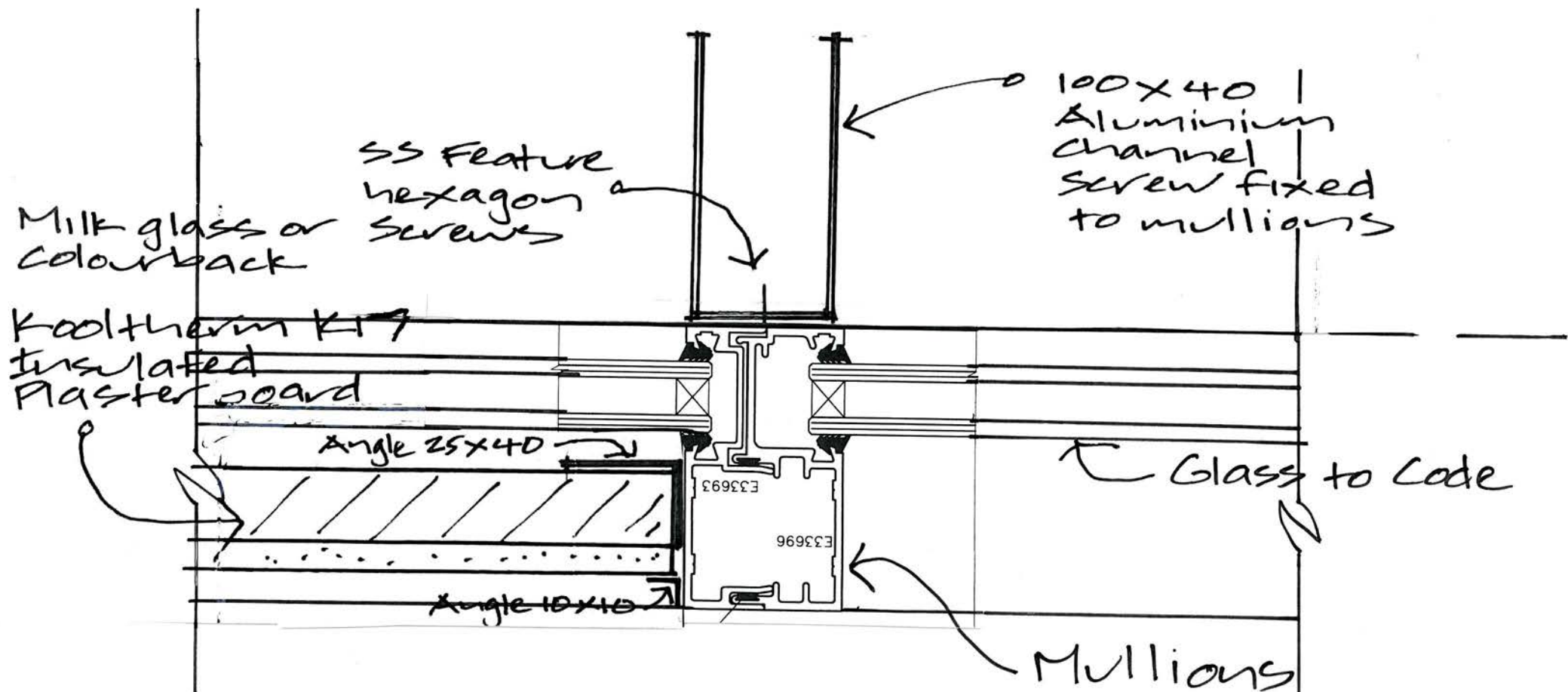
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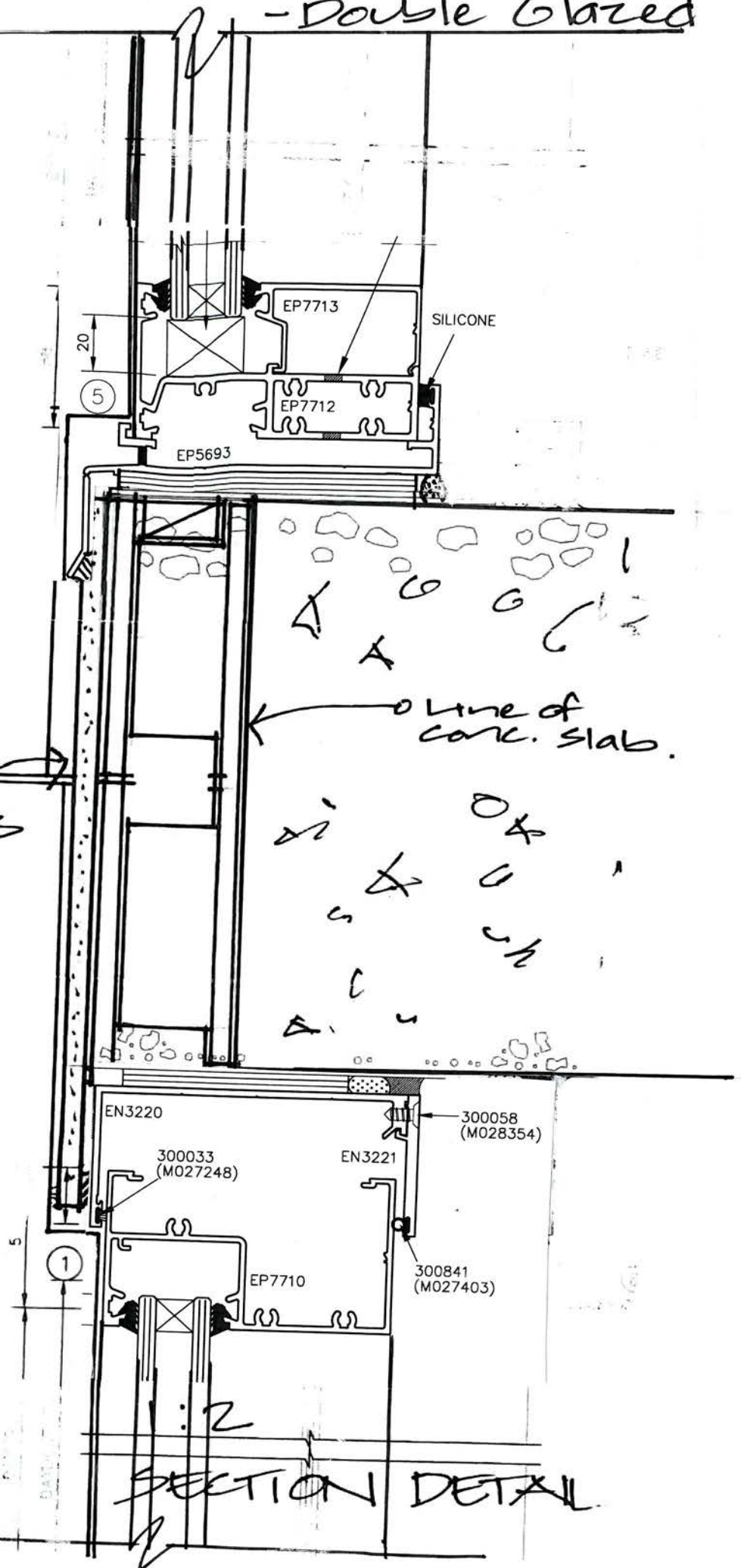
OPTION - 419 Flushline - Double Glazed
 PLAN DETAIL 1:2
 MULLION JUNCTION - Glass/ Insulated Panel

OPTION - 419 Flushline - Double Glazed

Line of
100x40
ALUM.
Channel
Screw
Fixed
to
Mullions
(SS Feature
Hexagon
screws)

Aluminum
Cladding Panels

WINDOW
WALL
SLAB
JUNCTION



channel
to face
of
Mullions



WINDOW WALL STALLBOARD DETAIL

EP7715

(3)

EP7717

W @ 300 CTRS
MIN. 400 CTRS

W @ 300 CTRS
CREW @ 600 CTRS

Milk glass
or
colour-back
glass

K17

300

EP7715

(4)

EP7717

SILICONE

SILICONE

DRAINAGE
SLOTS

EP5693

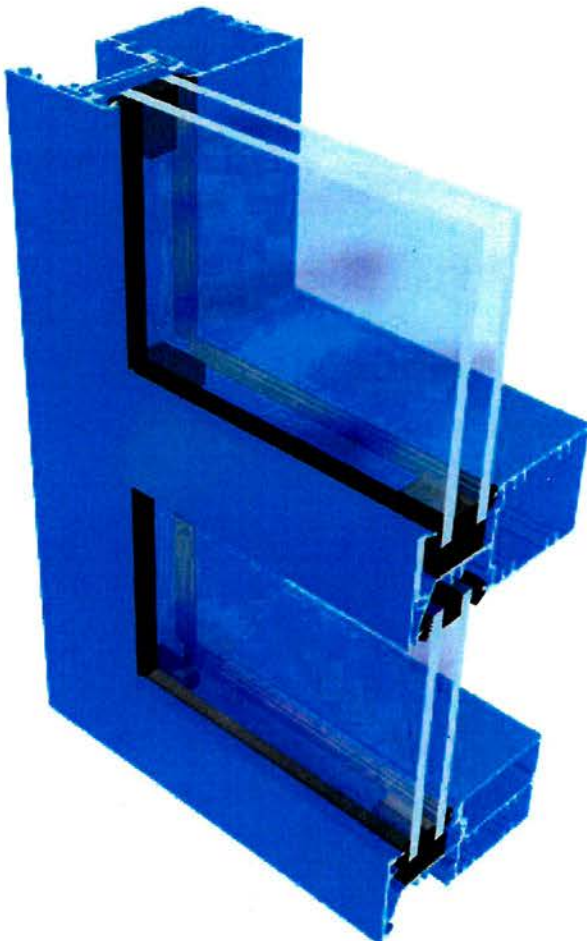
SECTION
DETAIL

1:2

Alucobond

Line of
conc. slab

OPTION - 419 Flushline
- Double Glazed

419 Flushline - Double Glazed**Features****Fully compliant to AS/NZS-4666:2000****100 & 150 x 55mm**

- Measuring 100mm and 150mm deep with 55mm wide frame, mullion and transom. Generally, the Flushline double glazed suite offers the same flexibility of design as the single glazed suite.
- Accepts up to 28mm DGU with spandrell infills to allow single glazing.
- Accepts awning and pivot sashes.
- Internal and external glazed configurations.
- 100mm transoms can be used with 150mm frame members.
- Optional structural glazed mullions and transoms.

Notes:

1. Optional sub-head and sub-sill.
2. Accepts all types of doors.
3. Self draining transoms and sills.
4. Provision for mullion splicing.
5. Some sections provide for internal glazing.

Limitations

Not recommended for 4 sided structural glazing.

Physical Performance

Approved to:	AS4420-1996 (As called up by AS2047-1999).
Water penetration:	500 Pa.
Serviceability pressure:	±1000 Pa.
Ultimate pressure:	+1500 Pa.
Air infiltration rating:	Air conditioned building @75Pa (+0.23 L/s.m ²) @-75Pa (-0.09 L/s.m ²)

Recommended for use with:

200 Series Hinged, Pivot and Sliding doors.
35 Series Awning Sash

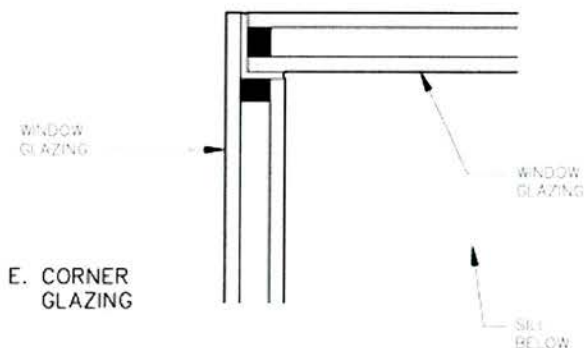
all. It's not just the glass. There is something called a "center of glass" measurement that can be used for site-fabricated units such as curtain walls, but officials that we've checked with at various local Building Departments have all indicated to us that center-of-glass performance results are not really acceptable for Title 24.

Custom Field Built Windows, Frameless Butt Glazing, and Energy Efficiency

This is a thorny problem because field-built windows don't have NFRC ratings.

You can forget about single glazed butt joined corner windows, unless they're small. We recently had a couple of very ambitious glass wall designs, and to our astonishment the one with 67% glass to floor area did OK – eventually – that was because it was all double glazed. Even so, we originally thought it'd need to use triple glazing. Our design client almost had a heart attack. Way too expensive. Eventually we did make it work with double, but they had to make up for it with a lot of HERS tests.

Then we got another design from the same architect that called for miles of single glazed frameless windows including a lot of corner glazing. All single glazed. I thought, "Oh no, we'll finally have to break our commitment to preserving design intent and tell them we can't make it work unless they make the windows smaller! But we've promised to never, ever do that! They'll never call us again." Even there, by counting every possible square inch of interior thermal mass, and pushing them to go to double glazing even for the butt joints, we were able to get it to pass – by 15%, which was a requirement for that particular jurisdiction.



Getting the look of a seamless corner window with double glazing is a challenge, but it's possible. Here's one window detail provided by Swatt|Miers Architects.

Glass Technology

We recently had a question from someone asking what difference the different types of glass such as SolarBan or Cardinal might make. The short version is: refer to the NFRC ratings rather than asking us to evaluate the glass, and bear in mind that some options may cause the glass to appear different. SolarBan 70, which is an option on a lot of Fleetwood window products, offers better performance overall than SolarBan 60 but we had one designer tell us that she didn't like the look of the 70 – "too shiny".

For the low-e glass itself, most of the enhanced energy performance is the various coatings on the glass. The good news though is that new products are always coming out with better and more precise performance.

Further Reading

If your thirst for window knowledge still remains unslaked, here's a good [dissertation on windows](#) from

Louis Petridis

Subject: Market Street DA - Status
Attachments: DOCS_AND_FILES-#11786384-v1-23-29_Market_Street_Referral_letter.pdf

From: Victory, Tom (DPTI) [mailto:Tom.Victory@sa.gov.au]
Sent: Thursday, 10 August 2017 4:06 PM
To: Louis Petridis <louis@lz.com.au>
Cc: Scholes, Benjamin (DPTI) <Benjamin.Scholes@sa.gov.au>
Subject: RE: Market Street DA - Status

Hi Louis

Please see attached referral response from AGA.

You'll note on the whole it is generally positive, however does suggest some refinements.

It is recommended you consider these and whether they can reasonably be incorporated into the scheme.

I foresee that the use of applied finishes could come up at the SCAP meeting as a shortfall, as the new DPA policies do seek that buildings avoid such finishes especially where the building is exceeding general height limits (as is the case in this DA).

I will be out of office all tomorrow however I note Ben should be around should you wish to discuss the contents of the letter.

Please note that 7 Sep is the earliest we could get this matter to the SCAP meeting, pending the matters in the attached letter being worked through, or at least responded to.

Regards

Principal Planner – CBD & Inner Metro Team
Strategic Development Assessment
Planning and Development
Department of Planning, Transport and Infrastructure
(08) 8402 1843 (21843) tom.victory@sa.gov.au
Level 2, GHD Building, 211 Victoria Square, Adelaide SA 5000
967 www.dpti.sa.gov.au

PO Box 1815 Adelaide SA 5001 DX



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File No:
2014/11234/01

9 August 2017

Ref No:
11786384

Mr Tom Victory
Principal Planning Officer
Strategic Development Assessment
Planning and Development
Department of Planning, Transport and Infrastructure
Level 5, 50 Flinders Street
Adelaide SA 5000

For the attention of the
State Commission Assessment Panel (SCAP) (formally DAC)

23-29 Market Street, Adelaide

Further to the referral DA 020/A052/17 received 5 July 2017 and additional material provided 2 August 2017 pertaining to the development application at the above address and in my capacity as a statutory referral in the State Commission Assessment Panel (SCAP), I would like to offer the following comments for your consideration.

The project was presented to the Design Review panel on two occasions, over which period the design progressed. The proponent's positive engagement with the Design Review process is acknowledged.

I support the project team's aspirations to provide hotel and apartment accommodation that positively contributes to the activation of this part of the city. I am of the opinion that any development of this scale in this part of the city has a responsibility to deliver a high quality design outcome particularly in terms of the form, massing, residential amenity and expression of the proposed building relative to its current and future context.

The site is located on the west side of Market Street and north of Wright Street. The subject land is rectangular in shape and has a total approximate site area of 645 square metres. The surrounding area is characterised by a mixture of one to three storey buildings of varying character fronting onto Market Street. Adjacent the site to the north is a three storey Local heritage place, the Adelaide Democratic Club (ADC), designed in 1915. Immediately opposite the site are six Local heritage listed single storey houses. Market Street is a narrow, one way, single lane street with parallel car parking to both sides of the street. Acknowledging the emerging character of the immediate area, this proposal has the potential to positively influence the future context of this part of the city.

The proposal is for a 17 level mixed use development with an above ground height of 58.1 metres to the uppermost point of the facade. In principle I support the

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proposed height, contingent on the proposal achieving a high quality design outcome, particularly in terms of the scale, form, residential amenity, contribution to the public realm and architectural expression of the proposed building relative to its current and future context. The proposed scale in the current predominantly one to three storey context results in a high degree of visibility in 360 degrees. Therefore any development on this site must make a generous and positive contribution to the streetscape and city skyline on all elevations.

In addition to locating the two levels of above ground car parking at the rear of the site, the proposal makes positive contributions to the streetscape with the provision of indoor and outdoor cafe spaces at ground level and public hotel lobby spaces with a feature stair at the ground and mezzanine levels of the podium. I support the design team's ambition to maximise opportunities to activate the current and future streetscape of Market Street through location of services away from the Market Street frontage. I encourage the design team to continue discussions with services consultants and authorities through the next phase of design development to ensure delivery of the design team's ambition.

The proposal intends to define the building into three elements, a base, middle and top, with the design intent to reduce the overall building bulk. The three elements are articulated by horizontal shadow lines created by the provision of recessed building facades at levels four and 12. I support the proposed design approach in principle, and acknowledge that the architectural expression of the three elements has been refined since the last Design Review session to be more consistent with the intended design concept and form composition.

The solid base element from ground floor level to level three, comprises hotel rooms and associated facilities. The ground floor and mezzanine levels of the podium extend to all site boundaries, with the exception of a 3.4 by 5.245 metre recess at the north east corner of the site. I support the provision of the recess and the resultant visual separation between the proposal and the adjacent ADC building. Above the mezzanine level, the podium is set back 3.4 metres from the northern boundary and three metres from the eastern boundary. I strongly support the provision of sufficient setback above the podium form, as in my view, it successfully reinforces the scale of the street and responds positively to the adjacent ADC building and the fine grain character of the area.

The facade of the podium is composed of vertical and horizontal projecting concrete elements that reference the ADC building with regards to building articulation and overall above-ground height. In principle I support the design approach for a contemporary interpretation of the adjacent Local heritage place and acknowledgement of its role in informing the architectural expression of the podium. I also support the rationalisation of the composition of the ground floor elevation to strengthen the reference to the rhythm and pattern of the ADC.

An 'infinity' pool is proposed at level four. While I support the provision of the pool and the associated communal facilities at the top of the podium, I am concerned by the compromised amenity of the pool area. I acknowledge amendments to increase the proposed seating areas with direct solar access, however I recommend further

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review of the areas around the pool to ensure optimum user amenity, including solar access and an integrated approach to landscape design.

The middle element from levels four to 11 comprises hotel rooms and is characterised by a glazed facade articulated by horizontally expressed slab edges and deep aluminium fins in varying colours. While I support the expression of the middle element in general, I recommend use of material with finishes and colours integral to the fabric rather than applied finishes, to ensure longevity, durability and ease of maintenance.

The top 'crown' element from levels 13 to 15 comprises apartments and is separated from the middle element by the transition floor plate on level 12. Vertical blades are proposed to this top element with the intent to appear lightweight and distinctive from the middle and base elements of the building. I am concerned by the intensity and depth of the vertical blades, as they have the potential to compromise the outlook for the residents. I recommend further design development of facade treatments to the upper portion of the building with the view to provide high amenity for the residents with regards to outlook and access to light and ventilation.

A typical hotel floor contains 11 hotel rooms and apartment floors include four to five residential apartments per level. I support the size and layouts of the proposed apartments in general as they afford outlook and access to natural light and ventilation to all habitable rooms. I note the sizes of the apartments and private open spaces meet the minimum requirements of the Development Plan. I recommend review of further opportunities to improve amenity for residents through provision of private open space in excess of the minimum requirements. I also recommend further consideration of provision of natural light and ventilation to the common circulation areas.

The top of the building 'crown' is sloped to maximise the northerly aspect and the efficiency of the solar panels installed on the roof which I support. I also support provision of the communal rooftop garden, in response to the sustainable design requirements for over-height developments set out by the Capital City Development Plan Amendment. I recommend provision of a maintenance strategy for the rooftop garden to ensure successful delivery and longevity of this open space.

Ecologically Sustainable Development (ESD) initiatives include passive design principles of natural ventilation, daylight access and solar shading, and selection of materials, fixtures and fittings which I support. I recommend incorporation of ESD principles in the ongoing design development. I also recommend further analysis of the solar loads to the western facade is undertaken with the view to address any potential heat and glare impacts on user comfort. In my opinion, the architectural expression should reflect the ESD strategies of the project.

I also anticipate as the design progresses, a signage and branding strategy will be developed. In my view, the signage should be an integral element of the overall architectural expression and its night-time presentation should be considered.

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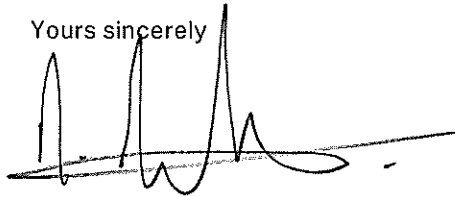
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To ensure the most successful design outcome is achieved, the State Commission Assessment Panel may wish to consider particular aspects of the project which would benefit from protection as part of the planning permission such as:

- Review of painted concrete finishes.
- Further design development of facade treatments to the upper portion of the building with the view to provide high amenity for the residents with regards to outlook and access to light and ventilation.
- Confirmation of the maintenance strategy for the rooftop garden.
- Review of the solar loads to the western facade to ensure loads are adequately addressed.
- Signage and wayfinding strategies that are an integral part of the facade design.
- A high quality of external materials supported by the provision of a materials sample board.

Yours sincerely



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ATTACHMENT 7

DEVELOPMENT PLAN PROVISIONS

The Desired Character, Objectives and Principles of Development Control that follow apply in the whole of the Capital City Zone shown on [Maps Adel/17 to 20, 23 to 26 and 29 to 31](#). They are additional to those expressed for the whole of the Council area and in cases of apparent conflict, take precedence over the more general provisions. In the assessment of development, the greatest weight is to be applied to satisfying the Desired Character for the Zone.

This Zone is the economic and cultural focus of the State and includes a range of employment, community, educational, tourism and entertainment facilities. It is anticipated that an increased population within the Zone will complement the range of opportunities and experiences provided in the City and increase its vibrancy.

The Zone will be active during the day, evening and late night. Licensed entertainment premises, nightclubs and bars are encouraged throughout the Zone, particularly where they are located above or below ground floor level to maintain street level activation during the day and evening.

High-scale development is envisaged in the Zone with high street walls that frame the streets. However an interesting pedestrian environment and human scale will be created at ground floor levels through careful building articulation and fenestration, frequent openings in building façades, verandahs, balconies, awnings and other features that provide weather protection.

In important pedestrian areas, buildings will be set back at higher levels above the street wall to provide views to the sky and create a comfortable pedestrian environment. In narrow streets and laneways the street setback above the street wall may be relatively shallow or non-existent to create intimate spaces through a greater sense of enclosure. In the Central Business Policy Areas, upper level setbacks are not envisaged.

Non-residential land uses at ground floor level that generate high levels of pedestrian activity such as shops, cafés and restaurants will occur throughout the Zone. Within the Central Business Policy Area, residential land uses at ground level are discouraged. At ground level, development will continue to provide visual interest after hours by being well lit and having no external shutters. Non-residential and / or residential land uses will face the street at the first floor level to contribute to street vibrancy.

New development will achieve high design quality by being:

- (a) – so that it responds to its surroundings, recognises and carefully considers the adjacent built form, and positively contributes to the character of the immediate area.
- (b) – by being fit for purpose, adaptable and long lasting, and carefully considers the existing development around it.
- (c) – by integrating landscape design to optimize pedestrian and cyclist usability, privacy, and equitable access, and also promote the provision of quality spaces integrated with the public realm that can be used for access and recreation and help optimize security and safety both internally and into the public realm, for occupants and visitors alike.
- (d) – by integrating sustainable systems into new buildings and the surrounding landscape design to improve environmental performance and minimise energy consumption.
- (e) – by providing natural light and ventilation to habitable spaces.

Contemporary juxtapositions will provide new settings for heritage places. Innovative design is expected in areas of identified street character with an emphasis on contemporary architecture that responds to site context and broader streetscape, while supporting optimal site development. The

addition of height, bulk and massing of new form should be given due consideration in the wider context of the proposed development.

There will also be a rich display of art that is accessible to the public and contextually relevant.

Adelaide's pattern of streets and squares

The distinctive grid pattern of Adelaide will be reinforced through the creation of a series of attractive boulevards as shown on Concept Plan [Figures CC/1 and 2](#). These boulevards will provide a clear sense of arrival into the City and be characterised by buildings that are aligned to the street pattern, particularly at ground level.

Views to important civic landmarks, the Park Lands and the Adelaide Hills will be retained as an important part of the City's charm and character.

The City's boulevards, terraces and Squares will be developed as follows:

- (a) North Terrace will be reinforced as an important pedestrian promenade and cultural boulevard that provides an important northern edge to the City square mile.
- (b) King William Street will be enhanced as the City's principal north-south boulevard and will be reinforced as the City's commercial spine.
- (c) Grote Street-Wakefield Street will be enhanced as the City's principal east-west boulevard and will be developed to provide a strong frame that presents a sense of enclosure to the street.
- (d) East Terrace will be characterised by buildings that maximise views through to the Park Lands and provide a distinct City edge.
- (e) West Terrace will be reinforced as the western 'gateway' to the City centre and will form an imposing frontage to the western City edge. Buildings will be constructed to the front and side boundaries, and designed to maximise views through to the Park Lands. Corner sites at the junctions of West Terrace and the major east-west streets will be developed as strongly defined visual gateways to the City. This will provide an imposing frontage to the western edge of the City, which comprises a mixture of commercial, showroom and residential development.
- (f) Pulteney and Morphett streets are key north-south boulevards. A sense of activation and enclosure of these streets will be enhanced through mixed use development with a strong built form edge. Pulteney Street will include residential, office and institutional uses, and retail activities. These boulevards will become important tree-lined commercial corridors.
- (g) Currie, Grenfell, Franklin and Flinders streets, as wider east-west boulevards provide important entry points to the City. Currie and Grenfell streets will become a key focus for pedestrians, cycling and public transport. These streets also provide long views to the hills as their closing vistas and these view corridors should remain uncluttered.
- (h) Victoria, Hindmarsh and Light Squares will have a continuous edge of medium to high-scale development that frames the Squares and increases ground level activity.

The Zone also includes a number of Main Street areas, encompassing Rundle Mall, Rundle Street, Hindley Street and Gouger Street, which are envisaged to have a wide range of retail, commercial and community uses that generate high levels of activity. These areas will have an intimately scaled built form with narrow and frequent building frontages. These areas are shown on Concept Plan [Figures CC/1 and 2](#).

Development fronting North Terrace, King William Street, Wakefield Street, Grote Street, the Squares, and in the Main Street Policy Area, will reflect their importance through highly contextual design that reflects and responds to their setting and role.

Minor streets and laneways will have a sense of enclosure (a tall street wall compared to street width) and an intimate, welcoming and comfortable pedestrian environment with buildings sited and

composed in a way that responds to the buildings' context. There will be a strong emphasis on ground level activation through frequent window openings, land uses that spill out onto the footpath, and control of wind impacts.

Development in minor streets and laneways with a high value character will respond to important character elements and provide a comfortable pedestrian environment, particularly in the following streets: Gray, Leigh, Union, Chesser, Coromandel, Tucker, Cardwell, Kenton, Market, Ruthven, Cannon, Tatham, Bentham streets, Murrays Lane and Wright Court.

A comprehensive, safe and convenient movement network throughout the City will develop, focusing on the provision of linkages on both public and private land between important destinations and public transport. A high quality system of bicycle or shared pedestrian and bicycle routes will be established within the Zone.

The principal focus for the economic, social and political life of metropolitan Adelaide and the State.

A vibrant mix of commercial, retail, professional services, hospitality, entertainment, educational facilities, and medium and high density living.

Design and management of City living to ensure the compatibility of residential amenity with the essential commercial and leisure functions of the Zone.

City streets that provide a comfortable pedestrian environment.

Innovative design approaches and contemporary architecture that respond to a building's context.

Buildings that reinforce the gridded layout of Adelaide's streets and respond to the underlying built-form framework of the City.

Large sites developed to their full potential while ensuring a cohesive scale of development and responding to a building's context.

Development that contributes to the Desired Character of the Zone.

The following types of development, or combinations thereof, are envisaged:

- Affordable housing
- Aged persons accommodation
- Community centre
- Consulting room
- Convention centre
- Dwelling
- Educational establishment
- Emergency services facility
- Hospital
- Hotel
- Indoor recreation centre
- Licensed entertainment premises
- Library
- Motel
- Office
- Pre-school

Personal service establishment
Place of worship
Serviced apartment
Restaurant
Residential flat building
Student accommodation
Shop or group of shops
Tourist accommodation

Land uses that are typically closed during the day should be designed to maximise daytime and evening activation at street level and be compatible with surrounding land uses, in particular residential development.

Low impact industries should be located outside the Central Business Policy Area and have minimal off-site impacts with respect to noise, air, water and waste emissions, traffic generation and movement.

Development listed as non-complying is generally inappropriate.

Development should be consistent with the Desired Character for the Zone.

Development should be of a high standard of architectural design and finish which is appropriate to the City's role and image as the capital of the State.

Buildings should achieve a high standard of external appearance by:

- (a) the use of high quality materials and finishes. This may be achieved through the use of materials such as masonry, natural stone, prefinished materials that minimise staining, discolouring or deterioration, and avoiding painted surfaces particularly above ground level;
- (b) providing a high degree of visual interest through articulation, avoiding any large blank facades, and incorporating design features within blank walls on side boundaries which have the potential to be built out;
- (c) ensuring lower levels are well integrated with, and contribute to a vibrant public realm; and
- (d) ensuring any ground and first floor level car parking elements are sleeved by residential or non-residential land uses (such as shops, offices and consulting rooms) to ensure an activated street frontage.

Buildings should present an attractive pedestrian-oriented frontage that adds interest and vitality to City streets and laneways.

The finished ground floor level of buildings should be at grade and/or level with the footpath to provide direct pedestrian access and street level activation.

Providing footpath widths and street tree growth permit, development should contribute to the comfort of pedestrians through the incorporation of verandahs, balconies, awnings and/or canopies that provide pedestrian shelter.

Buildings should be positioned regularly on the site and built to the street frontage, except where a setback is required to accommodate outdoor dining or provide a contextual response to a heritage place.

Buildings should be designed to include a podium/street wall height and upper level setback (in the order of 3-6 metres) that:

- (a) relates to the scale and context of adjoining built form;

- (b) provides a human scale at street level;
- (c) creates a well-defined and continuity of frontage;
- (d) gives emphasis and definition to street corners to clearly define the street grid;
- (e) contributes to the interest, vitality and security of the pedestrian environment;
- (f) maintains a sense of openness to the sky for pedestrians and brings daylight to the street;
and
- (g) achieves pedestrian comfort by minimising micro climatic impacts (particularly shade/shelter, wind tunnelling and downward drafts);

other than (h) or (i):

- (h) in the Central Business Policy Area;
- (i) where a lesser (or zero) upper level setback and/or podium height is warranted to correspond with and complement the form of adjacent development, in which case alternative design solutions should be included to achieve a cohesive streetscape, provided parts (b) to (g) are still achieved.

Buildings north of Rundle Mall, Rundle Street, Hindley Street and Gouger Street should have a built form that incorporates slender tower elements, spaces between buildings or other design techniques that enable sunlight access to the southern footpath.

Buildings, advertisements, site landscaping, street planting and paving should have an integrated, coordinated appearance and should enhance the urban environment.

Building façades should be strongly modelled, incorporate a vertical composition which reflects the proportions of existing frontages, and ensure that architectural detailing is consistent around corners and along minor streets and laneways.

Development that exceeds the maximum building height shown in Concept Plan [Figures CC/1 and 2](#), and meets the relevant quantitative provisions should demonstrate a significantly higher standard of design outcome in relation to qualitative policy provisions including site configuration that acknowledges and responds to the desired future character of an area but that also responds to adjacent conditions (including any special qualities of a locality), pedestrian and cyclist amenity, activation, sustainability, and public realm and streetscape contribution.

The Squares (Victoria, Hindmarsh and Light)

Outdoor eating and drinking facilities associated with cafés and restaurants are appropriate ground floor uses and should contribute to the vitality of the Squares and create a focus for leisure.

Buildings fronting the Squares should:

- (a) provide a comfortable pedestrian and recreation environment by enabling direct sunlight to a minimum of 75 percent of the landscaped part of each Square at the September equinox;
and
- (b) reinforce the enclosure of the Squares with a continuous built-form with no upper level setbacks.

The Terraces (North, East and West)

Development along the terraces should contribute to a continuous built form to frame the City edge and activate the Park Lands.

Development along North Terrace should reinforce the predominant scale and 'City wall' character of the Terrace frontage.

Development should not exceed the maximum building height shown in Concept Plan [Figures CC/1 and 2](#) unless;

- (a) it is demonstrated that the development reinforces the anticipated city form in Concept Plan [Figures CC/1 and 2](#), and
- (b) only if:
 - (i) at least two of the following features are provided:
 - (1) the development provides an orderly transition up to an existing taller building or prescribed maximum building height in an adjoining Zone or Policy Area;
 - (2) the development incorporates the retention, conservation and reuse of a building which is a listed heritage place;
 - (3) high quality universally accessible open space that is directly connected to, and well integrated with, public realm areas of the street;
 - (4) universally accessible, safe and secure pedestrian linkages that connect through the development site as part of the cities pedestrian network on [Map Adel/1 \(Overlay 2A\)](#);
 - (5) on site car parking does not exceed a rate of 0.5 spaces per dwelling, car parking areas are adaptable to future uses or all car parking is provided underground;
 - (6) residential, office or any other actively occupied use is located on all of the street facing side of the building, with any above ground car parking located behind;
 - (7) a range of dwelling types that includes at least 10% of 3+ bedroom apartments;
 - (8) more than 15 per cent of dwellings as affordable housing.
 - (ii) plus all of the following sustainable design measures are provided:
 - (1) a rooftop garden covering a majority of the available roof area supported by services that ensure ongoing maintenance;
 - (2) a greenroof, or greenwalls / façades supported by services that ensure ongoing maintenance;
 - (3) innovative external shading devices on all of the western side of a street facing façade; and
 - (4) higher amenity through provision of private open space in excess of minimum requirements, access to natural light and ventilation to all habitable spaces and common circulation areas.

Development should have optimal height and floor space yields to take advantage of the premium City location and should have a building height no less than half the maximum shown on Concept Plan [Figures CC/1 and 2](#), or 28 metres in the Central Business Policy Area, except where one or more of the following applies:

- (a) a lower building height is necessary to achieve compliance with the Commonwealth Airports (Protection of Airspace) Regulations;

- (b) the site is adjacent to the City Living Zone or the Adelaide Historic (Conservation) Zone and a lesser building height is required to manage the interface with low-rise residential development;
- (c) the site is adjacent to a heritage place, or includes a heritage place;
- (d) the development includes the construction of a building in the same, or substantially the same, position as a building which was demolished, as a result of significant damage caused by an event, within the previous 3 years where the new building has the same, or substantially the same, layout and external appearance as the previous building.

Development should manage the interface with the City Living Zone or the Adelaide Historic (Conservation) Zone in relation to building height, overshadowing, massing, building proportions and traffic impacts and should avoid land uses, or intensity of land uses, that adversely affect residential amenity.

Development on all sites on the southern side of Gouger Street - Angas Street and adjacent to a northern boundary of the City Living Zone or the Adelaide Historic (Conservation) Zone should not exceed 22 metres in building height unless the Council Wide overshadowing Principles of Development Control are met.

Parts of a development that exceed the prescribed maximum building height shown on Concept Plan [Figures CC/1 and 2](#) that are directly adjacent to the City Living, Main Street (Adelaide) and Adelaide Historic (Conservation) Zone boundaries should be designed to minimise visual impacts on sensitive uses in the adjoining zones and to maintain the established or desired future character of the area. This may be achieved through a number of techniques such as additional setback, avoiding tall sheer walls, centrally locating taller elements, providing variation of light and shadow through articulation to provide a sense of depth and create visual interest, and the like.

Pedestrian movement should be based on a network of pedestrian malls, arcades and lanes, linking the surrounding Zones and giving a variety of north-south and east-west links.

Development should provide pedestrian linkages for safe and convenient movement with arcades and lanes clearly designated and well-lit to encourage pedestrian access to public transport and areas of activity. Blank surfaces, shutters and solid infills lining such routes should be avoided.

Development should ensure existing through-site and on-street pedestrian links are maintained and new pedestrian links are developed in accordance with [Map Adel/1 \(Overlay 2A\)](#).

Car parking should be provided in accordance with [Table Adel/7](#).

Multi-level car parks should locate vehicle access points away from the primary street frontage wherever possible and should not be located:

- (a) within any of the following areas:
 - (i) the Core Pedestrian Area identified in [Map Adel/1 \(Overlays 2, 2A and 3\)](#)
 - (ii) on frontages to North Terrace, East Terrace, Rundle Street, Hindley Street, Currie Street, Waymouth Street (east of Light Square), Victoria Square or King William Street;
- (b) where they conflict with existing or projected pedestrian movement and/or activity;
- (c) where they would cause undue disruption to traffic flow; and
- (d) where it involves creating new crossovers in North Terrace, Rundle Street, Hindley Street, Currie Street and Waymouth Street (east of Light Square), Grenfell Street and Pirie Street

(west of Pulteney Street), Victoria Square, Light Square, Hindmarsh Square, Gawler Place and King William Street or access across primary City access and secondary City access roads identified in [Map Adel/1 \(Overlay 1\)](#).

Multi-level, non-ancillary car parks are inappropriate within the Core Pedestrian Area as shown on [Map Adel/1 \(Overlays 2, 2A and 3\)](#).

Vehicle parking spaces and multi-level vehicle parking structures within buildings should:

- (a) enhance active street frontages by providing land uses such as commercial, retail or other non-car park uses along ground floor street frontages;
- (b) complement the surrounding built form in terms of height, massing and scale; and
- (c) incorporate façade treatments along major street frontages that are sufficiently enclosed and detailed to complement neighbouring buildings consistent with the Desired Character of the locality.

Other than signs along Hindley Street, advertisements should use simple graphics and be restrained in their size, design and colour.

In minor streets and laneways, a greater diversity of type, shape, numbers and design of advertisements are appropriate provided they are of a small-scale and located to present a consistent message band to pedestrians.

There should be an overall consistency achieved by advertisements along individual street frontages.

In Chesser Street, French Street and Coromandel Place advertisements should be small and preferably square and should not be located more than 3.7 metres above natural ground level or an abutting footpath or street. However, advertisements in these streets may be considered above 3.7 metres at locations near the intersections with major streets.

Advertisements on the Currie Street frontages between Topham Mall and Gilbert Place and its north-south prolongation should be of a size, shape and location complementary to the desired townscape character, with particular regard to the following:

- (a) On the southern side of Currie Street, advertisements should be fixed with their underside at a common height, except where the architectural detailing of building façades precludes it. At this 'canopy' level advertisements should be of a uniform size and fixed without the support of guy wires. Where architectural detailing permits, advertisements may mark the major entrances to buildings along the southern side of Currie Street with vertical projecting advertisements 1.5 metres high by 1.2 metres wide at, or marginally above, the existing canopy level. Painted wall or window signs should be restrained.
- (b) On the northern side of Currie Street, advertisements should be of a uniform fixing height and consistent dimensions to match those prevailing in the area.

Complying developments are prescribed in Schedule 4 of the *Development Regulations 2008*.

In addition, the following forms of development are assigned as :

- (a) Other than in relation to a State heritage place, Local heritage place (City Significance), or Local heritage place, work undertaken within a building which does not involve a change of use or affect the external appearance of the building;

- (b) Temporary depot for Council for a period of no more than 3 months where it can be demonstrated that appropriate provision has been made for:
 - (i) dust control;
 - (ii) screening, including landscaping;
 - (iii) containment of litter and water; and
 - (iv) securing of the site.
- (c) Change in the use of land from a non-residential use to an office, shop or consulting room (excluding any retail showroom, adult entertainment premises, adult products and services premises or licensed premises).

The following kinds of development are :

A change in use of land to any of the following:

Amusement machine centre

Advertisements involving any of the following:

- (a) third party advertising except on Hindley Street, Rundle Mall or on allotments at the intersection of Rundle Street and Pulteney Street, or temporary advertisements on construction sites;
- (b) advertisements located at roof level where the sky or another building forms the background when viewed from ground level;
- (c) advertisements in the area bounded by West Terrace, Grote Street, Franklin Street and Gray Street;
- (d) animation of advertisements along and adjacent to the North Terrace, King William Street and Victoria Square frontages.

Total demolition of a State Heritage Place (as identified in [Table Adel/1](#)).

Vehicle parking except:

- (a) where it is ancillary to an approved or existing use;
- (b) it is a multi-level car park located outside the Core Pedestrian Area as indicated on [Map Adel/1 \(Overlay 2, 2A and 3\)](#); or
- (c) it is within an existing building located outside the Core Pedestrian Area as indicated on [Map Adel/1 \(Overlay 2, 2A and 3\)](#).

Categories of public notification are prescribed in Schedule 9 of the *Development Regulations 2008*.

In addition, the following forms of development, or any combination of (except where the development is non-complying), are assigned:

- (a) , public notification not required:

All forms of development other than where it is assigned Category 2.

- (b) , public notification required. Third parties do not have any appeal rights.

Any development where the site of the development is adjacent land to land in the City Living Zone or Adelaide Historic (Conservation) Zone and it exceeds 22 metres in building height.

Note: For Category 3 development, public notification is required. Third parties may make written representations, appear before the relevant authority on the matter, and may appeal against a development consent. This includes any development not classified as either Category 1 or Category 2.

City Living

Housing Choice

A variety of housing options which supplement existing types of housing and suit the widely differing social, cultural and economic needs of all existing and future residents.

A range of long and short term residential opportunities to increase the number and range of dwellings available whilst protecting identified areas of special character and improving the quality of the residential environment.

A broad range of accommodation to meet the needs of low income, disadvantaged and groups with complex needs whilst ensuring integration with existing residential communities.

Development should comprise of a range of housing types, tenures and cost, to meet the widely differing social and economic needs of residents.

Medium to High Scale Residential/Serviced Apartment

Medium to high scale residential (including student accommodation) or serviced apartment development that:

- (a) has a high standard of amenity and environmental performance;
- (b) comprises functional internal layouts;

- (c) is adaptable to meet a variety of accommodation and living needs; and
- (d) includes well-designed and functional recreation and storage areas.

Entrances to medium to high scale residential or serviced apartment development should:

- (a) be oriented towards the street;
- (b) be visible and easily identifiable from the street; and
- (c) provide shelter, a sense of personal address and transitional space around the entry.

Entrances to individual dwellings or apartments within medium to high scale residential or serviced apartment development should:

- (a) be located as close as practical to the lift and/or lobby access and minimise the need for long access corridors;
- (b) be clearly identifiable; and

avoid the creation of potential areas for entrapment.

Medium to high scale residential or serviced apartment development should be designed to maximise opportunities to facilitate natural ventilation and capitalise on natural daylight and minimise the need for artificial lighting during daylight hours.

Medium to high scale residential or serviced apartment development should be designed and located to maximise solar access to dwellings and communal open space on the norther facade.

All new medium to high scale residential or serviced apartment development should have direct ventilation and natural light.

The maximum distance of a habitable room such as a living, dining, bedroom or kitchen from a window providing natural light and ventilation to that room is 8 metres.

Light wells should not be used as the primary source of daylight for living rooms to ensure a sufficient level of outlook and daylight.

Medium to high scale residential or serviced apartment development should be designed to ensure living areas, private open space or communal open space, where such communal open space provides the primary area of private open space, are the main recipients of sunlight.

Medium to high scale residential or serviced apartment development should locate living areas, private open space and communal open space, where such communal open space provides the primary area of private open space, where they will receive sunlight and, where possible, should maintain at least two hours of direct sunlight solar time on 22 June to:

- (a) at least one habitable room window (excluding bathroom, toilet, laundry or storage room windows);
- (b) to at least 20 percent of the private open space; and
- (c) communal open space, where such communal open space provides the primary private open space for any adjacent residential development.

Natural cross ventilation of habitable rooms should be achieved by the following methods:

- (a) positioning window and door openings in different directions to encourage cross ventilation from cooling summer breezes;
- (b) installing small low level windows on the windward side and larger raised openings on the leeward side to maximise airspeed in the room;
- (c) installing higher level casement or sash windows, clerestory windows or operable fanlight windows to facilitate convective currents;
- (d) selecting windows which the occupants can reconfigure to funnel breezes such as vertical louvred, casement windows and externally opening doors;
- (e) ensuring the internal layout minimises interruptions to airflow;
- (f) limiting building depth to allow for ease of cross ventilation; and/or
- (g) draught proofing doors, windows and other openings.

Medium to high scale residential development and serviced apartments should provide the following private open space:

- (a) studio (where there is no separate bedroom): no minimum requirement but some provision is desirable.
- (b) 1 bedroom dwelling/apartment: 8 square metres.
- (c) 2 bedroom dwelling/apartment: 11 square metres.
- (d) 3+ bedroom dwelling/apartment: 15 square metres.

A lesser amount of private open space may be considered appropriate in circumstances where the equivalent amount of open space is provided in a communal open space accessible to all occupants of the development.

Private open space for 2 or more bedroom dwellings/apartments may be divided into different areas whilst private open space for studios or 1 bedroom dwelling/apartments should be in a single area.

Areas used for parking of motor vehicles are not included as private open space.

Medium to high scale residential (other than student accommodation) or serviced apartment development should ensure direct access from living areas to private open space areas, which may take the form of balconies, terraces, decks or other elevated outdoor areas provided the amenity and visual privacy of adjacent properties is protected.

Other than for student accommodation, private open space should have a minimum dimension of 2 metres and should be well proportioned to be functional and promote indoor/outdoor living.

Balconies should be integrated into the overall architectural form and detail of the development and should:

- (a) utilise sun screens, pergolas, shutters and openable walls to control sunlight and wind;
- (b) be cantilevered, partially cantilevered and/or recessed in response to daylight, wind, acoustic and visual privacy;
- (c) be of a depth that ensures sunlight can enter the dwelling below; and

- (d) allow views and casual surveillance of the street while providing for safety and visual privacy.

Secondary balconies, including Juliet balconies or operable walls with balustrades should be considered, subject to overlooking and privacy, for additional amenity and choice.

For clothes drying, balconies off laundries or bathrooms and roof top areas should be screened from public view.

The incorporation of roof top gardens is encouraged providing it does not result in unreasonable overlooking or loss of privacy.

Medium to high scale residential or serviced apartment development should be designed and sited to minimise the potential overlooking of habitable rooms such as bedrooms and living areas of adjacent development.

A habitable room window, balcony, roof garden, terrace or deck should be set-back from boundaries with adjacent sites at least three metres to provide an adequate level of amenity and privacy and to not restrict the reasonable development of adjacent sites

Medium to high scale residential or serviced apartment development close to high noise sources (e.g. major roads, established places of entertainment and centres of activity) should be designed to locate noise sensitive rooms and private open space away from noise sources, or be protected by appropriate shielding techniques.

Attached or abutting dwellings/apartments should be designed to minimise the transmission of sound between dwellings and, in particular, to protect bedrooms from possible noise intrusions.

Medium to high scale residential or serviced apartment development should provide a high quality living environment by ensuring the following minimum internal floor areas:

- (a) studio (where there is no separate bedroom): 35 square metres.
- (b) 1 bedroom dwelling/apartment: 50 square metres
- (c) 2 bedroom dwelling/apartment: 65 square metres
- (d) 3+ bedroom dwelling/apartment: 80 square metres plus an additional 15 square metres for every additional bedroom over 3 bedrooms.

Note: Dwelling/apartment "unit size" includes internal storage areas but does not include balconies or car parking as part of the calculation.

Internal structural columns should correspond with the position of internal walls to ensure that the space within the dwelling/apartment is useable.

Within medium to high scale residential or serviced apartment development, dwelling/apartment layouts should be adaptable to accommodate:

- (a) a range of activities and privacy levels between different spaces;
- (b) flexible room sizes and proportions;

- (c) efficient circulation to optimise the functionality of floor space within rooms; and
- (d) the future reuse of student accommodation as residential apartments through a design and layout that allows individual apartments to be reconfigured into a larger dwelling or other alternative use.

Design Technique (this is ONE WAY of meeting the above Principle)

72.1 *Design solutions may include:*

- (a) *windows in all habitable rooms and to the maximum number of non-habitable rooms;*
- (b) *adequate room sizes or open plan dwellings which provide a range of furniture layout options; and/or*
- (c) *dual master bedrooms that can support two independent adults living together or a live/work situation.*

All medium to high scale residential or serviced apartment development should be designed to ensure the living rooms have a satisfactory external outlook. Living rooms that do not have an outlook or the only source of outlook is through high level windows or a skylight are not considered to provide an appropriate level of amenity for the occupiers

Note: Outlook is a short range prospect and is distinct from a view which is more extensive and long range to particular objects or geographic features.

Light wells may be used as a source of daylight, ventilation, outlook and sunlight for medium to high scale residential or serviced apartment development provided that:

- (a) living rooms do not have lightwells as their only source of outlook;
- (b) lightwells up to 18 metres in height have a minimum horizontal dimension of 3 metres or 6 metres if overlooked by bedrooms; and
- (c) lightwells higher than 18 metres in height have a minimum horizontal dimension of 6 metres or 9 metres if overlooked by bedrooms.

Safe and convenient on-site car parking for resident and visitor vehicles.

To ensure an adequate provision of on-site parking, car parking should be provided for medium to high scale residential (other than student accommodation) or serviced apartment development in accordance with [Table Adel/7](#).

Garages and parking structures associated with medium to high scale residential or serviced apartment development should be located so that they do not visually dominate the street frontage.

Car parking areas should be designed and located to:

- (a) be close and convenient to dwellings/apartments;
- (b) be lit at night;

- (c) be well ventilated if enclosed;
- (d) avoid headlight glare into windows; and
- (e) clearly define visitor parking.

Where garages are located within a basement or undercroft:

- (a) the width of access driveways should be kept to a minimum and should not detract from the streetscape;
- (b) driveways should be designed to ensure safe and convenient access and egress;
- (c) access should be restricted to one driveway or one point of access and egress;
- (d) vehicles should be able to safely exit in a forward direction and should not compromise pedestrian safety or cause conflict with other vehicles; and
- (e) the height of the car park ceiling should not exceed one metre above the finished ground floor level to ensure minimal impact on the streetscape.

Fencing and walls should:

- (a) be articulated and detailed to provide visual interest;
- (b) assist the development to address the street;
- (c) assist in the provision of safety and surveillance;
- (d) assist in highlighting entrances; and
- (e) enable visibility of buildings from and to the street.

Site facilities should be readily accessible to each dwelling/serviced apartment, complement the development and relevant desired character and should include:

- (a) a common mail box structure located close to the main pedestrian entrance;
- (b) areas for the storage and collection of goods, materials, refuse and waste including facilities to enable the separation of recyclable materials as appropriate to the size and nature of the development and screened from public view; and
- (c) external clothes drying areas for residential dwellings that do not incorporate ground level open space.

Medium to high scale residential (other than student accommodation) or serviced apartment development should provide adequate and accessible storage facilities for the occupants at the following minimum rates:

- (a) studio: 6 cubic metres
- (b) 1 bedroom dwelling/apartment: 8 cubic metres
- (c) 2 bedroom dwelling/apartment: 10 cubic metres
- (d) 3+ bedroom dwelling/apartment: 12 cubic metres

50 percent of the storage space should be provided within the dwelling/apartment with the remainder provided in the basement or other communal areas.

Environmental

Crime Prevention Through Urban Design

A safe and secure, crime resistant environment that:

- (a) ensures that land uses are integrated and designed to facilitate natural surveillance;
- (b) promotes building and site security; and
- (c) promotes visibility through the incorporation of clear lines of sight and appropriate lighting.

Development should promote the safety and security of the community in the public realm and within development. Development should:

- (a) promote natural surveillance of the public realm, including open space, car parks, pedestrian routes, service lanes, public transport stops and residential areas, through the design and location of physical features, electrical and mechanical devices, activities and people to maximise visibility by:
 - (i) orientating windows, doors and building entrances towards the street open spaces, car parks, pedestrian routes and public transport stops;
 - (ii) avoiding high walls, blank facades, carports and landscaping that obscures direct views to public areas;
 - (iii) arranging living areas, windows, pedestrian paths and balconies to overlook recreation areas, entrances and car parks;
 - (iv) positioning recreational and public space areas so they are bound by roads on at least two road frontages or overlooked by development;
 - (v) creating a complementary mix of day and night-time activities, such as residential, commercial, recreational and community uses, that extend the duration and level of intensity of public activity;
 - (vi) locating public toilets, telephones and other public facilities with direct access and good visibility from well-trafficked public spaces;
 - (vii) ensuring that rear service areas and access lanes are either secured or exposed to surveillance; and
 - (viii) ensuring the surveillance of isolated locations through the use of audio monitors, emergency telephones or alarms, video cameras or staff eg by surveillance of lift and toilet areas within car parks.
- (b) provide access control by facilitating communication, escape and path finding within development through legible design by:
 - (i) incorporating clear directional devices;
 - (ii) avoiding opportunities for concealment near well travelled routes;
 - (iii) closing off or locking areas during off-peak hours, such as stairwells, to concentrate access/exit points to a particular route;

- (iv) use of devices such as stainless steel mirrors where a passage has a bend;
 - (v) locating main entrances and exits at the front of a site and in view of a street;
 - (vi) providing open space and pedestrian routes which are clearly defined and have clear and direct sightlines for the users; and
 - (vii) locating elevators and stairwells where they can be viewed by a maximum number of people, near the edge of buildings where there is a glass wall at the entrance.
- (c) promote territoriality or sense of ownership through physical features that express ownership and control over the environment and provide a clear delineation of public and private space by:
- (i) clear delineation of boundaries marking public, private and semi-private space, such as by paving, lighting, walls and planting;
 - (ii) dividing large development sites into territorial zones to create a sense of ownership of common space by smaller groups of dwellings; and
 - (iii) locating main entrances and exits at the front of a site and in view of a street.
- (d) provide awareness through design of what is around and what is ahead so that legitimate users and observers can make an accurate assessment of the safety of a locality and site and plan their behaviour accordingly by:
- (i) avoiding blind sharp corners, pillars, tall solid fences and a sudden change in grade of pathways, stairs or corridors so that movement can be predicted;
 - (ii) using devices such as convex security mirrors or reflective surfaces where lines of sight are impeded;
 - (iii) ensuring barriers along pathways such as landscaping, fencing and walls are permeable;
 - (iv) planting shrubs that have a mature height less than one metre and trees with a canopy that begins at two metres;
 - (v) adequate and consistent lighting of open spaces, building entrances, parking and pedestrian areas to avoid the creation of shadowed areas; and
 - (vi) use of robust and durable design features to discourage vandalism.

Residential development should be designed to overlook streets, public and communal open space to allow casual surveillance

To maximise security and safety, buildings should be designed to minimise access between roofs, balconies and windows of adjacent buildings.

Security features should be incorporated within the design of shop fronts to complement the design of the frontage and allow window shopping out of hours. If security grilles are provided, these should:

- (a) be transparent and illuminated to complement the appearance of the frontage;
- (b) provide for window shopping; and
- (c) allow for the spill of light from the shop front onto the street.

Solid shutters with less than 75 percent permeability are not acceptable.

Public toilets should be designed and located to:

- (a) promote the visibility of people entering and exiting the facility by avoiding recessed entrances and dense shrubbery which obstructs passive surveillance;
- (b) limit opportunities for vandalism through the use of vandal proof lighting on the public toilet buildings and nearby;
- (c) avoid features which facilitate loitering, such as seating or telephones immediately adjacent the structure; and
- (d) maximise surveillance through location near public transport links, pedestrian and cyclist networks.

Operating Hours and Associated Activities of Licensed Premises

Operating hours of licensed premises or licensed entertainment premises, together with associated activities of such premises, established and operated so as to reinforce the desired character of the locality and appropriate behavioural activities

Licensed premises and licensed entertainment premises or similar should:

- (a) be located, designed and operated in order to reinforce the desired character of a locality, as expressed in the relevant Zone or Policy Area;
- (b) be located, designed and operated so as to not negatively impact on peoples orderly use and enjoyment of a locality, such as through disorderly behavioural activities and/or disorderly behavioural movement to and from such land uses; and
- (c) incorporate best practice measures to effectively manage the behaviour of users moving to and from such land uses.

Licensed premises and licensed entertainment premises or similar should operate with operating hours to reinforce the desired character of the locality.

Noise Emissions

Development that does not unreasonably interfere with the desired character of the locality by generating unduly annoying or disturbing noise.

Noise sensitive development designed to protect its occupants from existing noise sources and from noise sources contemplated within the relevant Zone or Policy Area and that does not unreasonably interfere with the operation of non-residential uses contemplated within the relevant Zone or Policy Area.

Development with potential to emit significant noise (including licensed entertainment premises and licensed premises) should incorporate appropriate noise attenuation measures in to their design to prevent noise from causing unreasonable interference with the amenity and desired character of the locality, as contemplated in the relevant Zone and Policy Area.

Development of licensed premises or licensed entertainment premises or similar in or adjacent to a City Living Zone, the Adelaide Historic (Conservation) Zone or the North Adelaide Historic (Conservation) Zone should include noise attenuation measures to achieve the following when assessed at the nearest existing or envisaged future noise sensitive development:

- (a) the music noise ($L_{10, 15 \text{ min}}$) is:
 - (i) less than 8 dB above the level of background noise² ($L_{90,15 \text{ min}}$) in any octave band of the sound spectrum; and
 - (ii) less than 5 dB(A) above the level of background noise ($L_{A 90,15 \text{ min}}$) for the overall (sum of all octave bands) A-weighted level.

Development of licensed premises or licensed entertainment premises or similar in the Capital City, Main Street, Mixed Use and City Frame Zones should include noise attenuation measures to achieve the following when assessed at:

- (a) the nearest existing noise sensitive location in or adjacent to that Zone:
 - (i) music noise ($L_{10, 15 \text{ min}}$) less than 8 dB above the level of background noise ($L_{90,15 \text{ min}}$) in any octave band of the sound spectrum; and
 - (ii) music noise ($L_{A10, 15 \text{ min}}$) less than 5 dB(A) above the level of background noise ($L_{A90,15 \text{ min}}$) for the overall (sum of all octave bands) A-weighted levels; or
- (b) the nearest envisaged future noise sensitive location in or adjacent to that Zone:
 - (i) music noise ($L_{10, 15 \text{ min}}$) less than 8dB above the level of background noise ($L_{90,15 \text{ min}}$) in any octave band of the sound spectrum and music noise ($L_{10, 15 \text{ min}}$) less than 5dB(A) above the level of background noise ($L_{A90,15 \text{ min}}$) for the overall (sum of all octave bands) A-weighted levels; or
 - (ii) music noise ($L_{10, 15 \text{ min}}$) less than 60dB(Lin) in any octave band of the sound spectrum and the overall ($L_{A10,15 \text{ min}}$) noise level is less than 55 dB(A).

Mechanical plant or equipment should be designed, sited and screened to minimise noise impact on adjacent premises or properties. The noise level associated with the combined operation of plant and equipment such as air conditioning, ventilation and refrigeration systems when assessed at the nearest existing or envisaged noise sensitive location in or adjacent to the site should not exceed

- (a) 55 dB(A) during daytime (7.00am to 10.00pm) and 45 dB(A) during night time (10.00pm to 7.00am) when measured and adjusted in accordance with the relevant environmental noise legislation except where it can be demonstrated that a high background noise exists.
- (b) 50 dB(A) during daytime (7.00am to 10.00pm) and 40 dB(A) during night time (10.00pm to 7.00am) in or adjacent to a City Living Zone, the Adelaide Historic (Conservation) Zone, the North Adelaide Historic (Conservation) Zone or the Park Lands Zone when measured and adjusted in accordance with the relevant environmental noise legislation except where it can be demonstrated that a high background noise exists.

To ensure minimal disturbance to residents:

- (a) ancillary activities such as deliveries, collection, movement of private waste bins, goods, empty bottles and the like should not occur:
 - (i) after 10.00pm; and
 - (ii) before 7.00am Monday to Saturday or before 9.00am on a Sunday or Public Holiday.

- (b) typical activity within any car park area including vehicles being started, doors closing and vehicles moving away from the premises should not result in sleep disturbance when proposed for use after 10.00pm as defined by the limits recommended by the World Health Organisation.

Noise sensitive development should incorporate adequate noise attenuation measures into their design and construction to provide occupants with reasonable amenity when exposed to noise sources such as major transport corridors (road, rail, tram and aircraft), commercial centres, entertainment premises and the like, and from activities and land uses contemplated in the relevant Zone and Policy Area provisions.

Noise sensitive development in mixed use areas should not unreasonably interfere with the operation of surrounding non-residential uses that generate noise levels that are commensurate with the envisaged amenity of the locality.

Noise sensitive development adjacent to noise sources should include noise attenuation measures to achieve the following:

- (a) satisfaction of the sleep disturbance criteria in the bedrooms or sleeping areas of the development as defined by the limits recommended by the World Health Organisation;
- (b) the maximum satisfactory levels in any habitable room for development near major roads, as provided in the Australian/New Zealand Standard AS/NZS 2107:2000 - 'Acoustics - Recommended Design Sound Levels and Reverberation Times for Building Interiors'; and
- (c) noise level in any bedroom, when exposed to music noise (L_{10}) from existing entertainment premises, being:
 - (i) less than 8 dB above the level of background noise ($L_{90,15 \text{ min}}$) in any octave band of the sound spectrum; and
 - (ii) less than 5 dB(A) above the level of background noise ($L_{A90,15 \text{ min}}$) for the overall (sum of all octave bands) A-weighted levels

Background noise within the habitable room can be taken to be that expected in a typical residential/apartment development of the type proposed, that is inclusive of internal noise sources such as air conditioning systems, refrigerators and the like as deemed appropriate.

Waste Management

Development which supports high local environmental quality, promotes waste minimisation, re-use and recycling, encourages waste water, grey water and stormwater re-use and does not generate unacceptable levels of air, liquid or solid pollution.

A dedicated area for on-site collection and sorting of recyclable materials and refuse should be provided within all new development.

A dedicated area for the collection and sorting of construction waste and the recycling of building materials during construction as appropriate to the size and nature of the development should be provided and screened from public view.

Development greater than 2 000 square metres of total floor area should manage waste by:

- (a) containing a dedicated area for the collection and sorting of construction waste and recyclable building materials;
- (b) on-site storage and management of waste;
- (c) disposal of non-recyclable waste; and
- (d) incorporating waste water and stormwater re-use including the treatment and re-use of grey water.

Development should not result in emission of atmospheric, liquid or other pollutants, or cause unacceptable levels of smell and odour which would detrimentally affect the amenity of adjacent properties or its locality. Land uses such as restaurants, shops, cafés or other uses that generate smell and odour should:

- (a) ensure extraction flues, ventilation and plant equipment are located in appropriate locations that will not detrimentally affect the amenity of adjacent occupiers in terms of noise, odours and the appearance of the equipment;
- (b) ensure ventilation and extraction equipment and ducting have the capacity to clean and filter the air before being released into the atmosphere; and
- (c) ensure the size of the ventilation and extraction equipment is suitable and has the capacity to adequately cater for the demand generated by the potential number of patrons.

Contaminated Sites

A safe and healthy living and working environment

Where there is evidence of, or reasonable suspicion that land, buildings and/or water, including underground water, may have been contaminated, or there is evidence of past potentially contaminating activity/ies, development should only occur where it is demonstrated that the land, buildings and/or water can be made suitable for its intended use prior to commencement of that use.

Energy Efficiency

Development which is compatible with the long term sustainability of the environment, minimises consumption of non-renewable resources and utilises alternative energy generation systems.

Buildings should provide adequate thermal comfort for occupants and minimise the need for energy use for heating, cooling and lighting by:

- (a) providing an internal day living area with a north-facing window, other than for minor additions*, by:
 - (i) arranging and concentrating main activity areas of a building to the north for solar penetration; and

* Minor additions have a floor area less than 50 percent of the existing dwelling and do not include a day living area.

- (ii) placing buildings on east-west allotments against or close to the southern boundary to maximise northern solar access and separation to other buildings to the north.
- (b) efficient layout, such as zoning house layout to enable main living areas to be separately heated and cooled, other than for minor additions;
- (c) locating, sizing and shading windows to reduce summer heat loads and permit entry of winter sun;
- (d) allowing for natural cross ventilation to enable cooling breezes to reduce internal temperatures in summer;
- (e) including thermal insulation of roof, walls, floors and ceilings and by draught proofing doors, windows and openings;
- (f) ensuring light colours are applied to external surfaces that receive a high degree of sun exposure, but not to an extent that will cause glare which produces discomfort or danger to pedestrians, occupants of adjacent buildings and users of vehicles;
- (g) providing an external clothes line for residential development; and
- (h) use of landscaping.

All development should be designed to promote naturally ventilated and day lit buildings to minimise the need for mechanical ventilation and lighting systems.

Energy reductions should, where possible, be achieved by the following:

- (a) appropriate orientation of the building by:
 - (i) maximising north/south facing facades;
 - (ii) designing and locating the building so the north facade receives good direct solar radiation;
 - (iii) minimising east/west facades to protect the building from summer sun and winter winds;
 - (iv) narrow floor plates to maximise the amount of floor area receiving good daylight; and/or
 - (v) minimising the ratio of wall surface to floor area.
- (b) window orientation and shading;
- (c) adequate thermal mass including night time purging to cool thermal mass;
- (d) appropriate insulation by:
 - (i) insulating windows, walls, floors and roofs; and
 - (ii) sealing of external openings to minimise infiltration.
- (e) maximising natural ventilation including the provision of openable windows;
- (f) appropriate selection of materials, colours and finishes; and
- (g) introduction of efficient energy use technologies such as geo-exchange and embedded, distributed energy generation systems such as cogeneration*, wind power, fuel cells and solar photovoltaic panels that supplement the energy needs of the building and in some cases, export surplus energy to the electricity grid.

Orientation and pitch of the roof should facilitate the efficient use of solar collectors and photovoltaic cells.

Buildings, where practical, should be refurbished, adapted and reused to ensure an efficient use of resources.

New buildings should be readily adaptable to future alternative uses.

Selection of internal materials for all buildings should be made with regard to internal air quality and ensure low toxic emissions, particularly with respect to paint and joinery products.

New residential development and residential extensions should be designed to minimise energy consumption and limit greenhouse gas emissions.

Development is encouraged to avoid heat loss by incorporating treatments, such as double glazing of windows along the southern elevation, or by minimizing the extent of windows facing south.

Renewable Energy

The development of renewable energy facilities, such as wind and biomass energy facilities, in appropriate locations.

Renewable energy facilities located, sited, designed and operated to avoid or minimise adverse impacts and maximise positive impacts on the environment, local community and the State.

Renewable energy facilities, including wind farms, should be located, sited, designed and operated in a manner which avoids or minimises adverse impacts and maximises positive impacts on the environment, local community and the State.

Renewable energy facilities, including wind farms, and ancillary developments should be located in areas that maximise efficient generation and supply of electricity.

Micro-climate and Sunlight

Buildings which are designed and sited to be energy efficient and to minimise micro-climatic and solar access impacts on land or other buildings.

Protection from rain, wind and sun without causing detriment to heritage places, street trees or the integrity of the streetscape.

Development should be designed and sited to minimise micro-climatic and solar access impact on adjacent land or buildings, including effects of patterns of wind, temperature, daylight, sunlight, glare and shadow.

Development should be designed and sited to ensure an adequate level of daylight, minimise overshadowing of buildings, and public and private outdoor spaces, particularly during the lunch time hours.

Development should not significantly reduce daylight to private open space, communal open space, where such communal open space provides the primary private open space, and

habitable rooms in adjacent City Living Zone, Adelaide Historic (Conservation) Zone and North Adelaide Historic (Conservation) Zone.

Glazing on building facades should not result in glare which produces discomfort or danger to pedestrians, occupants of adjacent buildings and users of vehicles.

Buildings within the Core and Primary Pedestrian Areas identified in [Map Adel/1 \(Overlays 2, 2A and 3\)](#), unless specified otherwise within the relevant Zone or Policy Area, should be designed to provide weather protection for pedestrians against rain, wind and sun. The design of canopies, verandahs and awnings should be compatible with the style and character of the building and adjoining buildings, as well as the desired character, both in scale and detail.

Weather protection should not be introduced where it would interfere with the integrity or heritage value of heritage places or unduly affect street trees.

Development that is over 21 metres in building height and is to be built at or on the street frontage should minimise wind tunnel effect.

Infrastructure

Minimisation of the visual impact of infrastructure facilities.

Provision of services and infrastructure that are appropriate for the intended development and the desired character of the Zone or Policy Area.

Provision should be made for utility services to the site of a development, including provision for the supply of water, gas and electricity and for the satisfactory disposal and potential re-use of sewage and waste water, drainage and storm water from the site of the development.

Service structures, plant and equipment within a site should be designed to be an integral part of the development and should be suitably screened from public spaces or streets.

Heritage and Conservation

Acknowledge the diversity of Adelaide's cultural heritage from pre-European occupation to current time through the conservation of heritage places and retention of their heritage value.

Development that retains the heritage value and setting of a heritage place and its built form contribution to the locality.

Development affecting a State heritage place ([Table Adel/1](#)), Local heritage place ([Table Adel/2](#)), Local heritage place (Townscape) ([Table Adel/3](#)) or Local heritage place (City Significance) ([Table Adel/4](#)), including:

- (a) adaptation to a new use;
- (b) additional construction;
- (c) part demolition;

- (d) alterations; or
- (e) conservation works;

should facilitate its continued or adaptive use, and utilise materials, finishes, setbacks, scale and other built form qualities that are complementary to the heritage place.

Development on land adjacent to a heritage place in non-residential Zones or Policy Areas should incorporate design elements, including where it comprises an innovative contemporary design, that:

- (a) utilise materials, finishes, and other built form qualities that complement the adjacent heritage place; and
- (b) is located no closer to the primary street frontage than the adjacent heritage place.

Development that abuts the built form/fabric of a heritage place should be carefully integrated, generally being located behind or at the side of the heritage place and without necessarily replicating historic detailing, so as to retain the heritage value of the heritage place.

Built Form and Townscape

Reinforcement of the city's grid pattern of streets through:

- (a) high rise development framing city boulevards, the Squares and Park Lands
- (b) vibrant main streets of a more intimate scale that help bring the city to life
- (c) unique and interesting laneways that provide a sense of enclosure and intimacy.

Buildings should be designed to:

- (a) reinforce the desired character of the area as contemplated by the minimum and maximum building heights in the Zone and Policy Area provisions;
- (b) maintain a sense of openness to the sky and daylight to public spaces, open space areas and existing buildings;
- (c) contribute to pedestrian safety and comfort; and
- (d) provide for a transition of building heights between Zone and Policy Areas where building height guidelines differ.

Development which incorporates a high level of design excellence in terms of scale, bulk, massing, materials, finishes, colours and architectural treatment.

Where development significantly exceeds quantitative policy provisions, it should demonstrate a significantly higher standard of design outcome in relation to qualitative policy provisions including pedestrian and cyclist amenity, activation, sustainability and public realm and streetscape contribution.

Height, Bulk and Scale

Development should be of a high standard of design and should reinforce the grid layout and distinctive urban character of the City by maintaining a clear distinction between the following:

- (a) the intense urban development and built-form of the town acres in the Capital City, Main Street, Mixed Use, City Frame and City Living Zones;
- (b) the less intense and more informal groupings of buildings set within the landscaped environment of the Institutional Zones;
- (c) the historic character of the Adelaide and North Adelaide Historic (Conservation) Zones and groups of historic housing within the City Living Zone; and
- (d) the open landscape of the Park Lands Zone.

The height and scale of development and the type of land use should reflect and respond to the role of the street it fronts as illustrated on [Map Adel/1 \(Overlay 1\)](#).

The height, scale and massing of buildings should reinforce:

- (a) the desired character, built form, public environment and scale of the streetscape as contemplated within the Zone and Policy Area, and have regard to:
 - (i) maintaining consistent parapet lines, floor levels, height and massing with existing buildings consistent with the areas desired character;
 - (ii) reflecting the prevailing pattern of visual sub-division of neighbouring building frontages where frontages display a character pattern of vertical and horizontal sub-divisions; and
 - (iii) avoiding massive unbroken facades.
- (b) a comfortable proportion of human scale at street level by:
 - (i) building ground level to the street frontage where zero set-backs prevail;
 - (ii) breaking up the building facade into distinct elements;
 - (iii) incorporating art work and wall and window detailing; and
 - (iv) including attractive planting, seating and pedestrian shelter.

Where possible, large sites should incorporate pedestrian links and combine them with publicly accessible open space.

Buildings and structures should not adversely affect by way of their height and location the long-term operational, safety and commercial requirements of Adelaide International Airport. Buildings and structures which exceed the heights shown in [Map Adel/1 \(Overlay 5\)](#) and which penetrate the Obstacle Limitation Surfaces (OLS) should be designed, marked or lit to ensure the safe operation of aircraft within the airspace around the Adelaide International Airport.

Buildings within the Capital City Zone should be built to the street edge to reinforce the grid pattern, create a continuity of frontage and provide definition and enclosure to the public realm whilst contributing to the interest, vitality and security of the pedestrian environment.

Composition and Proportion

Development should respect the composition and proportion of architectural elements of building facades that form an important pattern which contributes to the streetscape's distinctive character in a manner consistent with the desired character of a locality by:

- (a) establishing visual links with neighbouring buildings by reflecting and reinforcing the prevailing pattern of visual sub-division in building facades where a pattern of vertical and/or horizontal sub-divisions is evident and desirable, for example, there may be strong horizontal lines of verandahs, masonry courses, podia or openings, or there may be vertical proportions in the divisions of facades or windows; and

- (b) clearly defining ground, middle and roof top levels.

Where there is little or no established building pattern, new buildings should create new features which contribute to an areas desired character and the way the urban environment is understood by:

- (a) frontages creating clearly defined edges;
- (b) generating new compositions and points of interest;
- (c) introducing elements for future neighbouring buildings; and
- (d) emphasising the importance of the building according to the street hierarchy.

Articulation and Modelling

Building facades fronting street frontages, access ways, driveways or public spaces should be composed with an appropriate scale, rhythm and proportion which responds to the use of the building, the desired character of the locality and the modelling and proportions of adjacent buildings.

Balconies should:

- (a) respond to the street context and building orientation; and
- (b) incorporate balustrade detailing to reflect the balcony type and location and the materials and detail of the building facade.

No part of any fully enclosed building should extend over property boundaries, including streets and public spaces, whether above a balcony at a lower level or not.

Materials, Colours and Finishes

The design, external materials, colours and finishes of buildings should have regard to their surrounding townscape context, built form and public environment, consistent with the desired character of the relevant Zone and Policy Area.

Development should be finished with materials that are sympathetic to the design and setting of the new building and which incorporate recycled or low embodied energy materials. The form, colour, texture and quality of materials should be of high quality, durable and contribute to the desired character of the locality. Materials, colours and finishes should not necessarily imitate materials and colours of an existing streetscape

Materials and finishes that are easily maintained and do not readily stain, discolour or deteriorate should be utilised.

Development should avoid the use of large expanses of highly reflective materials and large areas of monotonous, sheer materials (such as polished granite and curtained wall glazing).

Sky and Roof Lines

Innovative and interesting skylines which contribute to the overall design and performance of the building.

Where a prevailing pattern of roof form assists in establishing the desired character of the locality, new roof forms should be complementary to the shape, pitch, angle and materials of adjacent building roofs.

Buildings should be designed to incorporate well designed roof tops that:

- (a) reinforce the desired character of the locality, as expressed in the relevant Zone or Policy Area;
- (b) enhance the skyline and local views;
- (c) contribute to the architectural quality of the building;
- (d) provide a compositional relationship between the upper-most levels and the lower portions of the building;
- (e) provide an expression of identity;
- (f) articulate the roof, breaking down its massing on large buildings to minimise apparent bulk;
- (g) respond to the orientation of the site; and
- (h) create minimal glare.

Active Street Frontages

Development that enhances the public environment and, where appropriate provides activity and interest at street level, reinforcing a locality's desired character.

Development designed to promote pedestrian activity and provide a high quality experience for City residents, workers and visitors by:

- (a) enlivening building edges;
- (b) creating welcoming, safe and vibrant spaces;
- (c) improving perceptions of public safety **through passive** surveillance; and
- (d) creating interesting and lively pedestrian environments.

Development should be designed to create active street frontages that provide activity and interest to passing pedestrians and contribute to the liveliness, vitality and security of the public realm.

Retail frontages should be designed to provide interest to passing pedestrians at street level and relief to building mass.

Commercial buildings should be designed to ensure that ground floor facades are rich in detail so they are exciting to walk by, interesting to look at and to stand beside.

Outdoor Dining

Development that contributes to the vibrancy, activity and desired character of a locality.

Outdoor dining should:

- (a) be located outside the associated premises;
- (b) provide sufficient set-backs, such as from kerbs and property boundaries, and clearances, such as from buildings;
- (c) be located in an area safe for patrons where the security of the building is not compromised;
- (d) ensure the dining area is set back from the building line at street intersections;
- (e) ensure unimpeded pedestrian flow through free and uninterrupted pedestrian paths; and
- (f) ensure wheelchair access to pedestrian ramps is not compromised.

Structures should:

- (a) be of high quality design and form an integral part of the streetscape;
- (b) not restrict public access;
- (c) not detract or restrict views of significant sightlines, buildings and landmarks;

Signage that identifies the business name or logo, or advertises goods sold on the premises is only appropriate on glass and canvas screens and umbrellas and should meet the following:

- (a) signage and advertisements should be designed to improve and complement the amenity of the premises, be of an appropriate design and consistent with the desired character of the locality;
- (b) advertisements on outdoor dining items such as umbrellas and canvas screens should not exceed a portion that covers 10 percent of the total available space on each outdoor dining item, up to half of which may be commercial advertisements in the form of product logos used or sold by the premises;
- (c) advertisements should not be illuminated or animated; and
- (d) third party advertising on outdoor dining items is inappropriate.

Landscaping

Water conserving landscaping that enhances the local landscape character and creates a pleasant, safe and attractive living environment.

Landscaping should:

- (a) be selected and designed for water conservation;
- (b) form an integral part of the design of development; and
- (c) be used to foster human scale, define spaces, reinforce paths and edges, screen utility areas and enhance the visual amenity of the area.

Landscaping should incorporate local indigenous species suited to the site and development, provided such landscaping is consistent with the desired character of the locality and any heritage place.

Landscaping should be provided to all areas of communal space, driveways and shared car parking areas.

Landscaping between the road and dwellings should be provided to screen and protect the dwellings from dust and visual impacts of the road.

Advertising

Outdoor advertisements that are designed and located to:

- (a) reinforce the desired character and amenity of the locality within which it is located and rectify existing unsatisfactory situations;
- (b) be concise and efficient in communicating with the public, avoiding a proliferation of confusing and cluttered displays or a large number of advertisements; and
- (c) not create a hazard.

Advertisements should be designed to respect and enhance the desired character and amenity of the locality by the means listed below:

- (a) the scale, type, design, location, materials, colour, style and illumination of any advertisements should be compatible with the design and character of the buildings and land to which it is related, and should be in accordance with provisions for the Zone and Policy Area in which it is situated and any relevant adjacent Zones or Policy Areas;
- (b) advertisements should be integrated with the architectural form, style and colour of buildings and wherever possible, requirements for advertisements should be considered in the design of new buildings;
- (c) advertisements should be artistically interesting in terms of graphics and construction with intricacy and individuality in design encouraged while maintaining consistency in design and style where co-ordinated advertisements are appropriate;
- (d) structural supports should be concealed from public view or of minimal visual impact;
- (e) advertisements on individual premises should be co-ordinated in terms of type and design and should be limited in number to minimize visual clutter;
- (f) advertisements should be displayed on fascia signs or located below canopy level;
- (g) advertisements on buildings or sites occupied by a number of tenants should be co-ordinated, complementary and the number kept to a minimum; and
- (h) advertisements on or adjacent to a heritage place should be designed and located to respect the heritage value of the heritage place.

Product advertisements illustrating products sold on the premises in conjunction with the business name should not exceed 25 percent of the area of any advertisement.

Advertisements should not endanger public safety or detrimentally affect the amenity of adjacent premises by reason of their location, position, construction or design and should:

- (a) not emit excessive glare or reflection from internal or external illumination;
- (b) not obscure road users' and pedestrians' views of vehicles, pedestrians or potentially hazardous road features;
- (c) not cause confusion with, or reduce the effectiveness of traffic control devices;

- (d) have a clearance between the footpath and base or underside of projecting signage of at least 2.5 metres for permanent advertisements and 2.3 metres for temporary advertisements, and between the kerb face and outside edge of the sign of at least 600 millimetres; and
- (e) permit safe and convenient pedestrian movement.

Temporary advertisement hoardings or shrouds required for the screening of construction sites or for creating visual interest should occur only where they are:

- (a) of a high standard of design;
- (b) displayed only during the period of construction;
- (c) comprised of high quality opaque, solid and non-reflective material that is durable, low maintenance and appropriate to the City context;
- (d) required to conceal wiring and conduits; and
- (e) do not create undue risk to public or private safety.

Transport and Access

Access and Movement

Access to and movement within the City that is easy, safe, comfortable and convenient with priority given to pedestrian and cyclist safety and access.

Development should provide safe, convenient and comfortable access and movement.

Vehicle access points along primary and secondary city access roads and local connector roads, as shown on [Map Adel/1 \(Overlay 1\)](#) should be restricted.

Pedestrian Access

Development that promotes the comfort, enjoyment and security of pedestrians by providing shelter and reducing conflict with motor vehicles.

Development that contributes to the quality of the public realm as a safe, secure and attractive environment for pedestrian movement and social interaction.

Safe and convenient design of and access to buildings and public spaces, particularly for people with disabilities

Development should reflect the significance of the paths and increase the permeability of the pedestrian network identified within [Map Adel/1 \(Overlay 2\)](#) by ensuring:

- (a) pedestrians are not disrupted or inconvenienced by badly designed or located vehicle access ramps in footpaths or streets; and
- (b) vehicle and service entry points are kept to a minimum to avoid adverse impact on pedestrian amenity.

Within the Core, Primary and Secondary Pedestrian Areas identified within [Map Adel/1 \(Overlays 2, 2A and 3\)](#), development should be designed to support the establishment and maintenance of continuous footpaths so that pedestrian flow is free and uninterrupted. Pedestrian access should be provided at ground level mid-block between all streets.

Development should provide and maintain pedestrian shelter, access and through-site links in accordance with the walking routes identified within [Map Adel/1 \(Overlays 2, 2A and 3\)](#) and the provisions of the Zone or Policy Area in which it is located. Such facilities should be appropriately designed and detailed to enhance the pedestrian environment, have regard to the mobility needs of people with disabilities, and be safe, suitable and accessible.

Corner buildings in the Central Business Policy Area of the Capital City Zone, buildings adjacent to street intersections and buildings along a high concentration public transport route or along public transport pedestrian routes identified within [Map Adel/1 \(Overlay 4\)](#) should provide weather protection for pedestrians in the form of verandahs, awnings or canopies. Where verandahs or awnings are provided which block street lighting, they should include additional lighting beneath the canopy.

Permanent structures over a footpath should have a minimum clearance of 3.0 metres above the existing footpath level, except for advertisements which should have a minimum clearance of 2.5 metres and temporary structures and retractable canopies which should have a minimum clearance of 2.3 metres above the existing footpath level.

Where posts are required to support permanent structures, they should be located at least 600 millimetres from the kerb line.

Access for people with disabilities should be provided to and within all buildings to which members of the public have access in accordance with the relevant Australian Standards. Such access should be provided through the principal entrance, subject to heritage considerations and for exemptions under the relevant legislation.

Bicycle Access

Greater use of bicycles for travel to and within the City and the improvement of conditions, safety and facilities for cyclists.

Adequate supply of secure, short stay and long stay bicycle parking to support desired growth in City activities.

Development should have regard to the bicycle routes identified within [Map Adel/1 \(Overlay 3\)](#) by:

- (a) limiting vehicular access points; and
- (b) ensuring that vehicles can enter and leave the site in a forward direction, thereby avoiding reverse manoeuvres.

An adequate supply of on-site secure bicycle parking should be provided to meet the demand generated by the development within the site area of the development. Bicycle parking should be provided in accordance with the requirements set out in [Table Adel/6](#).

Onsite secure bicycle parking facilities for residents and employees (long stay) should be:

- (a) located in a prominent place;
- (b) located at ground floor level;
- (c) located undercover;

- (d) located where passive surveillance is possible, or covered by CCTV;
- (e) well lit and well signed;
- (f) close to well used entrances;
- (g) accessible by cycling along a safe, well lit route;
- (h) take the form of a secure cage with locking rails inside or individual bicycle lockers; and
- (i) in the case of a cage have an access key/pass common to the building access key/pass.

Onsite secure bicycle parking facilities for short stay users (i.e. bicycle rails) should be:

- (a) directly associated with the main entrance;
- (b) located at ground floor level;
- (c) located undercover;
- (d) well lit and well signed;
- (e) located where passive surveillance is possible, or covered by CCTV; and
- (f) accessible by cycling along a safe, well lit route.

Access to bicycle parking should be designed to:

- (a) minimise conflict with motor vehicles and pedestrians;
- (b) ensure the route is well signed and well lit including the use of road markings such as a bicycle logo if appropriate to help guide cyclists; and
- (c) ensure the route is unhindered by low roof heights.

Traffic and Vehicle Access

Development that supports a shift toward active and sustainable transport modes (i.e. public transport, cycling and walking).

An enhanced City environment and the maintenance of an appropriate hierarchy of roads to distribute traffic into the City to serve development in preference to through traffic.

Adequate off-street facilities for loading and unloading of courier, delivery and service vehicles and access for emergency vehicles.

Development should be designed so that vehicle access points for parking, servicing or deliveries, and pedestrian access to a site, are located to minimise traffic hazards and vehicle queuing on public roads. Access should be safe, convenient and suitable for the development on the site, and should be obtained from minor streets and lanes unless otherwise stated in the provisions for the relevant Zone or Policy Area and provided residential amenity is not unreasonably affected.

Facilities for the loading and unloading of courier, delivery and service vehicles and access for emergency vehicles should be provided on-site as appropriate to the size and nature of the

development. Such facilities should be screened from public view and designed, where possible, so that vehicles may enter and leave in a forward direction.

Where practicable, development sites should contain sufficient space for the location of construction equipment during the course of building construction, so that development does not rely on the use of Council road reserves to locate such equipment

Vehicular access to development located within the Core and Primary Pedestrian Areas identified in [Map Adel/1 \(Overlay 2A\)](#) should be limited and designed to minimise interruption to street frontages.

Where vehicular access to a development is gained by an existing crossing in the Core Pedestrian Area identified in [Map Adel/1 \(Overlay 2A\)](#), there should be no increase in the number of parking spaces served by the crossing, nor any increase in the number of existing crossings serving that development.

Car Parking

To meet community expectation for parking supply while supporting a shift toward active and sustainable transport modes.

An adequate supply of short-stay and long-stay parking to support desired growth in City activities without detrimental affect on traffic and pedestrian flows.

Car parking areas should be located and designed to:

- (a) ensure safe and convenient pedestrian movement and traffic circulation through and within the car parking area;
- (b) include adequate provision for manoeuvring and individually accessible car standing areas;
- (c) enable, where practical, vehicles to enter and leave the site in a forward direction;
- (d) minimise interruption to the pattern of built form along street frontages;
- (e) provide for access off minor streets and for the screening from public view of such car parking areas by buildings on the site wherever possible;
- (f) minimise adverse impacts on adjoining residential properties in relation to noise and access and egress;
- (g) minimise loss of existing on-street parking spaces arising through crossovers and access;
- (h) incorporate secure bicycle parking spaces and facilitate convenient, safe and comfortable access to these spaces by cyclists; and
- (i) provide landscaping, such as semi-mature trees, to shade parked vehicles and reduce the visual impact of the car parking area while maintaining direct sight lines and informal visual surveillance.

Off-street parking should:

- (a) be controlled in accordance with the provisions for the relevant Policy Area;
- (b) be located away from street frontages or designed as an integral part of buildings on the site. Provision of parking at basement level is encouraged; and

- (c) not include separate garages or carports in front of buildings within front set-backs.

Off-street parking in the Core Pedestrian Area identified in [Map Adel/1 \(Overlay 2A\)](#) will only be appropriate where:

- (a) parking is ancillary to another activity carried out on the land;
- (b) it can be provided without loss of pedestrian amenity; and
- (c) it is not separately created on a strata title or community title basis (unless in association with another title held on the site).

Multi-level car parks and short stay public use of ancillary car parking spaces are discouraged at ground floor street frontages in the Primary Pedestrian Area identified in [Map Adel/1 \(Overlays 2, 2A and 3\)](#). Multi-level car parks, short stay public use of ancillary car parking spaces or non-ancillary car parking use of an existing building may be appropriate where it:

- (a) is located away from ground floor street frontages to major streets;
- (b) ensures vehicle access is from the road with less pedestrian activity in instances where a site has access to more than one road frontage;
- (c) has no more than one entry lane and one exit lane;
- (d) has a controlled exit at the property boundary to stop vehicles before travelling across the footpath;
- (e) has no more than one left in and one left out access point;
- (f) avoids access points along high concentration public transport routes identified in [Map Adel/1 \(Overlay 4\)](#); and
- (g) with respect to ancillary parking, is provided at basement level, or undercroft if located behind other uses which provide activity on the street frontage.

Multi-level car parks should be designed to:

- (a) provide active street frontages and land uses such as commercial, retail or other non-car park uses, along ground floor street frontages to maintain pedestrian interest and activity at street level;
- (b) be of a high quality design and complement the surrounding built form in terms of height, bulk and scale;
- (c) provide surveillance, lighting and direct sightlines along clearly defined and direct walkways, through and within car parking areas and to lift and toilet areas;
- (d) on a corner site with two major street frontages, be set back from the major street frontages, with commercial or other non-car park floor space in front of and screening the car parking building;
- (e) on a site with only one major street frontage, include screening so that any car parking is not visible from the public realm either day or night, and detailed to complement neighbouring buildings in a manner consistent with desired character in the relevant Zone and Policy Area;
- (f) incorporate treatments to manage the interface with adjacent housing, such as careful use of siting and use of materials and landscaping;
- (g) not have vehicle access points across major walking routes identified in [Map Adel/1 \(Overlay 2\)](#); and

- (h) provide safe and secure bicycle parking spaces in accordance with the requirements of [Table Adel/6](#).

Economic Growth and Land Use

The role of the City enhanced as:

- (a) the community, civic and cultural heart of South Australia and as a driving force in the prosperity of the State;
- (b) the State centre for business, administration, services, employment, education, political and cultural activities, government and public administration;
- (c) a welcoming, secure, attractive and accessible meeting place for the people of metropolitan Adelaide and beyond for leisure, entertainment, civic and cultural activity, specialty shopping, personal and community services;
- (f) the gateway to the attractions of South Australia for international and interstate visitors by developing a wide range of visitor accommodation, facilities and attractions, particularly attractions which showcase the particular strengths of South Australia; and
- (g) a great place to live, with a growing diversity of accommodation for different incomes and lifestyles.

A business environment which encourages investment from domestic and foreign sources, business development and employment.

Development which reinforces clusters and nodes of activity and distinctive local character.

A diverse mix of commercial, community, civic and residential activities to meet the future needs of the Capital City of South Australia.

Development, particularly within the Capital City and Institutional Zones, is encouraged to:

- (a) provide a range of shopping facilities in locations that are readily accessible;
- (b) provide for the growth in economic activities that sustain and enhance the variety and mix of land uses and the character and function of the City;
- (d) be accessible to all modes of transport (particularly public transport) and safe pedestrian and cycling routes; and
- (e) have minimal impact on the amenity of residential areas.