#11850149

AWWAD Super Fund Pty Ltd

Construction of a 5 level residential flat building comprising ancillary car parking, landscaping, associated building work and removal of a regulated tree.

81 Anzac Highway, Ashford

211/M029/18

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OVERVIEW

Application No	211/M029/18 Appian 3745
Unique ID/KNET ID	2018/22857/01
Applicant	AWWAD Super Fund Pty Ltd
Proposal	Construction of a 5 level residential flat building comprising ancillary car parking, landscaping, associated building work and removal of a regulated tree.
Subject Land	81 Anzac Highway, Ashford
Zone/Policy Area	Urban Corridor Zone, Boulevard Policy Area 34
Relevant Authority	State Commission Assessment Panel
Lodgement Date	27 November 2018
Council	City of West Torrens
Development Plan	West Torrens Development Plan [Consolidated 12 July 2018]
Type of Development	Merit
Public Notification	Category 2
Representations	Three representations were received, two wish to be heard
Referral Agencies	Commissioner of Highways, Adelaide Airports, Government Architect
Report Author	Karl Woehle
RECOMMENDATION	Development Plan Consent subject to conditions.

EXECUTIVE SUMMARY

The applicant seeks Development Plan Consent for the construction of a 5 storey residential flat building (ground level car parking plus four levels) comprising residential apartments, landscaping, ancillary car parking, associated building works and the removal of one regulated tree at 81 Anzac Highway, Ashford.

The site is located within the Boulevard Policy Area 34 of the Urban Corridor Zone. The proposed development is a merit type of development, Category 2 for the purposes of public notification and subject to statutory referrals to the Government Architect, Adelaide Airports and Commissioner of Highways and a non-mandatory referral to the City of West Torrens. During the public notification process three (3) representations were received who raised concerns with overlooking, overshadowing, noise pollution and car parking.

The overall building height is 5 storeys (including ground) or 16.9 metres to the roofline, which exceeds the maximum height of 3 storeys or 12.5 metres as set out in the Urban Corridor Zone. The proposed development is sited wholly within the subject site and setback 3 metres from the western boundary, ensuring adequate separation from the adjoining allotment. The Government Architect supports the proposed height and is of the opinion that the scale of the proposal is consistent with the envisaged character of the wider locality along Anzac Highway.

The contemporary architectural expression of the building is characterised by projecting balconies, canopies and window reveals. The contrasting colours of the material palette provides visual interest and are generally considered fit for purpose. The top level of the building has been articulated and treated in a darker material palette to reduce the perceived visual bulk and height of the development.

Apartment type 'C' has an internal floor area of 72m^2 which is at odds with the development plan with seeks a minimal internal floor area of 75m$^{2.}$ The 3m^2 shortfall is not considered detrimental to the apartment amenity and the communal open space at ground may assist in supplementing the smaller apartment size. On balance the

proposed 14, two bedroom apartments are convincing in terms of apartment size and exhibits appropriately sized private open space.

All habitable rooms have access to natural light and ventilation. The balconies of the apartments are appropriately dimensioned to ensure functionality and the incorporation of screening devices should address adjacency interface issues between dwellings.

Visitor car parking spaces were removed from the application in the Pre-lodgement process in lieu of additional soft landscaping and communal open space. It is acknowledged that the lack of visitor parking is not ideal, however there appears to be ample parking opportunities on Anzac Highway and surrounding streets. Furthermore the resulting communal space and additional landscaping is considered a positive design attribute.

The proposal generally achieves the appropriate performance outcomes in respect to waste management, bicycle parking, pedestrian and vehicle access, building services and energy efficiency.

Notwithstanding the shortfall in visitor parking and height, the proposal generally satisfies the policy provisions of the Development Plan. On balance the shortfalls are not considered fatal to the application and should not cause unacceptable impacts on the local amenity. Accordingly the proposal warrants Development Plan consent subject to conditions.

ASSESSMENT REPORT

1. BACKGROUND

1.1 Strategic Context

On 25 June 2015 the Minister for Planning approved the second stage of the Housing Diversity Development Plan Amendment (DPA) which sought changes to future form and character of some parts of the West Torrens Council area by identifying areas suitable for medium and high-density mixed-use development, and introducing new character policy areas to better protect locations with desirable residential character.

1.2 Pre-Lodgement Process

The applicant engaged in the Pre-lodgement Service offered by the Department of Planning, Transport and Infrastructure which is provided for development involving building work exceeding 4 storeys in the Urban Corridor Zone within the City of West Torrens.

The applicant engaged in one (1) Pre-lodgement Panel meeting and two (2) Design Review sessions, including a desktop review. The applicant responded to some of the issues raised during the pre-lodgement panel meeting and design review sessions.

2. DESCRIPTION OF PROPOSAL

Application details are contained in the **ATTACHMENTS.**

A summary of the proposal is as follows:

Land Use Description	Ground floor car parking, 14x2 bedroom apartments over four levels
Building Height	5 storeys (16.9 metres above ground)

Description of levels	**Ground:** Residential apartment entry lobby, car parking, resident and visitor bicycle parking, rubbish and recycling storage area, landscaping and associated building services **Levels 1-4:** Four residential apartments (4 x 2 bedroom dwelling per floor level), plant equipment and associated building services **Level 5:** Two Residential apartments (2 x 2 bedroom dwelling), plant equipment and associated building services **Rooftop:** life overrun
Apartment floor area (excluding balconies)	2 bedroom apartments: varies between 72m^2 and 94m^2
Private Open Space	2 bedroom apartments: varies between 11m^2 to 52m^2
Site Access	Single (dual width) vehicle access point to Anzac Highway.
Car and Bicycle Parking	14 ground floor car parks (including 1 accessible carpark) 4 visitor bicycles at ground and 1 bicycle rack located in each apartment

3. SITE AND LOCALITY

3.1 Site Description

The development site comprises a single allotment located at 81 Anzac Highway, Ashford and is situated on the northern side of Anzac Highway. The development site is triangular in shape and has an area of approximately 990m^2. The development site has primary street frontage of approximately 33 metres to Anzac Highway. Brownhill Creek passes along the Northern boundary of the land, which flows in an east-west direction. The creek is contained in a concrete lined culvert with mature ash and elm trees on either side of the creek. There is a regulated tree located on the north western boundary of the site.

Figure 1 – Subject site – Anzac Highway frontage

The site consist of one allotment, described as follows:

Section / Lot No	Street	Suburb	Hundred	Title
D3108 A118	Anzac Hwy	Ashford	Adelaide	CT 5468/776

The figure below illustrates the subject land highlighted in blue in the context of the immediate locality

Figure 2 – Location Map

Anzac Highway – looking north west

Anzac Highway – looking south east

Adjacent property – southwest boundary

Adjacent property – Northeast boundary

Adjacent Property Adjacent Property (opposing side of Anzac Hwy) – South west

Adjacent Property (opposing side of Anzac Hwy) – South west

Figure 3 Site Photographs

3.2 Locality

The immediate locality reflects a mixture of retail, commercial and residential dwellings in a range of built forms from single storey residential dwellings to four storey aged care facilities.

The locality is undergoing a change in built form and scale, with a number of developments in the immediate vicinity reflecting a higher scale residential dwelling typology.

Figure 4 - Immediate locality

4. COUNCIL COMMENTS

4.1 City of West Torrens

Advice was sought from Council administration regarding technical matters. The following points were raised for consideration:

- Proposed development exceeds maximum envisaged height
- Development does not offer a mixture of dwelling types
- The floor to ceiling height of 3.4m is at odds with the Development Plan which envisages 4.5m to allow for adaptable reuse.
- The recessed pedestrian entry point and heavily screened front fence are considered to create pedestrian entrapment spots and movement predictors.
- 2.4m high screening fence creates a considerable barrier and is considered to detrimentally impact the human scale of the project.
- Concerns on the lack of visitor parking, which places a reliance on parking on Anzac Highway.
- Further clarification required regarding the residential bicycle parking provision.
- Concerns raised that the proposed under croft car parking does not comply with the AS/NZS 2891.0-2004.

- Proposed waste collection vehicle is not readily available and should be conditioned to restrict access to the vehicle nominated for the refuse collection.
- No apparent communal storage allowance for hard waste and unique disposal waste streams.
- Appears a building column is located within the minimum of 10m of the Brown Hill Creek.
- Stormwater harvest and re-use is strongly encouraged for this development.
- No information has been provided in regard to the underground rainwater storage and discharge rate. It is recommended that the applicant provide revised design and supporting information.
- Council require the stormwater discharge point to be directed to the adjacent street kerb and water table. It is recommended that the application provide revised design information indicating stormwater discharge from the site being directed to Anzac Highway.
- Documentation does not detail finished floor levels (FFL).
- It is recommended that the driveway design is only flared between the tree alignment and the road edge, to preserve the established street tree.
- Design documentation should reflect the reinstatement of the redundant crossing place to the site.

Additionally Council recommended that in association with any planning approval for this development that a Reserve Matter similar to the following is included;

> *Prior to the lodgement for Full Development Approval, detailed engineering plans and calculations for the retaining of land adjacent to the watercourse are to be provided and considered acceptable to the reasonable satisfaction of the City of West Torrens's Manager City Assets.*

The applicant provided further clarification on the proposed stormwater harvesting, finished floor levels and stormwater discharge points. It was also confirmed that the design and layout of the parking and driveways on site conforms to the relevant Australian Standards and the proposal has incorporated sufficient setbacks to Brown Hill Creek within adequate freeboard allowance to afford suitable flood protection in a major event. The applicant was open to the use of a planning condition to deal with the reinstatement of the potential redundant crossover on Anzac Highway.

The City of West Torrens referral response is contained in the **Attachments** and are discussed in the planning assessment.

5. STATUTORY REFERRAL BODY COMMENTS

5.1 Government Architect

The Government Architect is a mandatory referral in accordance with Schedule 8 of the *Development Regulation 2008*. The Panel must have regard to this advice. The Government Architect responded to the referral and expressed a general support for the proposed development but suggested several elements of the proposed development that would benefit from further revision. These elements are:

- Further development of acoustic treatment to the outdoor condensing unit plan enclosure on the fourth floor balcony
- Details regarding the management of any required pruning or tree damaging activities, with a view to protecting existing street tree canopies
- A high quality of external materials supported by the provision of a materials and finishes sample board.

The Government Architect's statutory referral response is contained in the **ATTACHMENTS** and are discussed in the planning assessment.

5.2 Adelaide Airport

The Adelaide Airport is a mandatory referral in accordance with Schedule 8 of the Development Regulations 2008. The Panel must take direction from the advice. The Adelaide Airport in principle does not have any objections to the proposed development, however advised the application of the following:

a) The building as described does not penetrated the Adelaide Airport Obstacle Limitation Surface (OLS) airspace protected for aircraft operations. Any further proposed addition to the structure, including aerials, mast and vent/exhaust stacks, must be subject to a separate assessment.
b) Crane operations associated with construction shall be the subject of separate application. Adelaide Airport Limited requires 48 days prior notice of any crane operations during the construction. Crane assessment may also have to be conducted by the Civil Aviation Safety Authority (CASA)
c) Restrictions may apply to lighting illumination. Any lighting proposed shall conform to airport lighting restrictions and shall be shielded from aircraft flight paths.

The Adelaide Airport's statutory referral response is contained in the **ATTACHMENTS** and are discussed in the planning assessment.

5.3 Commissioner of Highways [Department of Planning, Transport and Infrastructure (Traffic Operations)]

The Commissioner of Highways (DPTI Roads) is a mandatory referral in accordance with Schedule 8 of the Development Regulations 2008. The Panel must have regard to this advice.

In-principle the Commissioner of Highways (Traffic Operations) does not object to the proposed development and provided eight (8) planning conditions that were recommended to be attached to any planning consent.

The Commissioner of Highways statutory referral response is contained in the **ATTACHMENTS** and are discussed in the planning assessment.

6. PUBLIC NOTIFICATION

The application was notified as a Category 2 development pursuant to the Urban Corridor Zone public notification, which assigns development as Category 2 for any development listed as Category 1 and located on adjacent land to a Residential Zone or Historic Conservation Area that:

a) is 3 or more storeys, or 11.5 metres or more in height.

The proposal is more than 3 storeys and adjacent a Residential Zone on the opposite side of Anzac Highway.

Three (3) representations were received and all of the representations received were from owners/occupiers of adjacent land pursuant to the definition within the *Development Act 1993*. The below table is an overview of the valid representations.

Representor ID	Issue	Applicant's Response
R1	• *Development exceeds the maximum envisaged height*	*The height of the proposed building is considered appropriate given its siting*

Representor ID	Issue	Applicant's Response
	• *Potential impact to heritage listed Ashford House* • *No details about the windows on the western façade, are they frosted, openable?* • *Serious concerns about loss of privacy and overlooking* • *Development will result in significant overshadowing of property* • *Overshadowing will impact solar panel array* • *Noise pollution from air conditioning plant adjacent to living area* • *No visitor parking presents shortfall and at odds with DP. Parking in immediate locality is not practical solution*	*location and context having regard to surrounding development.* *The scale and form of the proposed building would not in my view materially affect the setting or heritage value of the adjacent local heritage place 'Ashford House'.* *Development Plan policy clearly provides for a more robust form of development in this locality such that the build form character will change over time as sites are progressively development in a more intensive manner* *Local heritage place should not unreasonably retard or constrain the development of adjacent land so as to achieve the strategic planning target.* *Suitable measures have been adopted to ensure appropriate levels of privacy are maintained to adjoining residential properties (including that to the south) including the positioning and configuration of windows* *Upper level windows within western façade could be obscured to height of 1.7m, which could be dealt with by condition* *Adjoining properties will continue to ensure suitable solar access during winter months in line with the objective measures set out within the Development Plan (Council Wide PDC 11 & 12 Residential Development)* *Solar panels on the roof of the representor may be shadowed by the proposed building, such will be limited to early to mid-morning period during winter months.* *Development is not expected to exceed the relevant noise performance criteria set out within the EPA Noise Policy, and in any event not higher than the background noise experienced on Anzac Highway.* *Design quality is subjective, I defer in this instance to the Government Architect, whom has provided qualified support to this development.*
R2	• *Proposed development will significantly impact privacy* • *Reduce the value of property*	*Dense evergreen tree canopy within the Brownhill Creek reserve will reduce opportunity of direct line of*

Representor ID	Issue	Applicant's Response
	• *A development of no more than 3 storeys is acceptable*	*sight from north facing upper level windows into rear yard.* *Windows relating to bedrooms are typically occupied during evening and present far less potential for overlooking than a living area.* *Development does not have a living area with a northern primary aspect* *Threshold for privacy is somewhat greater for development within the Urban Corridor Zone than in conventional residential area given the inherent scale and arrangement.* *Solid screening to windows is not thought necessary* *It is also reasonable to expect that this site will also be redeveloped at some point in the future given the uplift afforded by the Development Plan.*
R3	• *Proposed development exceeds maximum envisaged height* • *Development does not offer a mixture of dwelling types* • *The floor to ceiling height of 3.4m is at odds with the development plan which envisages 4.5m to allow for adaptable reuse.* • *The recessed pedestrian entry point and heavily screened front fence are considered to create pedestrian entrapment spots and movement predictors.* • *2.4m high screening fence creates a considerable barrier and is considered to detrimentally impact the human scale of the project.* • *Concerns on the lack of visitor parking, which places a reliance on parking on Anzac Highway.* • *Further clarification required regarding the residential bicycle parking provision.* • *Concerns raised that the proposed under croft car parking does not comply with the AS/NZS 2891.0-2004* • *Proposed waste collection vehicle is not readily available and should be conditioned to restrict access to the vehicle nominated for the refuse collection* • *No apparent communal storage allowance for hard waste and unique disposal waste streams*	• *Council comments were addressed in section 4.1 and in assessment section of this report*

Representor ID	Issue	Applicant's Response
	• *Appears a building column is located within the minimum of 10m of the Brown Hill Creek* • *Stormwater harvest and re-use is strongly encouraged for this development.* • *No information has been provided in regard to the underground rainwater storage and discharge rate. It is recommended that the applicant provide revised design and supporting information.* • *Council require the stormwater discharge point to be directed to the adjacent street kerb and water table. It is recommended that the application provide revised design information indicating stormwater discharge from the site being directed to Anzac Highway.* • *Documentation does not detail finished floor levels (FFL).* • *It is recommended that the driveway design is only flared between the tree alignment and the road edge, to preserve the established street tree.* • *Design documentation should reflect the reinstatement of the redundant crossing place to the site.*	

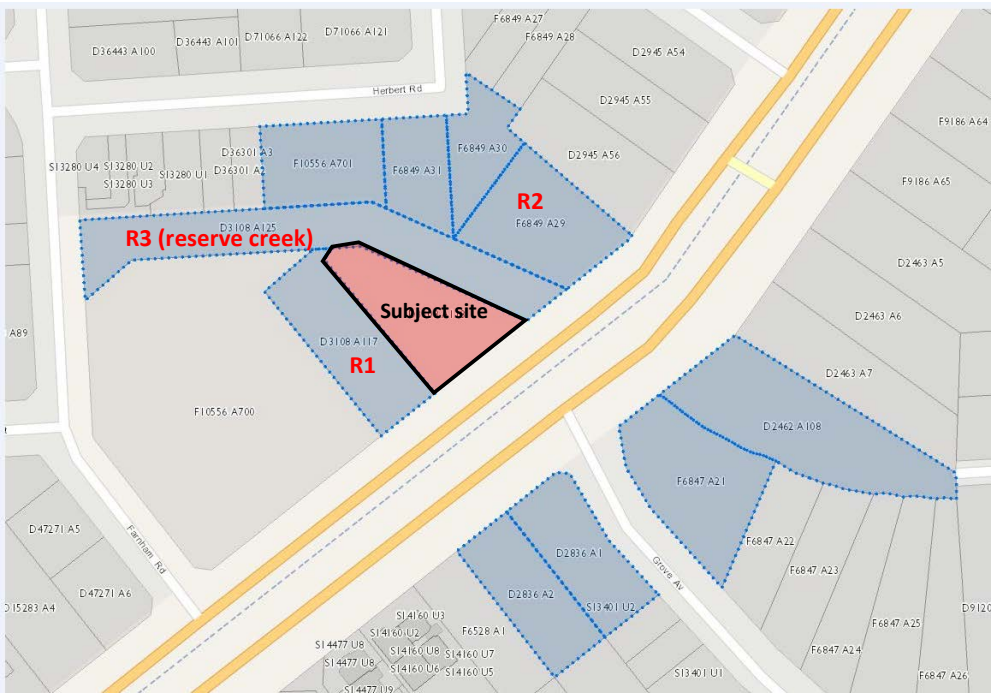


Figure 5 – Representation Map

A total of 2 representors wish to be heard by the State Commission Assessment Panel. A copy of each representation and the applicant's response is attached in the **ATTACHMENTS.**

7. POLICY OVERVIEW

The subject site is located in the Boulevard Policy Area 34 of the Urban Corridor Zone as described within the West Torrens Development Plan [Consolidated 12 July 2018]. The relevant planning policies are contained in **ATTACHMENTS** and summarised below.

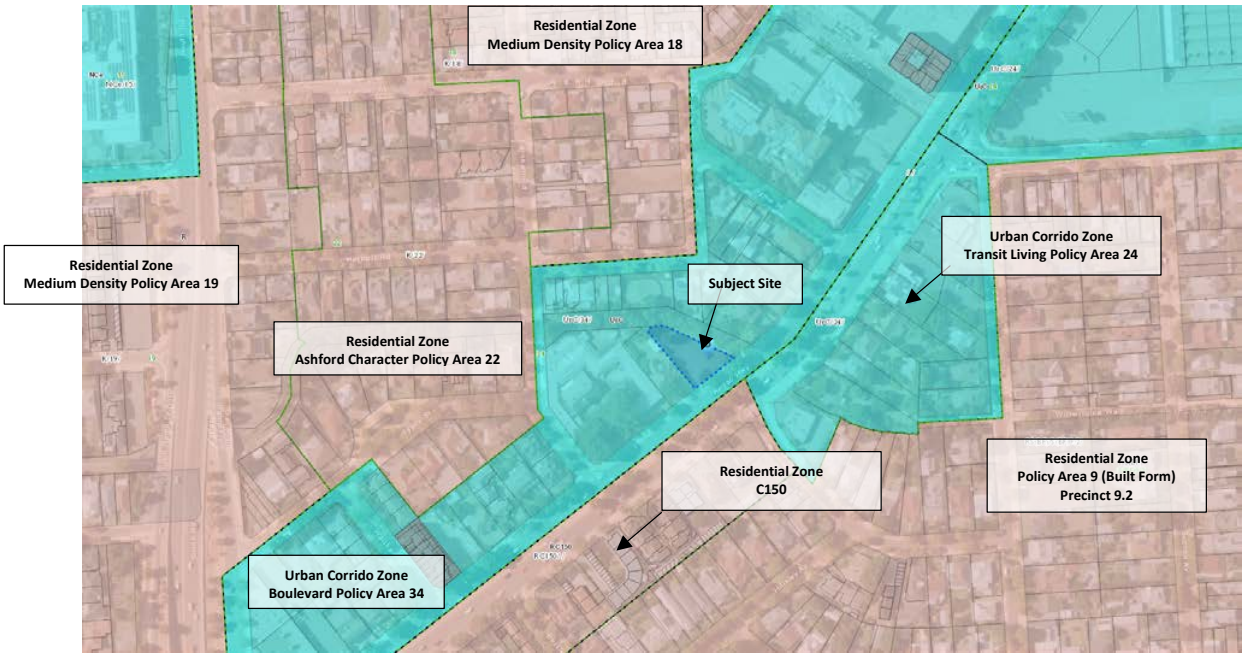


Figure 6 – Policy Areas Map

7.1 Boulevard Policy Area 34

Key policy expectations within the Boulevard Policy Area are summarised as follows:

- development will take place at medium and high-densities, at a scale that is proportionate to the width of Anzac Highway;
- buildings of up to 8-storeys will have a strong presence to Anzac Highway. At lower levels, buildings will have a human scale through the use of design elements such as balconies, verandas and canopies;
- short front setbacks along Anzac Highway will allow for some landscaping to contribute to a more open landscaped character;
- podium elements, where higher floors of the building are set back further than lower level floors, may be used to improve air quality (through greater air circulation) and enhance solar access, privacy and outlook for building occupants and neighbours;
- on-site vehicle parking will not be visible from Anzac Highway by locating parking areas behind building façades and shielding under croft parking areas with landscaping and articulated screens.

7.2 Urban Corridor Zone

Key policy expectations within the Urban Corridor Zone are summarised as follows:

- a mix of medium and high-density residential development with community and employment land uses is envisaged;

- new buildings will be recognised for design excellence and demonstrate careful building articulation and fenestration, verandas, balconies, canopies and landscaping;
- the greatest height, mass and intensity of development will be focussed at the main road frontage (buildings of 3 or more storeys being the predominant built form) with vehicle access to allotments occurring via rear access ways and secondary road frontages where possible;
- large scale development in the zone should establish areas of communal and public open space, and create links with existing movement patterns and destinations;
- impacts on adjoining zones where development is lower in scale and intensity will be minimised through transition of building heights and setbacks, judicious design and location of windows and balconies; and
- overlooking, overshadowing and noise impacts will be moderated through careful design.

7.3 Council Wide

The Development Plan generally encourages new buildings sited in appropriate locations featuring a high standard of design and appearance which reinforce positive aspects of the local environment.

Relevant General Section policies relate to maintaining the integrity of the transport network, building height restrictions for aircraft operations, adequate vehicle parking, design and appearance, interface with the public realm and sensitive land uses, stormwater management and environmental sustainability.

7.4 Overlays

7.4.1 Noise and Air Emissions

This site is located within the designated area for the Noise and Air Emissions Overlay, and as such requires assessment against *Minister's Specification SA 78B for Construction Requirements for the Control of External Sound.*

7.4.2 Adelaide Airport Building Heights

The subject land is located within Airport Building Height Zone C. Structures exceeding 15 metres above existing ground level should not be developed unless a safety analysis determines that the building/structure does not pose a hazard to aircraft operations.

7.4.3 Strategic Transport Routes

Anzac Highway is identified as a Major Traffic and Cycling Route, a Primary Freight Route and a High Frequency Public Transport Route in the DPTI publication "A Functional Hierarchy for South Australia's Land Transport Network". Each side of Anzac Highway in this location is categorised as a strategic transport routes designated area.

8. PLANNING ASSESSMENT

The application has been assessed against the relevant provisions of the West Torrens Council Development Plan consolidated 12 July 2018, which are contained in attachments.

8.1 Quantitative Provisions

	Development Plan Guideline	Proposed	Guideline Achieved	Comment
Minimum Net Residential Site Density	100 dwellings per hectare net	Approximately 130 dwellings per hectare (equivalent)	YES ☒ NO ☐ PARTIAL ☐	
Building Height	3 storeys and 12.5 metres	5 storey (16.9 metres)	YES ☐ NO ☒ PARTIAL ☐	Discussed further in assessment
Front Setback	3m from Anzac Highway	0m to 1.5m setback at ground	YES ☐ NO ☒ PARTIAL ☐	
Rear Setback	No setback requirement	Proposed development is setback 16m from the rear boundary	YES ☒ NO ☐ PARTIAL ☐	
Side Setback	3 metres for allotments with a frontage width of more than 20m	Built face of development setback 3m	YES ☒ NO ☐ PARTIAL ☐	Discussed further in assessment
Apartment size	**Required** 2 bedroom dwelling/apartment 75m^2	**Proposed** 2 bedroom apartments range from 72m^2 to 80m^2	YES ☐ NO ☐ PARTIAL ☒	Discussed further in assessment
Private Open Space	**Required** 2 bedroom dwelling: 11m^2 Minimum dimension of 2 metres, directly accessible from a habitable room	2 bedroom dwellings: varies between 11m^2 and 52m^2	YES ☒ NO ☐ PARTIAL ☐	
Car Parking	**Required** 1 space per 2 bedroom dwelling Visitors: 1 per 4 dwellings	**Residential** Required 14 Proposed 14 **Visitor** Required 4 Proposed 0	YES ☐ NO ☐ PARTIAL ☒	Discussed further in assessment
Bicycle Parking	**Visitor** 1 for every 10 dwellings **Resident** 1 for every 4 dwellings	4 visitor spaces at ground Each dwelling has provisions for bicycle storage	YES ☒ NO ☐ PARTIAL ☐	

8.2 Land Use and Character

The Urban Corridor envisages a mix of medium and high-density residential development with community and employment land-uses along Anzac Highway. The proposal involves the development of medium density residential dwellings, which is considered consistent with the desired character and policies of the Urban Corridor Zone and Policy Area.

8.3 Building Height

The Boulevard Policy Area supports developments up to 8 storeys and 32.5 metres in height other than for those allotments between Syme Street and South Road where a maximum height of 3 storeys (12.5 metres) is expressed. Council expressed that the specific height limit in place is to provide a transition in built form between the Urban Corridor and Residential Zone, Ashford Character Policy Area 22. The subject site is located approximately 75m from the edge of the Ashford Character Policy Area.

The subject site is located between Syme Street and South Road and as such a 3 storey height limit applies to the subject land.

The proposed development is five storeys in height or approximately 16.9 metres to the roofline. It is acknowledged that the proposed development is at odds with the envisaged height limit of the Policy Area. There are several aspects of the proposed development and site context that provide some support for the proposed height, which are:

- The proposed development is appropriately sited within the subject site to ensure adequate separation from the adjoining allotment on the southern boundary
- The subject site is located approximately 39.6 metres from the closest allotment within the adjacent residential zone, on the opposite side of Anzac Highway
- The proposed development being over-height should not create any additional bulk and scale issues, overlooking concerns or unreasonable overshadowing to the adjacent (residential zone) properties located on the opposite side of Anzac Highway
- The top level of the development is setback 5.4 metres from Anzac Highway and treated with a darker material palette to reduce the perceived view bulk and height of the development
- It is acknowledged that a development at 99 Anzac Highway was approved at 5 storeys which was subject to the 3 storey height limit.

The Government Architect supports the proposed height and is of the opinion that the scale of the proposal is consistent with the envisaged character of the wider locality along Anzac Highway.

Overall, the 4.4m departure from the Development Plan's building height policy is not considered fatal to the application and should not result in an unacceptable interface with adjoining residential developments.

8.4 Setbacks

The Development Plan provides the following setback guidelines for the subject site:

- Anzac Highway – 3 metres
- Rear Setback - 0 metres
- Side Setbacks – 3 metres

The proposed development is setback 1.5 metres from Anzac Highway at ground which is at odds with 3m front setback envisaged for Anzac Highway. The Government Architect is of the opinion that a greater setback would create for a more meaningful landscaping and enhanced pedestrian experience at ground. The proposed boundary line planter box and timber screening along Anzac Highway provides opportunities to incorporate some landscaping and human scale into the public realm. It is also noted that the residential levels from 1 to 4 are setback 3m from Anzac Highways, reducing the bulk and scale of the development at ground.

Figure 7 - section and render of the Anzac Highway frontage

Figure 8 - Southern elevation

The built mass of the development from ground to level 5 is setback 3 metres from the western boundary. The cantilevered entrance canopy and pedestrian entrance is setback 600 millimetres from the western boundary. The applicant has incorporated a timber batten and grow screen along this boundary to provide a softened outlook and an appropriate level of screening for the adjacent dwelling.

The development generally displays an appropriate setback from the northern boundary, however due to the irregular shape of the allotment the development is within 1.25 metres of the boundary. It is acknowledged that the northern boundary is adjoined by the Brown Creek Reserve and dense vegetation, which provides adequate separation from the adjoining residents.

Council raised concern that the proposed development encroached on the minimum 10 metre setback from the centreline of the adjacent Brown Creek Reserve. The applicant provided a detailed survey plan highlighting that the development is setback

4 metres from the embankment of the creek and the closest building column is setback approximately 11 metres from the centreline of Brown Creek.

Notwithstanding the front setback the proposed development generally accords with the other required setbacks and the minor shortfalls are not considered fatal to the application and unlikely to detrimentally impact the public realm along Anzac Highway.

8.5 Design and Appearance

The desired character statement of the Boulevard Policy Area 34 provides the following guidance for design and appearance.

- *…Buildings of up to eight storeys will have a strong presence to Port Road and Anzac Highway. At lower levels, building will have a human scale through the use of design elements such as balconies, verandas and canopies.*

- *…Podium elements, where higher floors of the building are setback further than lower floors, may be used to improve air quality (through greater air circulation), as well as enhancing solar access, privacy and outlook for both the residents of the building and neighbours.*

- *…Short front setbacks along Anzac Highway will allow for some landscaping to contribute to a more open landscaped character.*

Additionally the desired character of the Urban Corridor Zone seeks developments to create interesting pedestrian environment and human-scale at ground level through careful building articulation and fenestration, verandas, balconies, canopies and landscaping.

The built form of the proposed development is setback 1.5 metres from Anzac Highway and incorporates a timber screened car parking at ground with four levels of apartments above. The pedestrian entrance on Anzac Highway is recessed into the development, which provides an important space for transition and a sense of address for the residents and visitors.

The services at ground on the Anzac Highway are appropriately screened by metal mesh panelling, which continues to the underside of the front floor slab in order to screen the building services. It is noted that the Development Plan seeks a minimal floor to ceiling height of 4.5m for the ground level to allow for adaptability. The applicant noted that there is a very low prospect of converting the ground floor into another use, given the continued need for car parking. The 3.4m floor to ceiling slab height at ground should provide appropriate head clearance for service vehicles and is considered generally appropriate. The Government Architect acknowledged the commercial viability of adapting the ground floor and on balance supports the floor to ceiling heights and ground floor arrangements.

Figure 9 - Artistic impression of the proposed development from Anzac Highway frontage

On levels one to three the built face of the building is setback 3m from the adjacent residential dwelling (south boundary) and Anzac Highway. The balconies on levels one to three project to the front and rear of the development and are integrated into the overall architectural expression of the development. The fourth level of the building is setback further into the core of the building, reducing the visual bulk from ground. The Government Architect supports the general massing and built form the proposed development. This, in addition to the proposed screening devices will also help to minimise overlooking in to the adjacent premises.

The contemporary architectural expression of the building is characterised by a light coloured rectangular built form with projecting balconies, canopies and window reveals treated in darker contrasting colours. The contrasting colour provides depth and visual interest in the façade. The recessed top floor is treated in a darker colour to provide a distinctive built form and further aids in reducing the perceived visual bulk of the top level. The Government Architect supports the general composition of the built form and the proposed materiality, which comprises a pre-finished cladding system.

On balance the design and appearance of the proposed development is generally considered consistent with the desired character of the Zone and Policy Area and is considered to present a well resolved architectural proposition.

8.6 Apartment Amenity

The Development Plan seeks medium to high scale residential development to provide a high standard of apartment amenity with functional internal layouts. All residential developments should have direct access to natural light and ventilation. Development should integrate built form within high quality landscapes to optimise amenity, security and personal safety.

The Development Plan seeks developments with more than 10 dwellings to have a mix in the number of bedrooms provided. The proposed development exclusively offers 2 bedroom apartments. It is acknowledged that lack of apartment diversity is a shortfall, however it is not considered fatal to the application.

Apartment type 'C' has an internal floor area of 72m^2 which is at odds with the development plan with seeks a minimal internal floor area of 75m^2. The 3m^2 shortfall is not considered detrimental to the apartment amenity and the communal open space at ground may assist in supplementing the smaller apartment size.

On balance residential apartments are generally convincing in terms of size and layout. All apartments within the development have living rooms with direct and unrestricted views to the respective private open space. The balconies of the apartments are

appropriately dimensioned to ensure functionality and the incorporation of screening devices should address adjacency privacy issues between dwellings. Internally the Government Architect expressed support for the generous entry sequence for the apartment residents, including the staggering of entry doors.

The applicant chose to remove the visitor parking at ground in lieu of additional landscaping and communal space. As a result the development reflects a high quality communal area at the front of the building, which incorporates seating and table facilities. The Government Architect supports the expanded communal garden area and is of the opinion that the garden creates a successful and usable community asset for future residents.

On balance the proposed development exhibits an appropriate level of apartment amenity and is considered generally consistent with the policy provisions of the Development Plan.

8.7 Regulated Tree

The Regulated Tree objectives in the Development Plan acknowledges the important aesthetic and environmental benefit of the mature trees. It is noted that conservation of regulated trees should occur in balance with achieving appropriate development.

The proposed development seeks to remove one (1) Regulated tree located in the north-western corner of the development site. The applicant engaged The Adelaide Tree Surgery to conduct an arborist report. The report noted that the regulated tree is a Canary Island Date Palm and has a stem circumference of 2.98 metres when measured one metre above natural ground. The arborist report clarified that the palm is not indigenous to the local area, is not rare or endangered and has no habitat value for local fauna.

Due to the location of the palm tree the aesthetic benefits of the tree are limited, it is also acknowledged that there are a large number of mature trees located along the Brown Creek Reserve and several large mature Ash Trees located on the Council verge.

The removal of the regulated tree is unfortunate, however the proposed landscaping and deep soil planting is a positive outcome. When assessed against the relevant policy provisions the tree removing activity is not considered fatal to the application.

8.8 Traffic Impact, Access and Parking

8.8.1 Traffic

The Development Plan recognises Anzac Highways as a major transport corridor and encourages developments to minimise the number of access points and where possible provide access from secondary road frontages and rear access ways as much as possible.

The applicant engaged Cirqa traffic consultants to undertake a Traffic and Parking Assessment for the proposed development. The vehicle access to the proposed development is via a new two way crossover to Anzac Highway. The access point is approximately 6.0 wide and includes provisions for 2.5m x 2.0 pedestrian sight line requirements for adjacent egress movements. It is noted that the access gate to the under croft carpark is set into the site to provide a queuing area for vehicles to ensure there is no queue on to Anzac Highway when entering the site.

The traffic consultant estimated that the proposed development will generate less than 10 trips in the peak hour. The estimated traffic generation is considered to be relatively low and should easily be accommodated on the adjacent road network.

The Commissioner of Highways has reviewed the access arrangements and does not have any fundamental issues with the proposed access.

Overall the access arrangements for the proposed development and resulting minor increase in vehicle traffic in the locality is considered consistent with the land-use and Urban Corridor Zone.

8.8.2 Car parking

Table WeTo/6 - provides Off Street Vehicle Parking requirements for residential development in the Urban Corridor Zone, these requirements state:

Location of development	Rate for each dwelling based on number of bedrooms per dwelling	Plus number of required visitor parking spaces
Boulevard Policy Area 34 within the **Urban Corridor Zone**	0.25 per studio (no separate bedroom) 0.75 per 1 bedroom dwelling 1 per 2 bedroom dwelling 1.25 per 3 + bedroom dwelling	0.25 per dwelling

The proposed development incorporates 14 carparks at ground, which is consistent with the prescribed car parking rate for 2 bedroom dwellings in the Urban Corridor Zone. The development also incorporates one accessible parking space in the under croft which is 2.4m wide and 5.4m long.

Council raised concern that the rear parking row has columns located 400mm from the start of the space, which would result in the car parking not complying with the relevant Australian Standard. The applicant confirmed that the design and layout of the parking and driveways on site conforms to the relevant Australian Standards having regard to critical dimensions, proximity to structure and manoeuvring.

The original proposal included 3 visitor carparks within the under croft car parking, however through the pre-lodgement process the applicant opted to remove the visitor parking to reduce the extent of the paved area and maximise landscape open space. As a result the proposed development does not include any visitor parking and all visitor parking will need to be accommodated on-street.

The traffic consultant engaged noted that there is ample parking opportunities on Anzac Highway outside of the hours of operation of the part-time bicycle lane (which applies between 7am -10am). It was also expressed that alternative on-street parking opportunities exist in Syme Street, Grove Street and Farnham Road all of which are within 100 metres of the development.

The shortfall in visitor car parking is not considered ideal however, the on-street parking provisions are considered adequate and should accommodate the 4 required visitor carparks. Notwithstanding the shortfall in visitor parking the proposal displays appropriate residential parking provisions consistent with the required parking rates outlined in the Development Plan. A planning condition is suggested to be applied to any decisions to ensure the car parking applies with the relevant Australian Parking Standard.

8.8.3 Bicycle Parking

Table WeTo/7 - provides Off Street bicycle parking requirements for the Urban Corridor Zone, these requirements state:

Form of development	Employee/resident (bicycle parking spaces)	Visitor/shopper (bicycle parking spaces)
Residential component of multi-storey building/residential flat building	1 for every 4 dwellings	1 for every 10 dwellings

The proposed development at ground incorporates 4 visitor bicycle parking spaces and each apartment includes a wall mounted bicycle rack. The proposed bicycle parking scheme would require residents to manoeuvre a bicycle through the foyer and lift, which is not considered ideal. It is however acknowledged that some residents may prefer to store their bicycle in the apartment.

The proposal has a surplus of two bicycle parks at ground which could be utilised by residents that do not wish to store their bicycle in the apartment.

On balance the proposed development broadly achieves the prescribed Development Plan bicycle parking rates.

8.9 Environmental Factors

8.9.1 Crime Prevention

The Development Plan envisages that developments maximise surveillance of public spaces by incorporating clear sight lines, appropriate lighting and visible permeable barriers which encourages passive surveillance. Development should also incorporate robust building materials that are resistant to vandalism and graffiti.

The proposed development is orientated to front onto Anzac Highway, which encourages passive surveillance onto the public realm from the upper level balconies. The Anzac Highway frontage incorporates a permeable timber screening with planters, which should provide views in and out of the development. It is also acknowledged that the screening material and proposed landscaping is considered robust and resistant to vandalism and graffiti. The pedestrian access to the apartment building is via the secure entrance that fronts onto Anzac Highway. Vehicle access to the under croft carpark is via a security access door.

Council raised concern that the recessed pedestrian entry point and heavily screened front fence are considered to create pedestrian entrapment spots and movement predictors.

The recessed pedestrian entry is directly adjacent the street light on Anzac Highway, which should provide further illumination to the pedestrian access. It is also acknowledged that there is passive surveillance provided by apartments type ‘B’ and ‘D’, should assist in a safe environment at the entrance.

The proposed crime prevention measures are generally considered to address the principles of personal safety and should provide sufficient levels of passive surveillance to the public and private realms of the development.

8.9.2 Noise Emissions

The site is located within the designated area for the Noise and Air Emissions Overlay. Where sensitive development is located within the overlay, the *‘Minister’s Specification 78B for Construction Requirements for the Control of External Sound’* applies.

The applicant has acknowledged the importance of appropriate noise attenuation and noted that the proposed building will be specified and constructed to meet

the requirements of the Ministers Specification 78B – Construction requirements for the control of external sound.

The applicant engaged Trinanic Consultants to prepare a services reports. The services report confirms that the outdoor air-conditioning condensing units located in the plant enclosure on 5 level will be acoustically treated to meet the Environmental Protection Agency Noise Policy requirements.

The Government Architect strongly supports the consolidation of the plant equipment to maintain balconies free of service equipment. The Government architect has recommended further development of the acoustic treatment and screening system to the plant area, to reduce the potential impact the immediate locality.

A planning condition is recommended to be placed on any planning consent to ensure that the final screening and acoustic treatment details are provided to the satisfaction of SCAP prior to development approval.

Notwithstanding the final detailed design of the plant equipment, the proposal generally displays appropriate noise mitigation provisions consistent with the development plan policies.

8.9.3 Waste Management

Council Wide Waste Management Policies seeks developments to include a designated collection and storage areas that are appropriately screened and located to enable convenient collection and avoid impacts on adjoining sensitive land uses.

The applicant engaged Colby Industries to prepare a Waste Management Plan. The proposal includes a waste storage area large enough to accommodate 1x1100 litre general waste bin, 6x240 litre recycling bins and 3x240 litre organic bins. The waste management plan notes that hard waste would be collected from the subject site on an 'as needs' basis which would be subject to negotiation with the Strata Corporation and Council.

The collection of the larger general waste bin is proposed to occur wholly on-site by a small rear lift truck. The consultant has confirmed that the collection vehicle will enter the development in a forward direction from Anzac Highway and will be able to manoeuvre to exit in a forward direction back onto Anzac Highway.

The development will utilise Council's standard kerbside waste collection service for the collection of the recycling and food waste collections. Council have reviewed the proposed waste management strategies and do not raise any concerns. It was expressed that the waste report nominated a smaller refuse truck which are in high demand and a condition to restrict access to the vehicle type nominated for the refuse collection should be included.

On balance the proposed waste management is considered appropriate and aligns with the relevant waste management policies of the Development Plan.

8.9.4 Energy Efficiency

The Development Plan seeks building to be appropriately sited and designed to conserve energy and water. The applicant engaged D^2 to prepare an Integrated Sustainability Strategy report. A summary of environmental sustainability design principles applied in the design of the proposed development and specification of equipment follows below:

- All common areas at ground and above will be natural ventilated and have access to natural light
- Residents can benefit from the option of reduced electricity supply rates, and have the ability to share renewable energy from the building's solar PV array
- Common areas will incorporate daylight control lighting systems
- The development will utilises energy efficient LED throughout the building
- All apartment air conditioning units will be rated to the highest available Energy Star rating and will incorporate zoning functions
- Proposed development incorporated space for the future deployment of battery storage systems
- The development will utilise gas boosted hot water systems, gas hobs and energy efficient ovens
- Smart metering system will be incorporated into the building energy management system
- Water efficient fitting of a minimum 6 star WELS rating taps, 4 star WCs, and 3 star for showers
- Development includes rainwater storage for communal watering and wash down facilities; and
- Paints, sealants, adhesives, carpets and other coverings specified with low off-gassing properties

The Government Architect supports the applicant's ambition to achieve a seven star dwelling sustainability rating. It is anticipated integration of the proposed sustainability strategies to achieve this star rating will occur during the next phase of design development.

The information provided in the Integrated Sustainability Strategy demonstrates appropriate environmental sustainable design considerations and is generally consistent with the policy provisions contained within the Development Plan.

8.9.5 Stormwater

The Development Plan policies generally seeks stormwater management systems to be designed and located to improve the quality of stormwater, minimise pollutant transfer to receiving waters. Development should also include stormwater management systems to mitigate peak flows and manage the rate and duration of stormwater discharges from the site to ensure existing infrastructure is not overloaded.

The proposed development incorporates an underground rainwater storage tank, which is intended to be used for communal watering and washing down. It was noted that this storage tank may be combined with stormwater detention on site in a combined below ground storage facility.

Council raised concern that the lodged documentation lacked detail regarding the stormwater detention and the potential size of the detention tank. The applicant engaged Magryn to provide Preliminary Stormwater comments and calculations.

The consultant clarified that the minimum detention of 2801.6 litres is required for the development, as such a 3000L detention tank has been specified to meet the development requirements. It was also expressed that as per Council's request, stormwater outlets shall be to Anzac Highway and not to the open drain.

Based on the technical comments provided by the Stormwater consultant it is assumed that the development will appropriately deal with the detention and mitigate peak flows and is considered generally consistent with the policy provisions. A planning condition is recommended to ensure the stormwater adheres to the relevant Australian Standards.

8.9.6 Landscaping

The Urban Corridor Zone encourages developments that are setback from the main roads to incorporate landscaping, to contribute to a pleasant pedestrian environment and provide an attractive transition between the public and private realm.

Council noted that the Ash tree on the Anzac Highway verge may require some trimming in order to achieve suitable clearance for the development. Council consider the pruning acceptable as long as the work is undertaken by Council.

The applicant engaged Oxigen landscape architects to provide a detailed landscaping plan for the proposed development. The development utilises a boundary line planter along the Anzac Highway frontage, which backs onto a 2.4m timber batten fence. The communal garden located to the rear of the development site includes a lawn area, sitting area with power outlet and storage. The Government Architect is of the opinion that the communal garden creates a successful and usable community assess for future residents, and significantly enhances the landscape of the site.

On balance the proposed development incorporates appropriate levels of landscaping to soften the Anzac Highway public realm as well as providing a communal garden which could be enjoyed by the future residents. On balance the proposed development displays appropriate landscaping and is considered consistent with the Development Plan.

8.10 Interface

8.10.1 Overlooking

The Urban Corridor Zone encourages developments to moderate overlooking and over shadowing through careful design. It is acknowledged that the allotments abutting the development site are located in the Urban Corridor and the adjacent residential zone is located approximately 40m to the south east on the opposite side of Anzac Highway.

Representors raised concern about the potential loss of privacy and overshadowing as a result of height of the development. The window treatments adjacent the western boundary were also questioned.

The residential apartments from levels 1-5 are setback 3m from the western boundary consistent with PDC 14 (Medium and High Rise Development) which seeks a minimal of 3m setback. The balconies of these apartments are setback 4 -5 metres respectively and incorporate screening devices to manage incidental overlooking of the adjacent allotments.

The fourth level of the apartment has been setback within the ‘core of the tower to reduce the perceived bulk and to provide greater separation to the adjacent allotment. There is no screening devices on the 5 level balconies, which could result in greater incidental overlooking. It is however acknowledged that the primary function area of the balconies do not open directly open onto the western and northern dwellings.

Figure 10 – Proposed screening and privacy measures

The applicant noted that the windows on the western boundary have been positioned to ensure appropriate levels of privacy are adopted. The applicant is open to applying a planning condition to ensure the western façade glazing is fixed with obscure glass to height of 1.7 metres above finished floor level.

It is considered that the design elements of the proposed development will sufficiently manage the impacts of overlooking in accordance with the policy provisions. A planning condition is recommended to be applied to detail all upper level windows on the western façade to be obscured to 1.7 metres above the finished floor level.

8.10.2 Overshadowing

The Urban Corridor Zone recognises that some level of overshadowing will occur and notes that it can be moderated through different design techniques.

Representors raised concerns that the roof mounted solar array will be overshadowed. The provided shadow diagrams of the winter solstice illustrates that the adjacent allotment located to the west will be overshadowed between the hours of 9am to 12pm. From the hours of 12pm to 3pm the substantive shadow cast by the development largely falls onto Anzac Highway. As such the solar panels located on the northern aspect of the representor's roof should receive direct sunlight from 12pm onwards. During the Summer Solstice majority of the development's shadow is contained within the allotment boundaries.

Figure 11 – Adjacent residential property that will be overshadowed

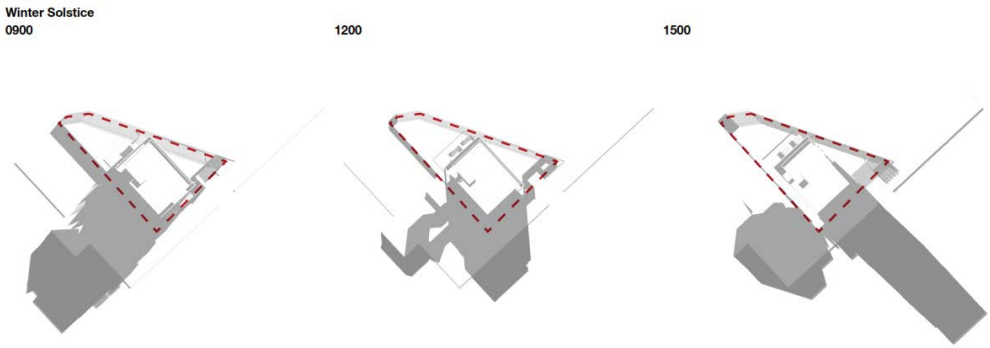


Figure 12 – Shadow diagram

It is considered that the proposed development utilises appropriate design techniques and setbacks to mitigate unreasonable overshadowing of the immediate locality and is generally consistent with the Development Plan.

9. CONCLUSION

The proposal is for the construction of a 5 storey residential building comprising ancillary car parking, landscaping, associated building work and the removal of a regulated tree in the Boulevard Policy Area of the Urban Corridor Zone at 81 Anzac Highway, Ashford.

The proposed development exceeds the maximum envisaged height limit of 3 storeys or 12.5 metres for the Boulevard Policy Area. The development is five storeys in height or 16.9 metres to the roofline. The architectural expression and articulation of the development seeks to reduce the perceived visual bulk of the building. The top level of the development has been setback from Anzac Highway and treated in a darker colour palette to reduce visual presence of the floor. The Government Architect supports the proposed height and is of the opinion that the scale of the proposal is consistent with the envisaged character of the wider locality along Anzac Highway.

The design and appearance of the proposal in-principle is supported by the Government Architect and the materials incorporated into the façade are considered integral and of relative high quality. The removal of the regulated tree is unfortunate, however it is acknowledged the aesthetic benefits of the regulated tree are limited due to the location. The extensive soft landscaping and deep soil planting is considered appropriate and should supplement the removal of the regulated tree.

All habitable rooms within the residential apartments have access to natural light and ventilation and generally exhibit generous floor plates. The Government Architect supports the lift foyer arrangement and staggering of entry doors. The proposal exhibits a convincing level of apartment amenity. It is noted that the proposal is wholly made up of two bedroom apartments, which is at odds with the Development Plan which seeks a mixture of apartment types.

The proposal does not include the required 4 visitor car parks as sought by the Development Plan. The visitor car parking was removed from the initial proposal in lieu of additional communal space and landscaping. It is acknowledged that there are several on-street parking opportunities available to supplement the shortfall in visitor car parking.

The potential for incidental overlooking as a result of the development will increase, however it is considered that the screening devices and the application of obscured glass to 1.7m should reduce overlooking.

When assessed against the relevant Development Plan policies the proposal generally satisfies the relevant policy provisions. The proposal is consistent with the desired character of the Boulevard Policy Area in the Urban Corridor Zone and should not result in or cause unacceptable impacts on the local amenity. Accordingly, the proposal warrants Development Plan Consent subject to conditions.

10. RECOMMENDATION

It is recommended that the State Commission Assessment Panel:

1) 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 West Torrens Development Plan consolidated 12 July 2018.

2) RESOLVE that the proposed development is NOT seriously at variance with the policies in the Development Plan.

3) RESOLVE to grant Development Plan Consent to Development Application 211/M029/18 by AWWAD Super Fund Pty Ltd for construction of a 5 level (including ground) residential flat building comprising ancillary car parking, landscaping, associated building work and removal of a regulated tree at 81 Anzac Highway, Ashford.

PLANNING CONDITIONS

1. The development granted Development Plan shall be undertaken and completed in accordance with the stamped plans and documentation, except where varied by conditions below.

   Reason for condition: to ensure the development is constructed in accordance with endorsed plans and application details.

2. *Prior to Development Approval being granted the applicant shall provide detailed engineering plans and calculations which demonstrates how the land adjacent to*

the watercourse is to be retained (if necessary) in consultation with the City of West Torrens's Manager City Assets and be to the satisfaction of the SCAP.

Reason to ensure the Brown Creek Reserve is not adversely impacted as a result of the development

3. A payment of $179.00 shall be made into the Planning and Development Fund ($179.00 per regulated tree being removed) within three (3) months from the date of Development Approval being granted.

   Reason for condition: A requirement by Regulations.

4. All external lighting on the site shall be designed and constructed to conform to Australian Standard (AS 4282-1997).

   Reason for condition: to ensure external lighting does not introduce undue potential for hazards to users of the adjacent road network in accordance with the necessary standard.

5. All stormwater infrastructure design and construction shall be in accordance with Australian Standard AS/NZS 3500.3:2015 (Part 3) to ensure that stormwater does not adversely affect any adjoining property or public road.

   Reason for condition: to ensure stormwater infrastructure is designed and constructed to minimise potential for flood risk to adjoining property or public roads associated with stormwater runoff in accordance with the necessary standard.

6. All off-street car parking areas shall be designed in accordance with *AS/NZS 2890.1:2004* and *AS/NZS 2890.6:2009*.

   Reason for condition: to ensure off-street car parking facilities are designed to adhere to the necessary standards.

7. All bicycle facilities shall be designed in accordance with AS/NZS 2890.3:2015.

   Reason for condition: to ensure bicycle facilities are designed to adhere to the necessary standard.

8. The development will comply with noise level criteria specified in Environmental Protection (Noise) Policy 2007 (under the Environmental Protection Act). This includes noise from roof-level plant and equipment and the air-conditioning units with consideration given to the adjacent properties. Noise attenuation devices and visual screening will be implemented as necessary.

   Reason for condition: to ensure mechanical equipment does not cause unreasonable nuisance or loss of amenity in the locality.

9. All Council, utility or state-agency maintained infrastructure (i.e. roads, kerbs, drains, crossovers, footpaths 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.

   Reason for condition: to ensure appropriate reinstatement of any Council, utility or state-agency maintained infrastructure affected by construction activities.

10. Landscaping shown on the approved plans shall be established prior to the operation of the development and shall be maintained and nurtured at all times with any diseased or dying plants being replaced.

    Reason for condition: to ensure the proposed landscaping is established and consistent with the landscaping concept.

11. Windows on the western boundary as shown on the plans that require privacy treatment shall be fitted with a sill height or fixed and obscured glazing not less than 1.7m above the relative finished floor level. Privacy treatments shall be installed prior to occupation of the building and thereafter maintained to the reasonable satisfaction of Council.

    Reason for condition: to ensure appropriate levels of privacy with the adjacent western allotment are maintained.

DPTI Traffic Operations Conditions

12. The access shall be a minimum of 6 metres in width at the Anzac Highway property boundary and be suitably flared to the kerbline to permit convenient ingress and egress movements.

    Reason for condition: to ensure appropriate ingress and egress movements are maintained on and off Anzac Highway.

13. The gate shall be setback a minimum of 6 metres from Anzac Highway property boundary in order to ensure a vehicle can store completely on site prior to it being opened or closed.

    Reason for condition: to ensure the potential queuing of vehicles does not impede Anzac Highway.

14. The shared driveway and vehicle manoeuvring areas shall be kept clear of all obstructions including metres, letterboxes, fences and vegetation.

    Reason for condition: to ensure clear lines of sight are maintained

15. Any redundant crossovers shall be removed and reinstated to Council's kerb and gutter standards at the applicant's cost prior to habitation of the dwellings.

    Reason: to ensure traffic access and egress to and from the site is appropriately managed.

16. All vehicles shall enter and exit the site in a forward direction.

    Reason: to ensure vehicles enter and exit the development in a safe manner

17. Minimum Sight Lines for Pedestrian Safety in AS/NZS 2890.1:2004 shall be provided at the property line to ensure adequate visibility between vehicles leaving the site and pedestrians on the adjacent footpath.

    Reason for condition: to minimise risks of conflict between motorists and pedestrians at the subject land's boundaries in accordance with the necessary standards.

18. Stormwater run-off shall be collected on-site and discharged without jeopardising the integrity and safety of the arterial road. Any alterations to the road drainage infrastructure require to facilitate this shall be at the applicant's cost.

Reason for condition: to ensure stormwater infrastructure is designed and constructed to minimise potential for flood risk to adjoining property or public roads associated with stormwater runoff in accordance with the necessary standard.

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).

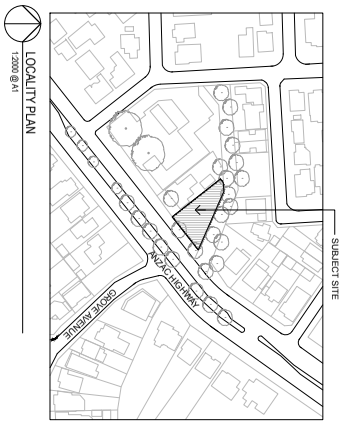
d. The applicant, or any person with the benefit of this consent, must ensure that any consent/permit from other authorities or third parties that may be required to undertake the development, have been granted by that authority prior to the commencement of the development.

e. The applicant is reminded of their obligations under the Local Nuisance and Litter Control Act 2016 and the Environment Protection Act 1993, in regard to the appropriate management of environmental impacts and matters of local nuisance. For further information about appropriate management of construction site, please contact the City of Adelaide.

f. Footpaths adjacent to the site are to be kept in a safe condition for pedestrians at all times during construction works. All driveways and footpaths transverse by vehicles using the site are to be maintained in a reasonable condition for the duration of the works, and are to be reinstated to the satisfaction of Council on completion of the works.

g. Any tree pruning within the adjacent Council road reserve will be undertaken by the City of West Torrens.

Karl Woehle
Planning Officer
DEVELOPMENT DIVISION
DEPARTMENT OF PLANNING, TRANSPORT and INFRASTRUCTURE


LOCALITY PLAN
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ANZAC HIGHWAY
CHOLE AVENUE
SUBJECT SITE

LOCALITY PLAN
1:500 @ A1

0 10 25 50m

REV	DATE	DESCRIPTION
1.0	06/11/18	ISSUED FOR DPC

FOR APPROVAL ONLY
NOT FOR CONSTRUCTION

tectvs

CLIENT
SIMON CROSS

PROJECT
HOUSING ANZAC HIGHWAY
81 ANZAC HIGHWAY
ASHFORD

DRAWING
SITE PLAN

NORTH

SCALE
AS SHOWN

DATE
NOVEMBER 2018

PROJECT NO.
27010

DWG NO.
P01

REVISION	CHECKED	DRAWN
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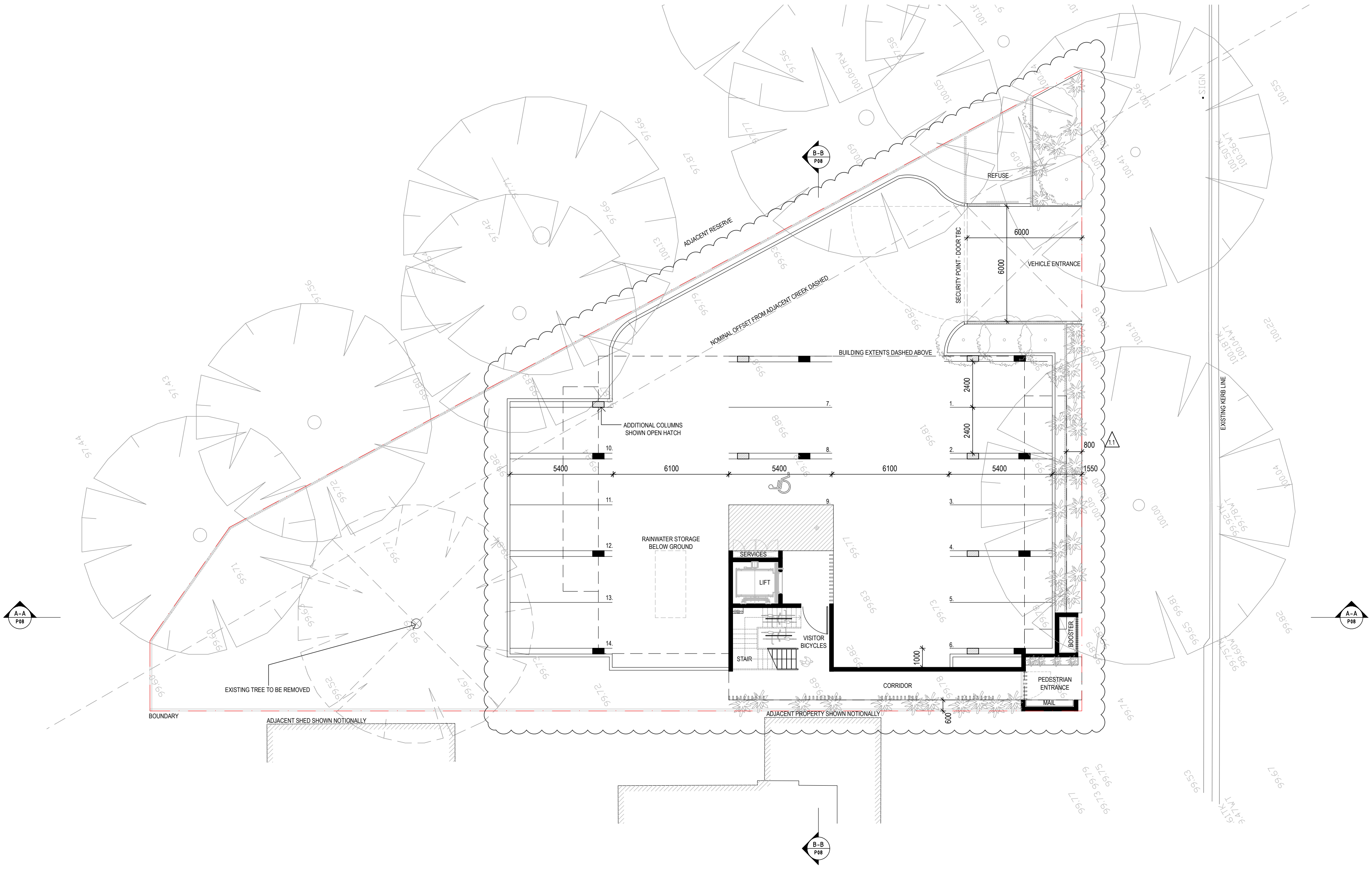
36 FIELD STREET ADELAIDE SOUTH AUSTRALIA 5000
P 08 8 410 5200 F 08 8 410 5244 E mail@tectvs.com.au



GROUND FLOOR PLAN

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REV	DATE	DESCRIPTION
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1.0	06/11/18	ISSUED FOR DPC

FOR APPROVAL ONLY
NOT FOR CONSTRUCTION

tectvs

CLIENT
SIMON CROSS

PROJECT
HOUSING ANZAC HIGHWAY
81 ANZAC HIGHWAY
ASHFORD

DRAWING
FLOOR PLAN

NORTH

SCALE
AS SHOWN

DATE
DECEMBER 2018

PROJECT NO
27010

DWG NO
P02

REVISION 1.1 | CHECKED FB | DRAWN mdf

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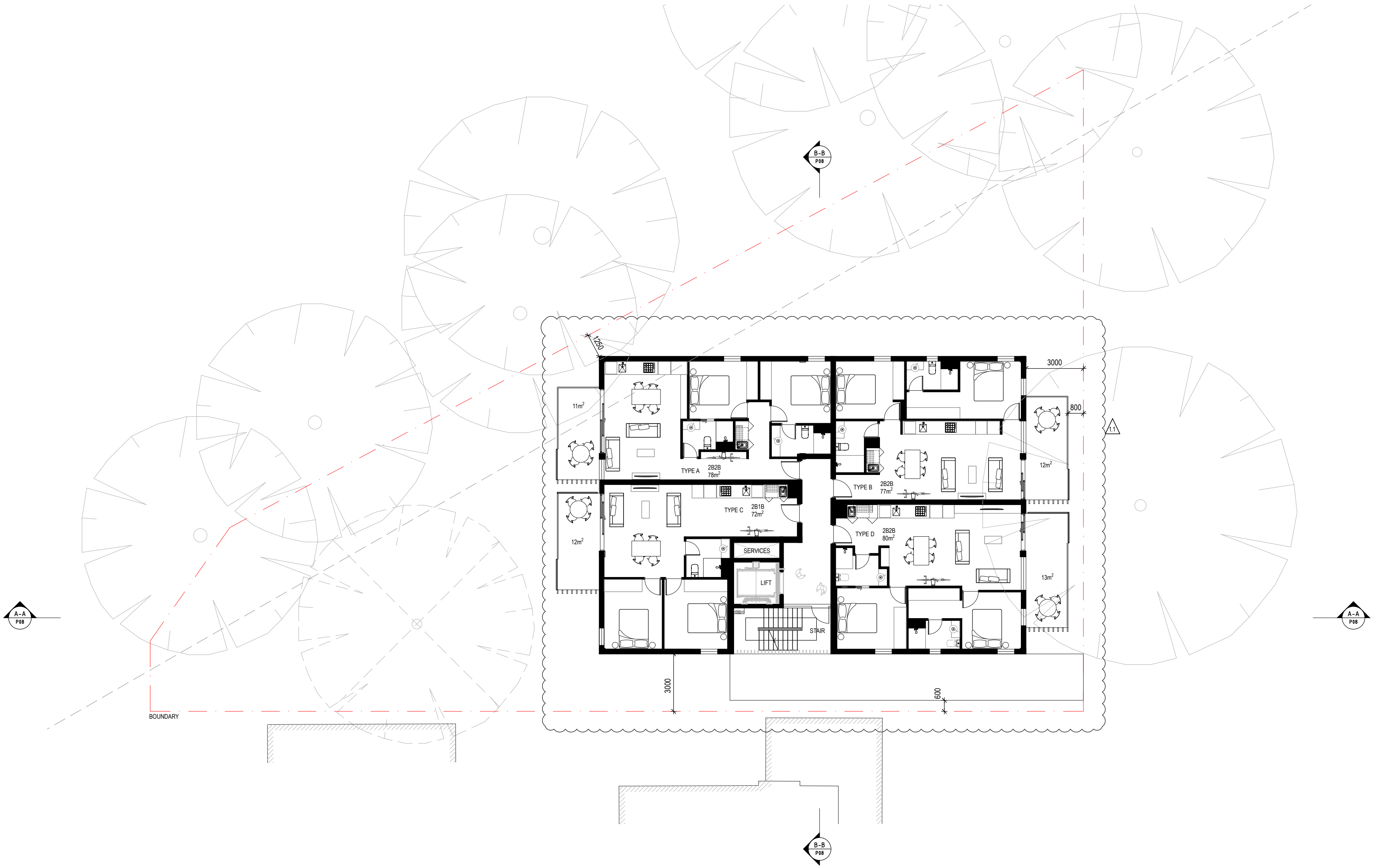

FIRST FLOOR PLAN

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REV	DATE	DESCRIPTION
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1.0	06/11/18	ISSUED FOR DPC

FOR APPROVAL ONLY
NOT FOR CONSTRUCTION

tectvs

CLIENT
SIMON CROSS

PROJECT
HOUSING ANZAC HIGHWAY
81 ANZAC HIGHWAY
ASHFORD

DRAWING
FLOOR PLAN

NORTH

SCALE
AS SHOWN

DATE
DECEMBER 2018

PROJECT NO
27010

DWG NO
P03

REVISION	CHECKED	DRAWN
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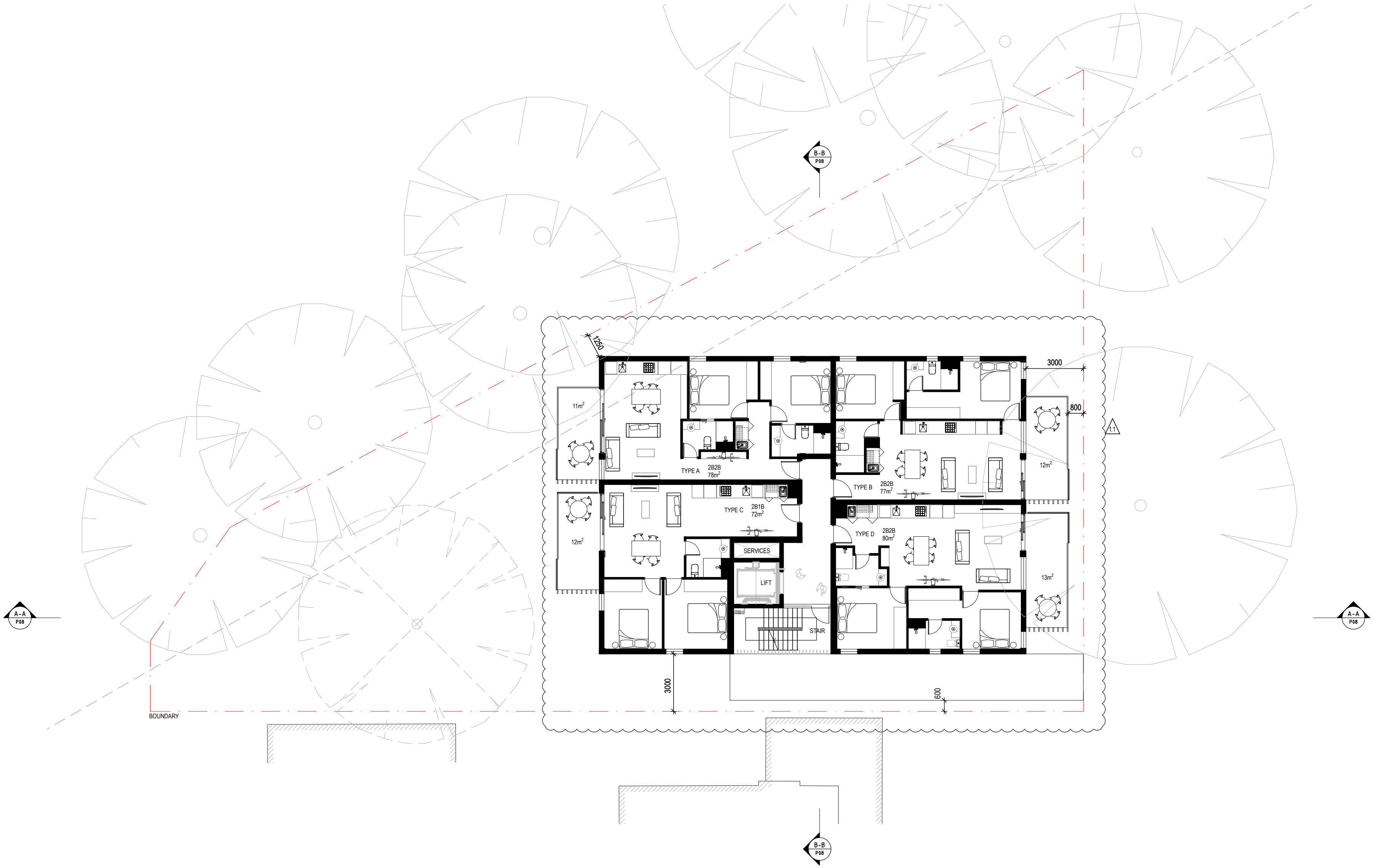

SECOND FLOOR PLAN

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REV	DATE	DESCRIPTION
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1.0	06/11/18	ISSUED FOR DPC

FOR APPROVAL ONLY
NOT FOR CONSTRUCTION

tectvs

CLIENT
SIMON CROSS

PROJECT
HOUSING ANZAC HIGHWAY
81 ANZAC HIGHWAY
ASHFORD

DRAWING
FLOOR PLAN

NORTH

SCALE
AS SHOWN

DATE
DECEMBER 2018

PROJECT NO
27010

DWG NO
P04

REVISION 1.1 | CHECKED FB | DRAWN mdf

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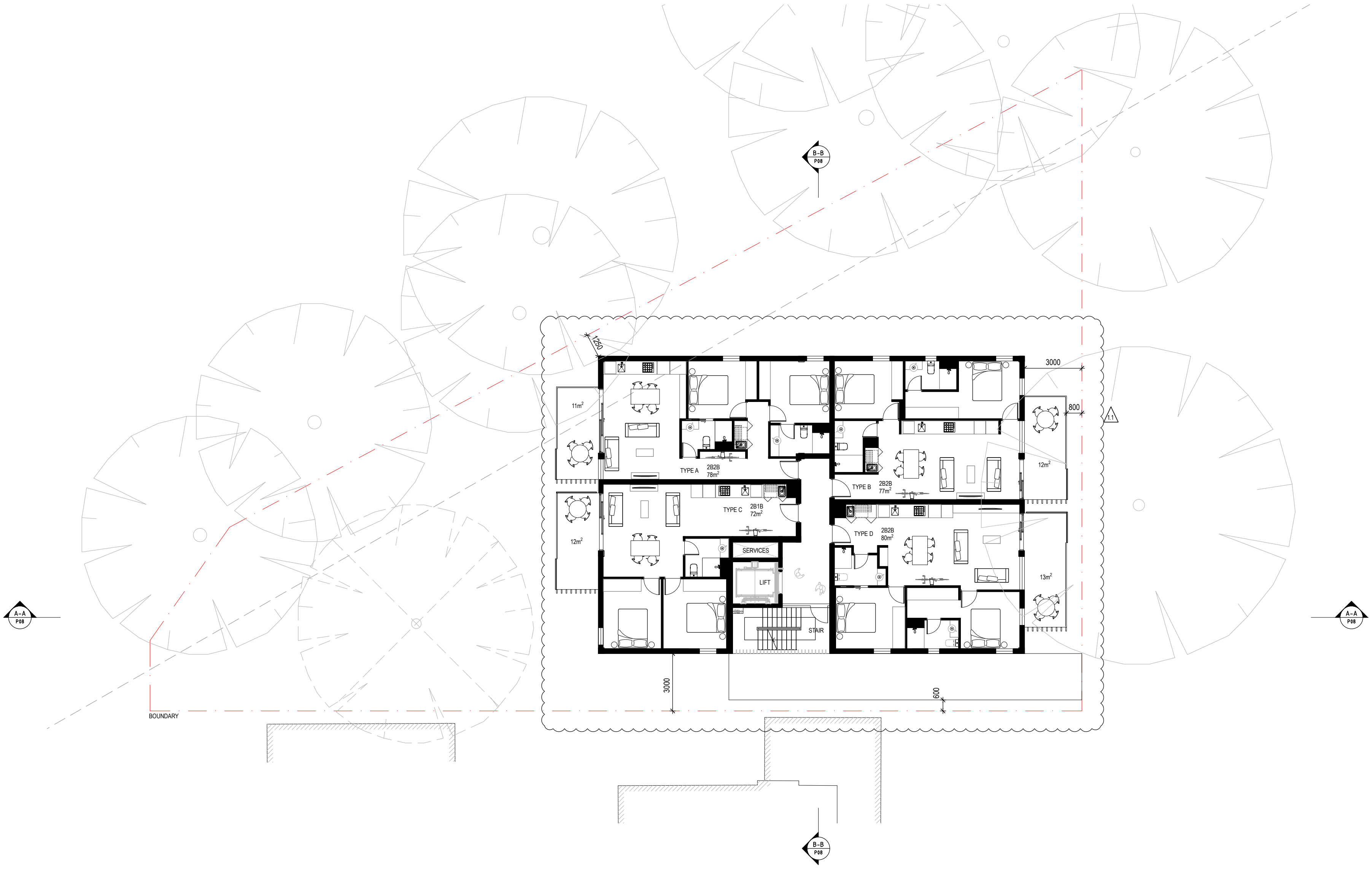

THIRD FLOOR PLAN

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REV	DATE	DESCRIPTION
1.1	13/12/18	DIMENSIONS ADDED
1.0	06/11/18	ISSUED FOR DPC

FOR APPROVAL ONLY
NOT FOR CONSTRUCTION

tectvs

CLIENT
SIMON CROSS

PROJECT
HOUSING ANZAC HIGHWAY
81 ANZAC HIGHWAY
ASHFORD

DRAWING
FLOOR PLAN

NORTH

SCALE
AS SHOWN

DATE
DECEMBER 2018

PROJECT NO
27010

DWG NO
P05

REVISION 1.1 | CHECKED FB | DRAWN mdf

36 FIELD STREET ADELAIDE SOUTH AUSTRALIA 5000
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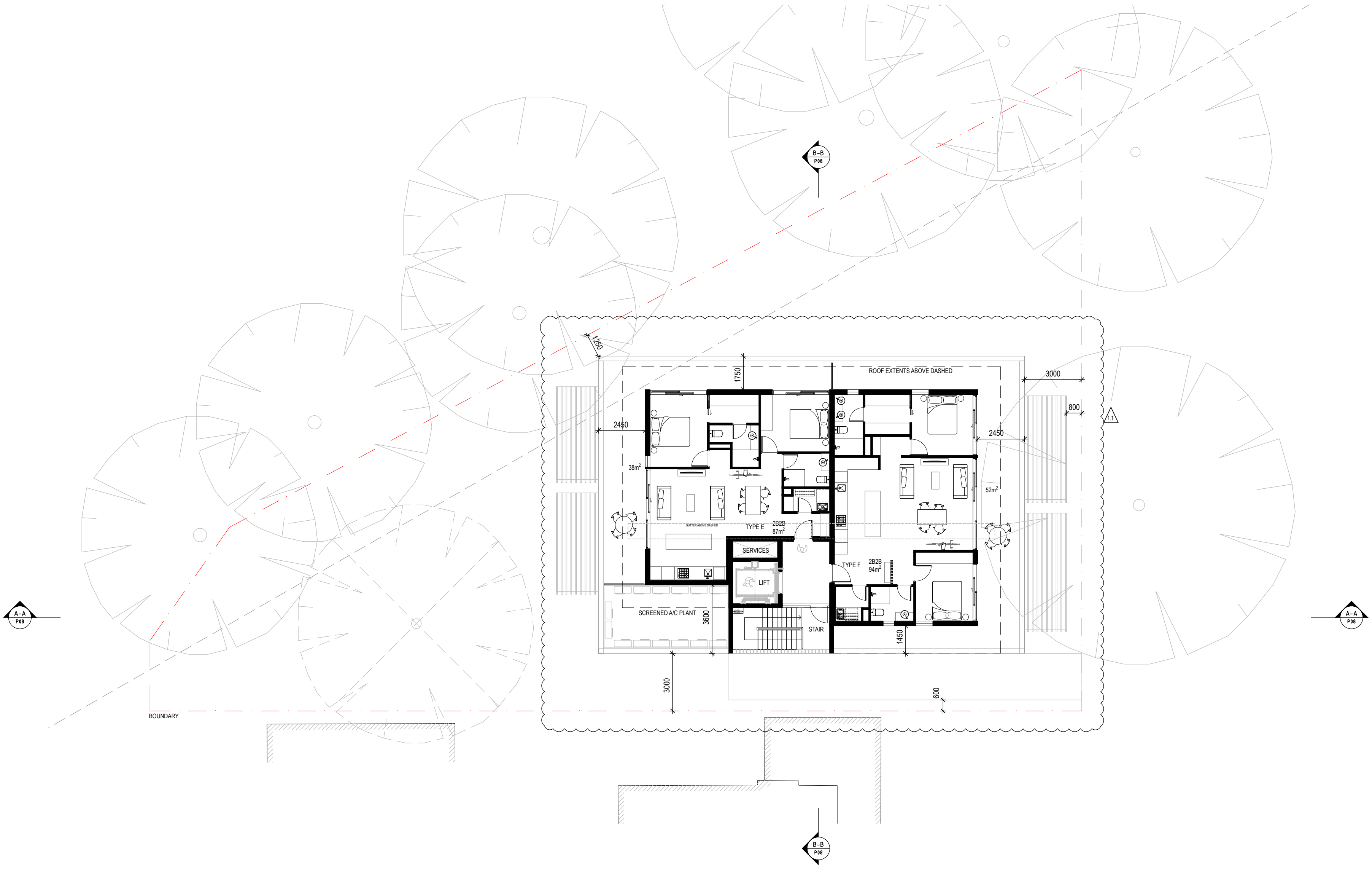


FOURTH FLOOR PLAN

1:100 @ A1

0 2 5 10m

REV	DATE	DESCRIPTION
1.1	13/12/18	DIMENSIONS ADDED
1.0	06/11/18	ISSUED FOR DPC

FOR APPROVAL ONLY
NOT FOR CONSTRUCTION

tectvs

CLIENT
SIMON CROSS

PROJECT
HOUSING ANZAC HIGHWAY
81 ANZAC HIGHWAY
ASHFORD

DRAWING
FLOOR PLAN

NORTH

SCALE
AS SHOWN

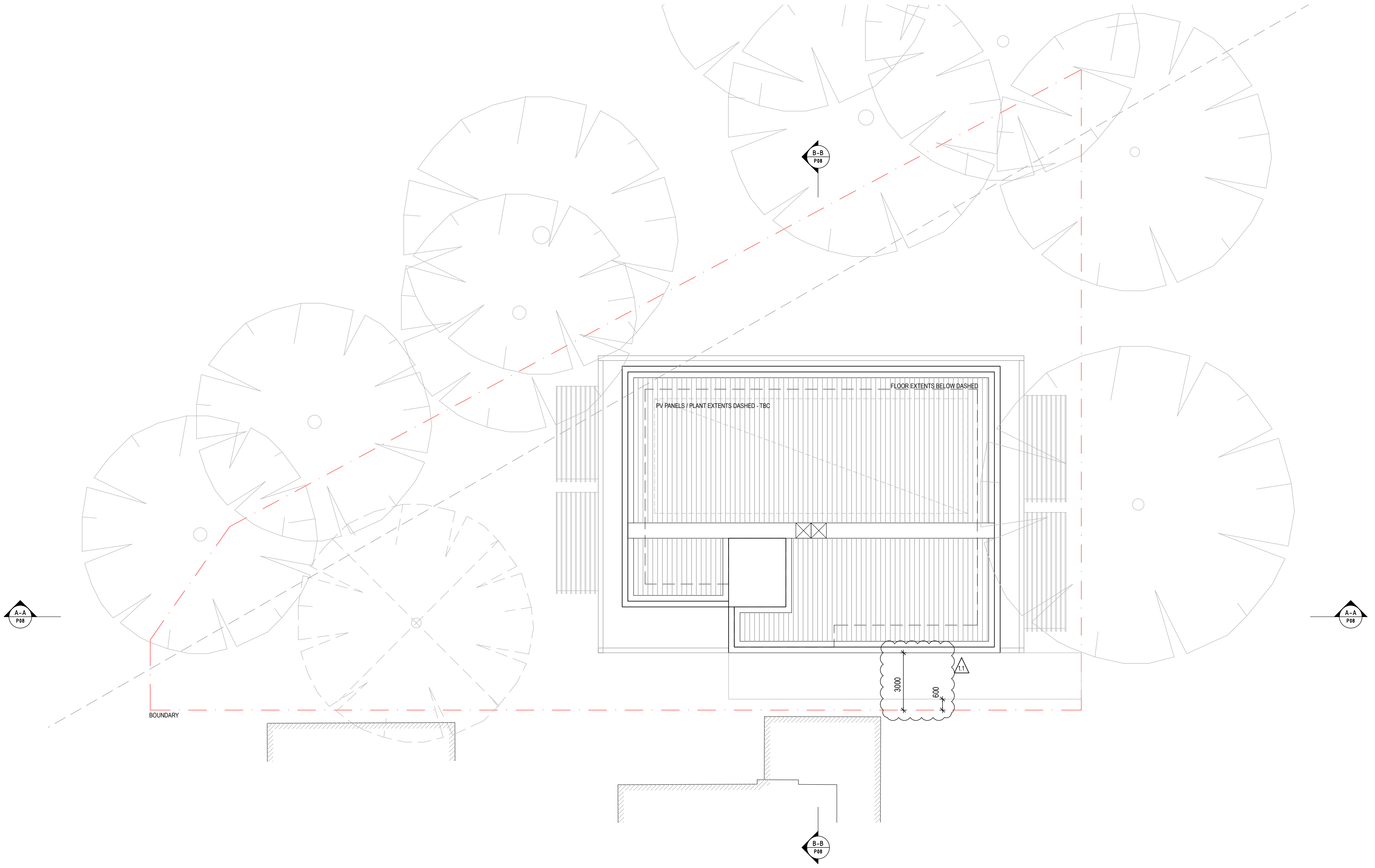
DATE
DECEMBER 2018

PROJECT NO
27010

DWG NO
P06

REVISION	CHECKED	DRAWN
1.1	FB	mdf

36 FIELD STREET ADELAIDE SOUTH AUSTRALIA 5000
P 08 8 410 5200 F 08 8 410 5244 E mail@tectvs.com.au



ROOF PLAN

1:100 @ A1

0 2 5 10m

REV	DATE	DESCRIPTION
1.1	13/12/18	DIMENSIONS ADDED
1.0	06/11/18	ISSUED FOR DPC

FOR APPROVAL ONLY
NOT FOR CONSTRUCTION

tectvs

CLIENT
SIMON CROSS

PROJECT
HOUSING ANZAC HIGHWAY
81 ANZAC HIGHWAY
ASHFORD

DRAWING
ROOF PLAN

NORTH

SCALE
AS SHOWN

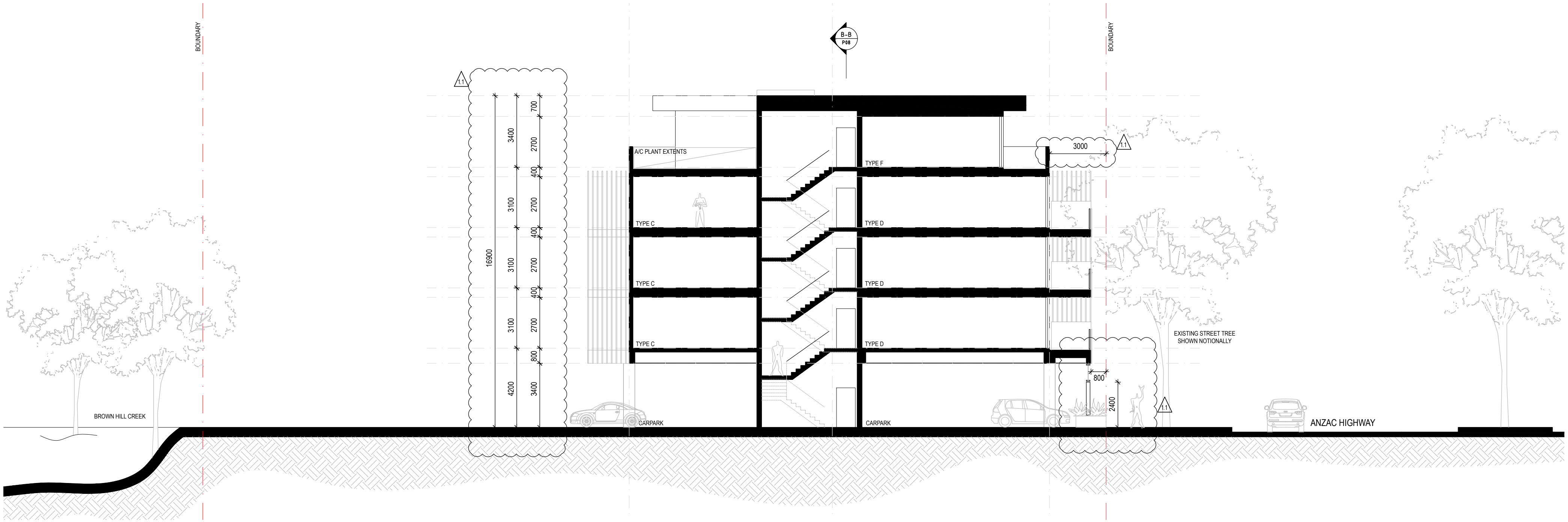
DATE
DECEMBER 2018

PROJECT NO
27010

DWG NO
P07

REVISION 1.1 | CHECKED FB | DRAWN mdf

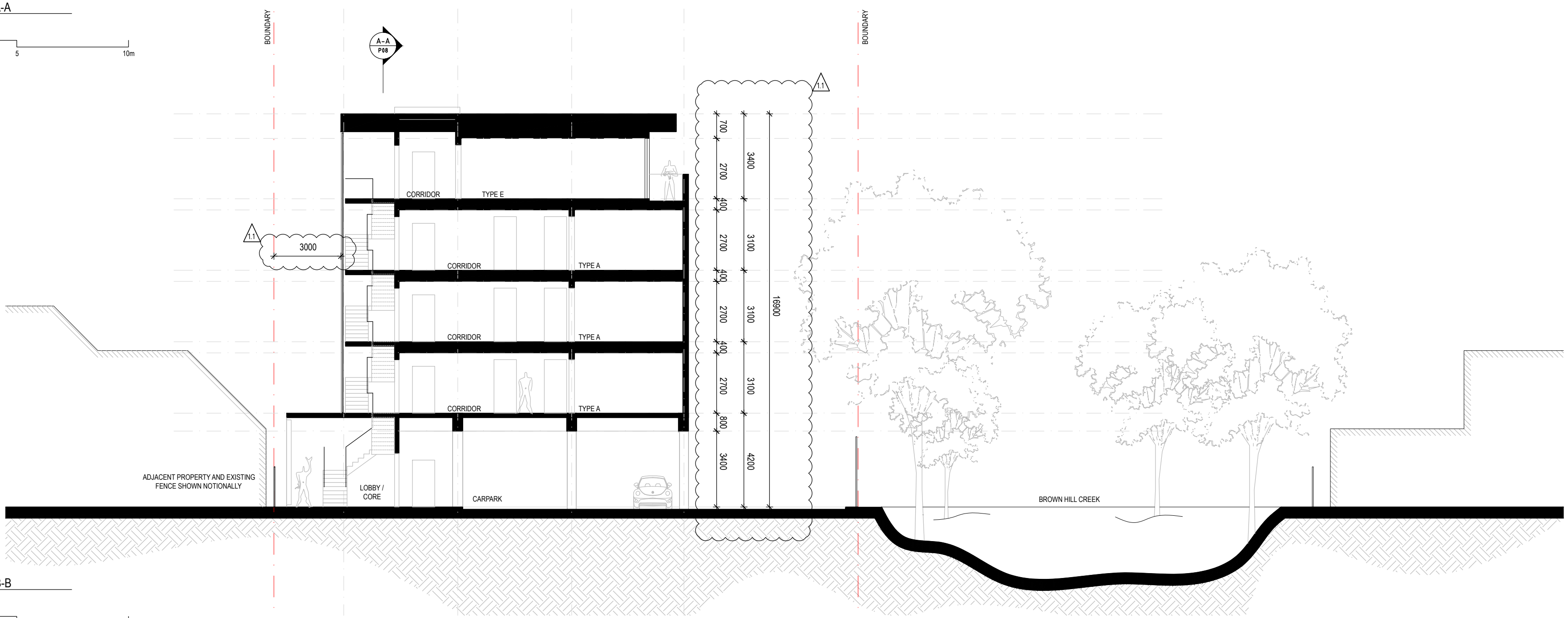
36 FIELD STREET ADELAIDE SOUTH AUSTRALIA 5000
P 08 8 410 5200 F 08 8 410 5244 E mail@tectvs.com.au



SECTION A-A

1:100 @ A1

0 2 5 10m



SECTION B-B

1:100 @ A1

0 2 5 10m

REV	DATE	DESCRIPTION
1.1	13/12/18	DIMENSIONS ADDED
1.0	06/11/18	ISSUED FOR DPC

FOR APPROVAL ONLY
NOT FOR CONSTRUCTION

tectvs

CLIENT
SIMON CROSS

PROJECT
HOUSING ANZAC HIGHWAY
81 ANZAC HIGHWAY
ASHFORD

DRAWING
SECTIONS

NORTH

SCALE
AS SHOWN

DATE
DECEMBER 2018

PROJECT NO
27010

DWG NO
P08

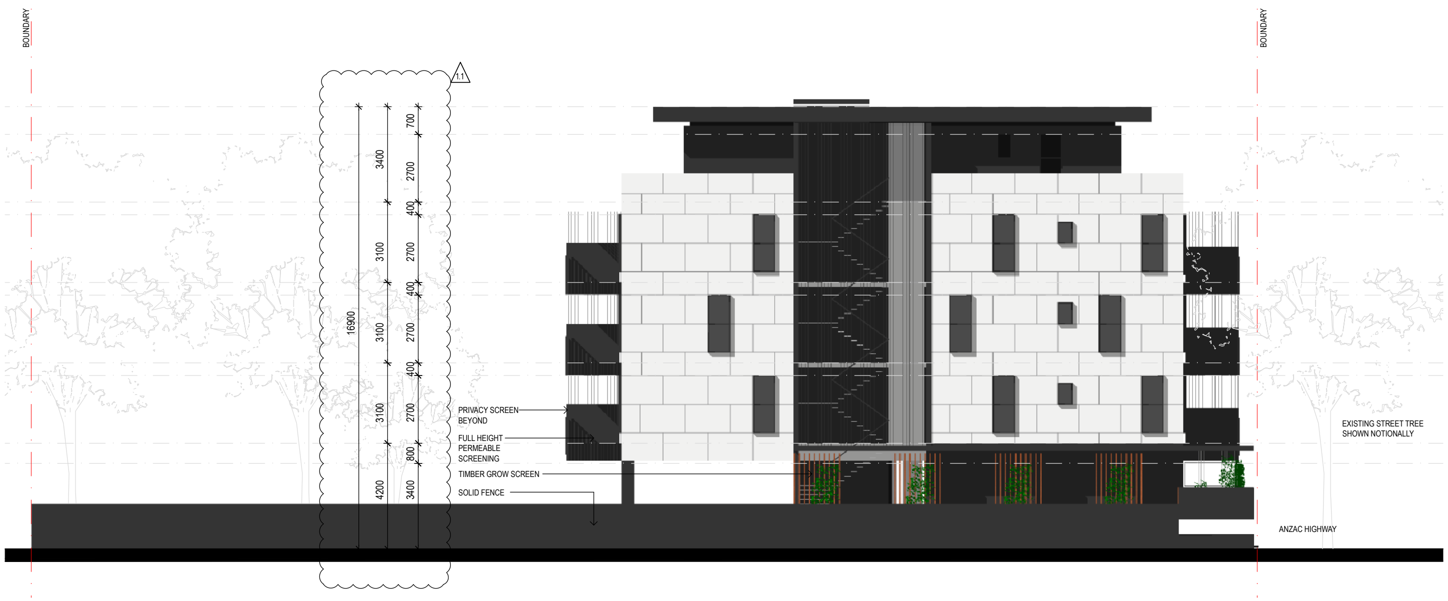
REVISION 1.1 | CHECKED FB | DRAWN mdf

36 FIELD STREET ADELAIDE SOUTH AUSTRALIA 5000
P 08 8 410 5200 F 08 8 410 5244 E mail@tectvs.com.au

ELEVATION SOUTH

1:100 @ A1

0 2 5 10m



ELEVATION WEST

1:100 @ A1

0 2 5 10m

NOTE
FACADE PANEL ARRANGEMENT IS INDICATIVE ONLY AND SUBJECT TO DESIGN DEVELOPMENT
THE LOCATION AND EXTENTS OF PANEL JOINTS MAY VARY

REV	DATE	DESCRIPTION
1.1	13/12/18	DIMENSIONS ADDED
1.0	06/11/18	ISSUED FOR DPC

FOR APPROVAL ONLY
NOT FOR CONSTRUCTION

tectvs

CLIENT
SIMON CROSS

PROJECT
HOUSING ANZAC HIGHWAY
81 ANZAC HIGHWAY
ASHFORD

DRAWING
ELEVATIONS

NORTH

SCALE
AS SHOWN

DATE
DECEMBER 2018

PROJECT NO
27010

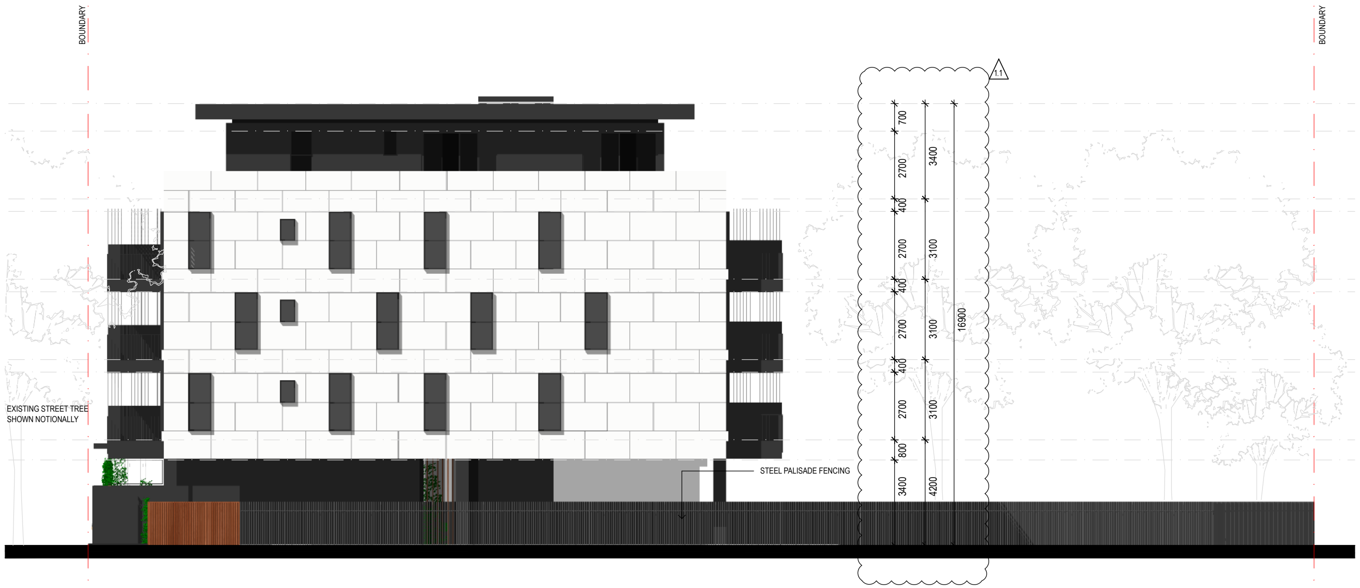
DWG NO
P09

REVISION 1.1
CHECKED FB
DRAWN mdf

36 FIELD STREET ADELAIDE SOUTH AUSTRALIA 5000
P 08 8 410 5200 F 08 8 410 5244 E mail@tectvs.com.au

ELEVATION NORTH
1:100 @ A1

0 2 5 10m



ELEVATION EAST
1:100 @ A1

0 2 5 10m

NOTE
FACADE PANEL ARRANGEMENT IS INDICATIVE ONLY AND SUBJECT TO DESIGN DEVELOPMENT
THE LOCATION AND EXTENTS OF PANEL JOINTS MAY VARY

REV	DATE	DESCRIPTION
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FOR APPROVAL ONLY
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tectvs

CLIENT
SIMON CROSS

PROJECT
HOUSING ANZAC HIGHWAY
81 ANZAC HIGHWAY
ASHFORD

DRAWING
ELEVATIONS

NORTH

SCALE
AS SHOWN

DATE
DECEMBER 2018

PROJECT NO
27010

DWG NO
P10

REVISION	CHECKED	DRAWN
1.1	FB	mdf

36 FIELD STREET ADELAIDE SOUTH AUSTRALIA 5000
P 08 8 410 5200 F 08 8 410 5244 E mail@tectvs.com.au

Issue —
Development Approval

Date —
25 September 2018

Project —
17.080

Ashford Housing

Landscape Concept

oxigen

Oxigen Pty Ltd
98–100 Halifax Steet
Adelaide SA 5000

T +61 (08) 7324 9600
design@oxigen.net.au
oxigen.net.au

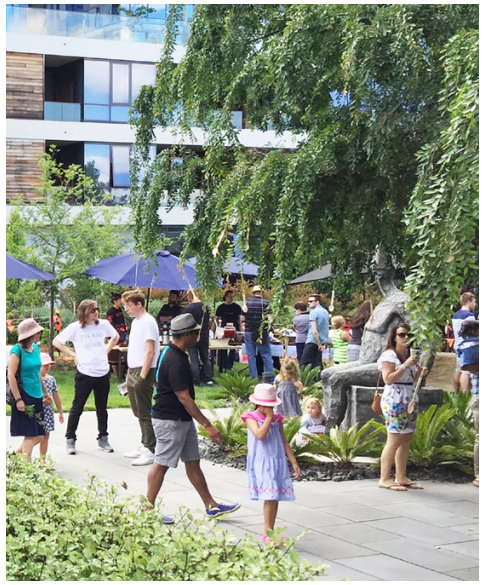
Contents

Issue —
DEVELOPMENT APPROVAL

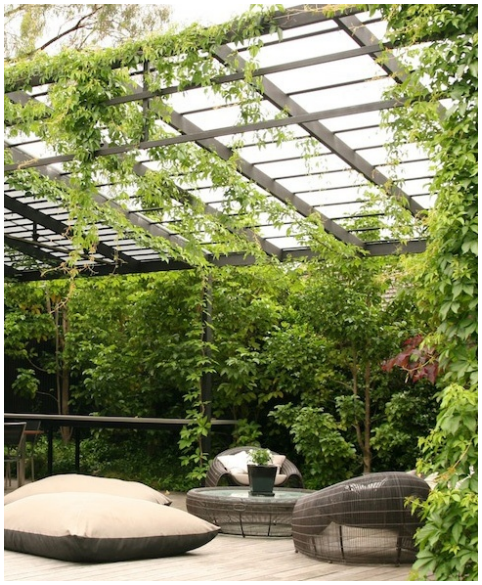
LOCATION PLAN

LANDSCAPE PRINCIPLES

COMMUNITY GATHERING

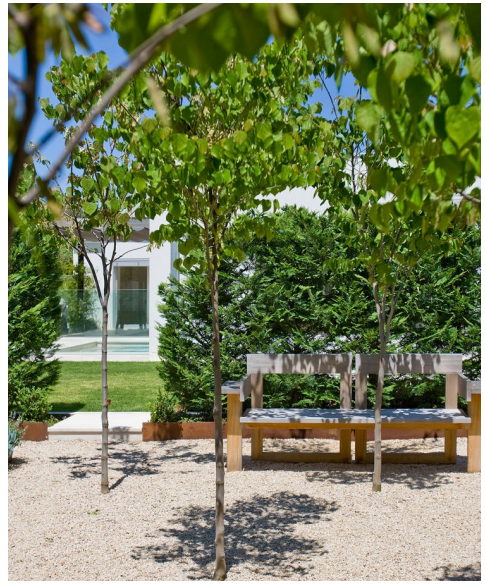


INTEGRATED DEVELOPMENT



HEALTH + WELLBEING

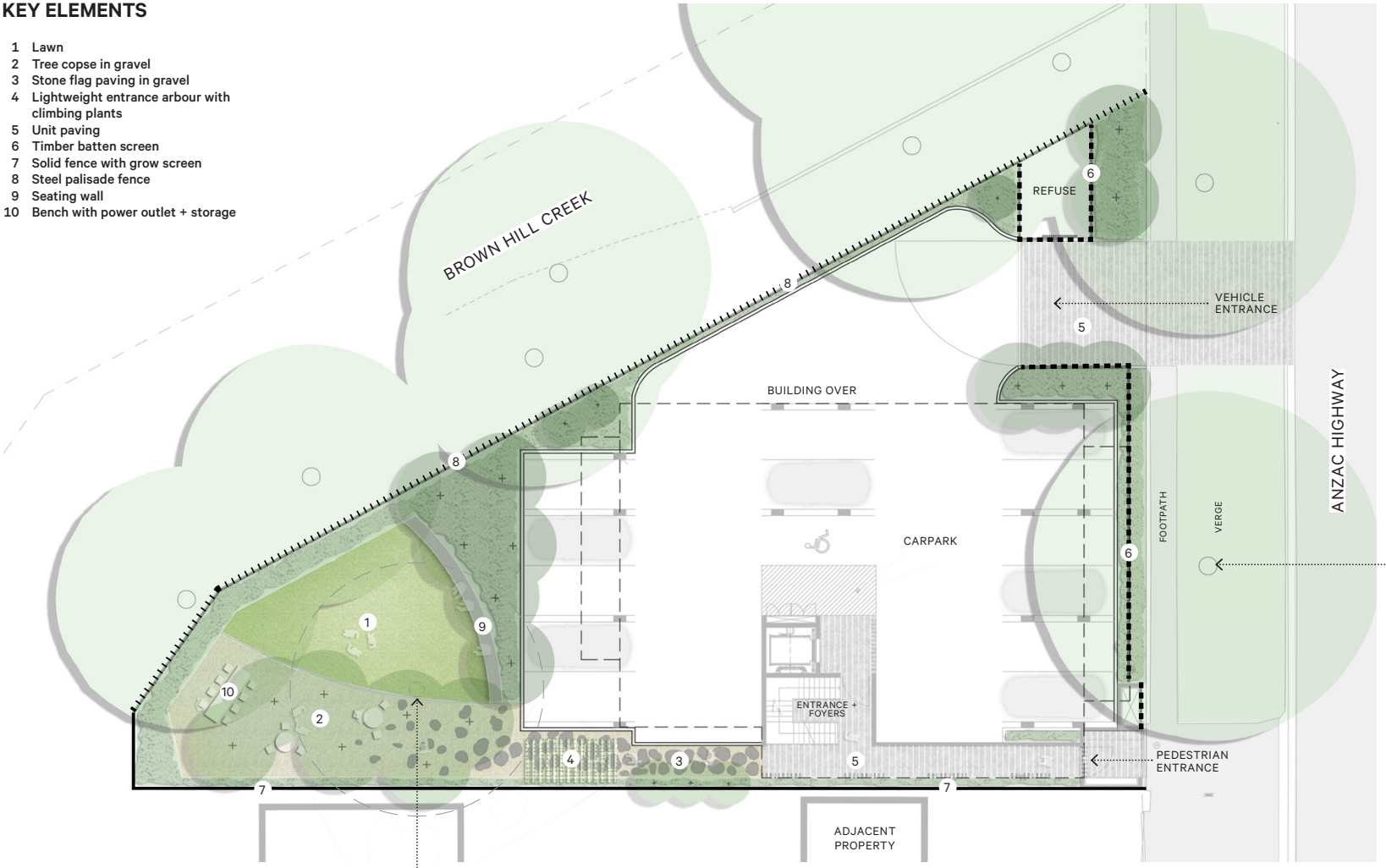
HIGH QUALITY



SITE PLAN

KEY ELEMENTS

1 Lawn
2 Tree copse in gravel
3 Stone flag paving in gravel
4 Lightweight entrance arbour with climbing plants
5 Unit paving
6 Timber batten screen
7 Solid fence with grow screen
8 Steel palisade fence
9 Seating wall
10 Bench with power outlet + storage



Existing tree retained
Existing tree removed
New tree
Lawn
Planting
Arbour
Bench
Loose furniture

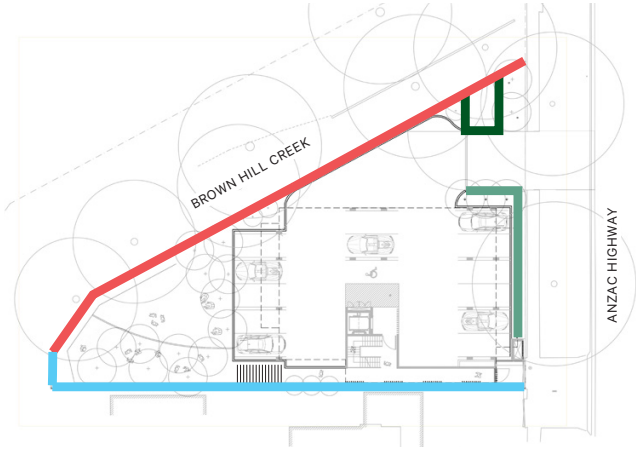
Minor pruning required to existing Ash trees for construction of balconies. All pruning of existing street trees must be agreed with Council's arborist prior to construction commencing. Pruning must be in accordance with AS 4373-2007 (Pruning of Amenity Trees). All work around existing trees must be in accordance with AS 4970-2009 (Protection of Trees on Development Sites).

SCALE 1:200 @ A3 0 2 4 8m

N

STRATEGIES

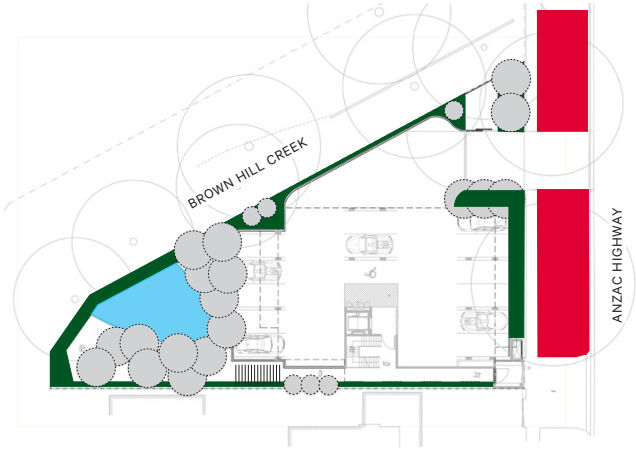
FENCING



- Type 01 - Steel palisade fence 1.8m
- Type 02 - Colorbond fence with grow screen 2.1m
- Type 03a - Timber batten screen 1.8m
- Type 03b - Timber batten screen 2.4m

NTS N

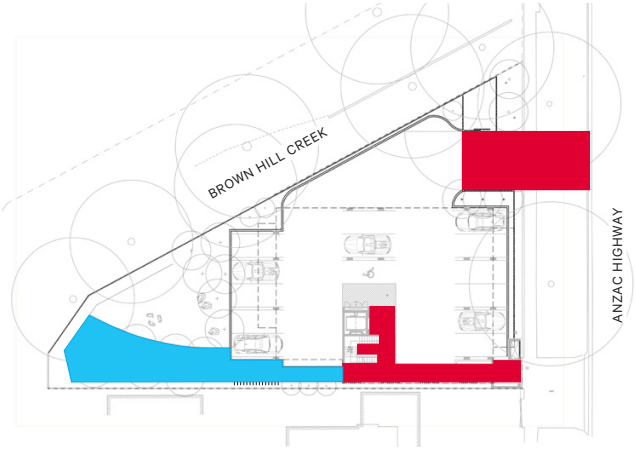
TREES + PLANTING



- Garden
- Lawn
- Verge
- Tree

NTS N

PAVING



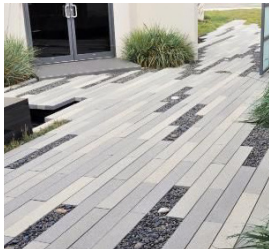
- Type 01 - Stone flag paving in compacted gravel
- Type 02 - Unit paving

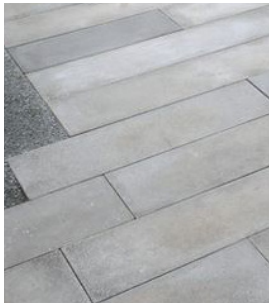
NTS N

MATERIALS

PAVING

STONE FLAGS

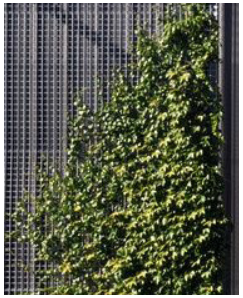


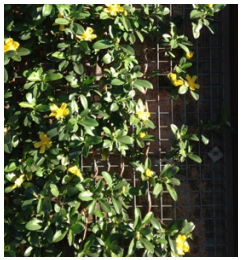


UNIT PAVING

SCREEN + FENCES

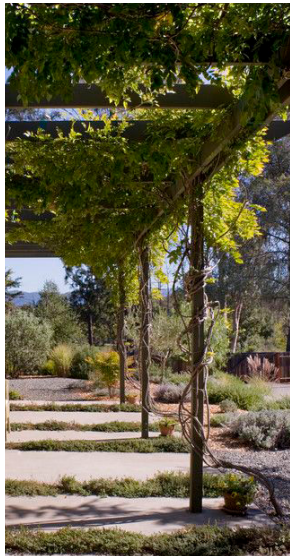
TIMBER + STEEL
PALISADE FENCE





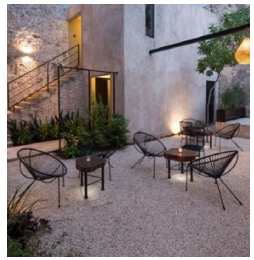
SOLID FENCE WITH
GROW SCREEN

ARBOUR



LIGHTWEIGHT
ENTRANCE ARBOUR

FURNITURE



LOOSE FURNITURE

LONG BENCH

TREES + PLANTING

TREES

— *Betula nigra 'bnmtf' Dura Heat*
— *Acer palmatum*
— *Lagerstroemia 'Natchez'*

GARDENS

— *Agave attenuata*
— *Clivea miniata*
— *Chrysocephalum apiculatum*
— *Correa alba 'White Star'*
— *Crassula ovata*
— *Fescue + rye grass turf mix*
— *Grevillea 'Robyn Gordon'*
— *Liriope 'Evergreen Giant'*
— *Monstera deliciosa*
— *Phillodendron 'Xanadu'*
— *Rhaphiolepis 'Oriental Pearl'*
— *Russelia equisetiformis*
— *Santolina chamaecyparis*
— *Senecio serpens*
— *Strelitzia nicolai*
— *Teucrium fruticans*
— *Trachelospermum jasminoides*
— *Westringia 'Mundi'*

CLIMBING PLANTS

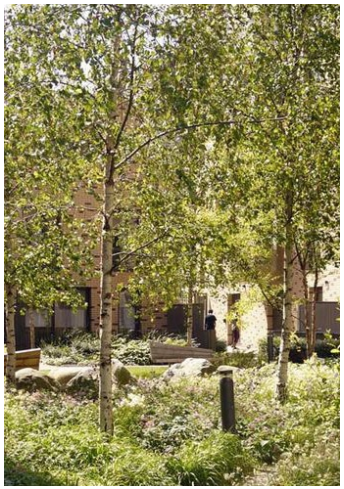
— *Trachelospermum jasminoides*
— *Wisteria sinensis*

SPECIES LIST

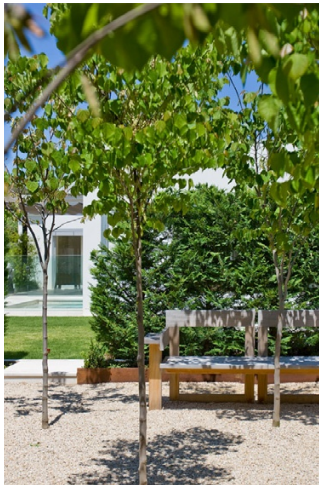
ENTRANCE PATHWAYS

LAWN

PERIMETERS



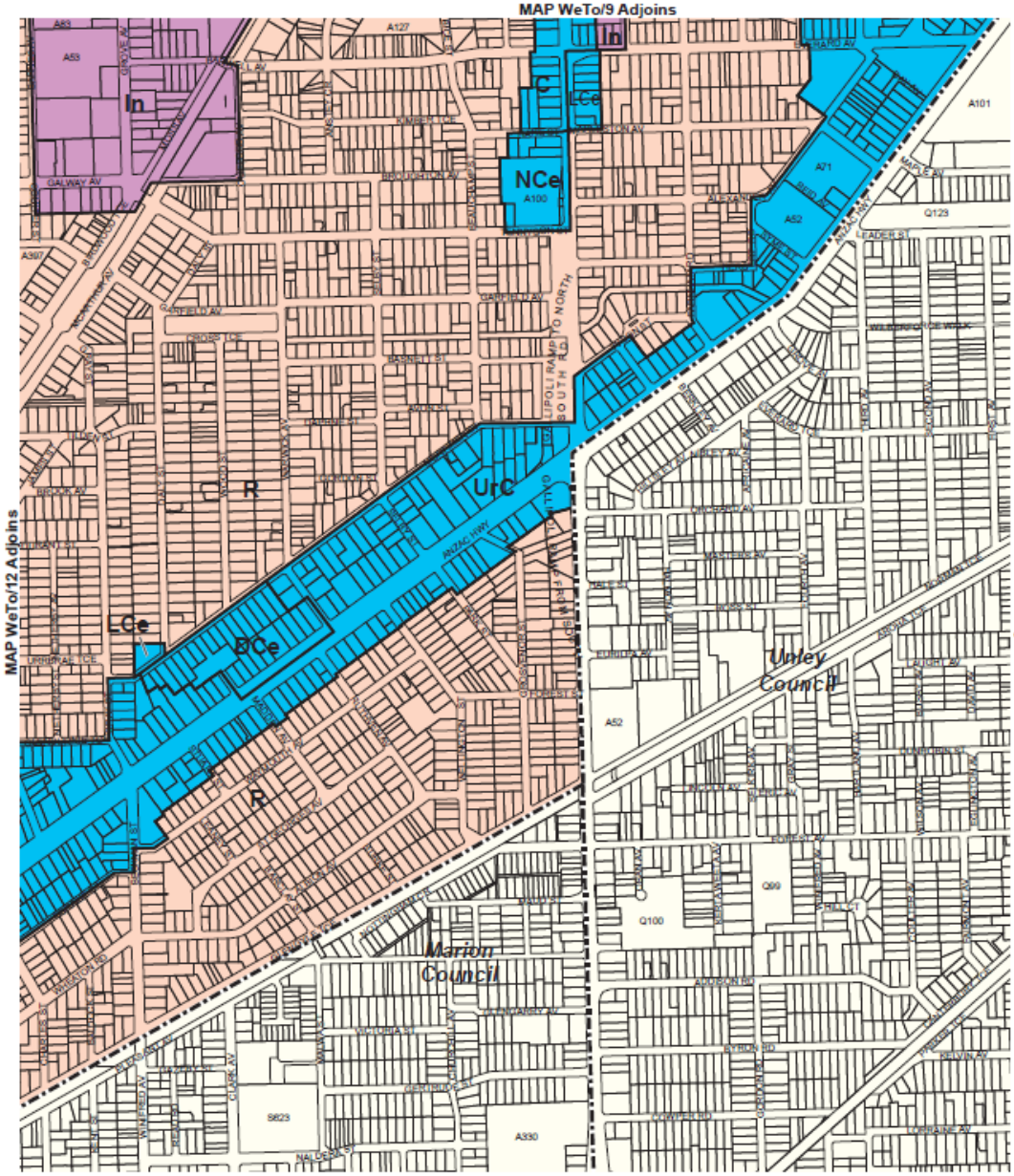
PERIMETER TREE PLANTING



TREE COPSE IN GRAVEL

CLIMBERS

MAP WeTo/9 Adjoins



MAP WeTo/1 Adjoins

Lamberts Conformal Conic Projection, GDA94

N

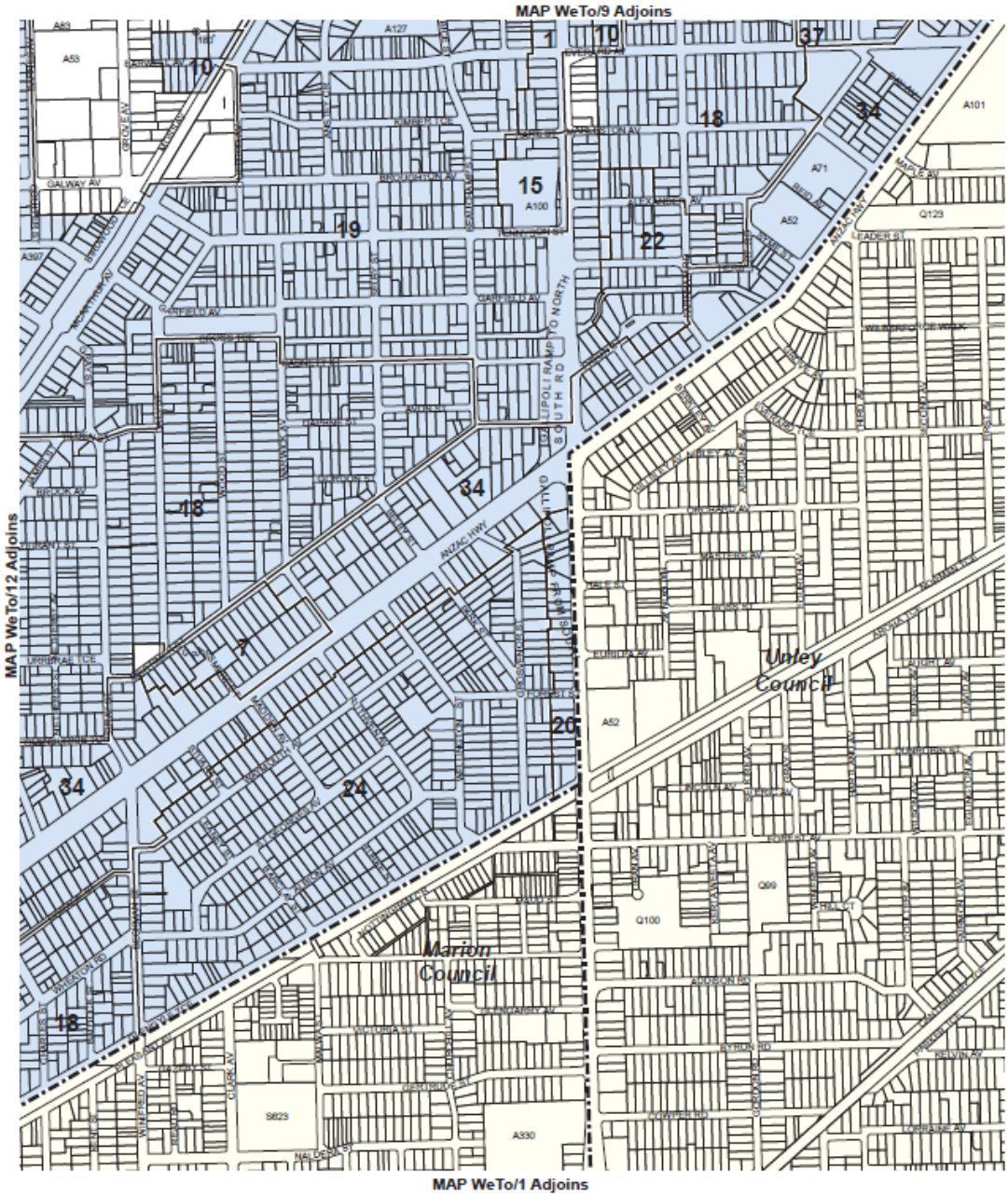
0 500 m

Zones

C	Commercial
DCe	District Centre
In	Industry
LCe	Local Centre
NCe	Neighbourhood Centre
R	Residential
UrC	Urban Corridor
	Zone Boundary
	Development Plan Boundary

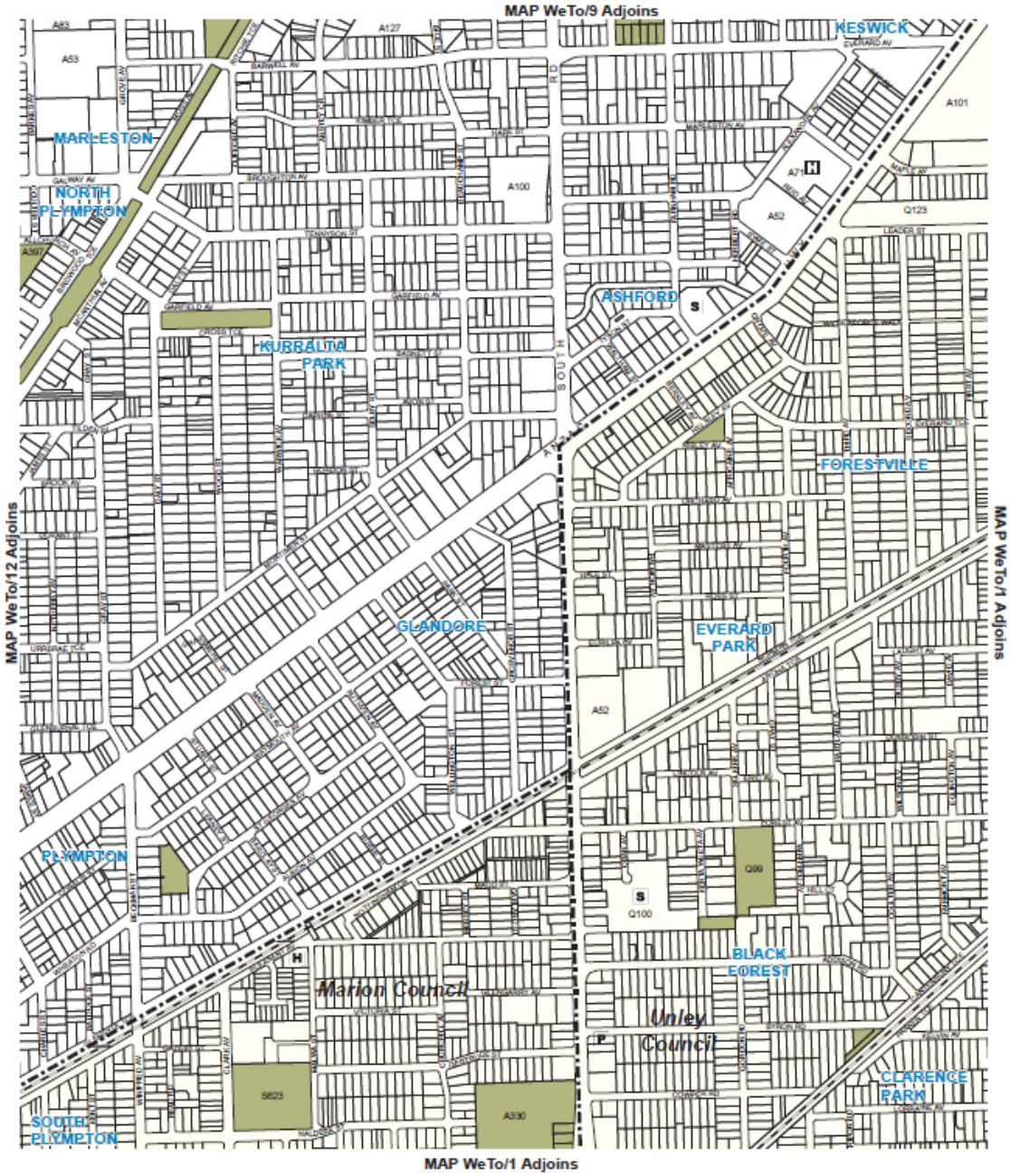
Zone Map WeTo/13

WEST TORRENS COUNCIL
Consolidated - 12 July 2018



Policy Area Map WeTo/13

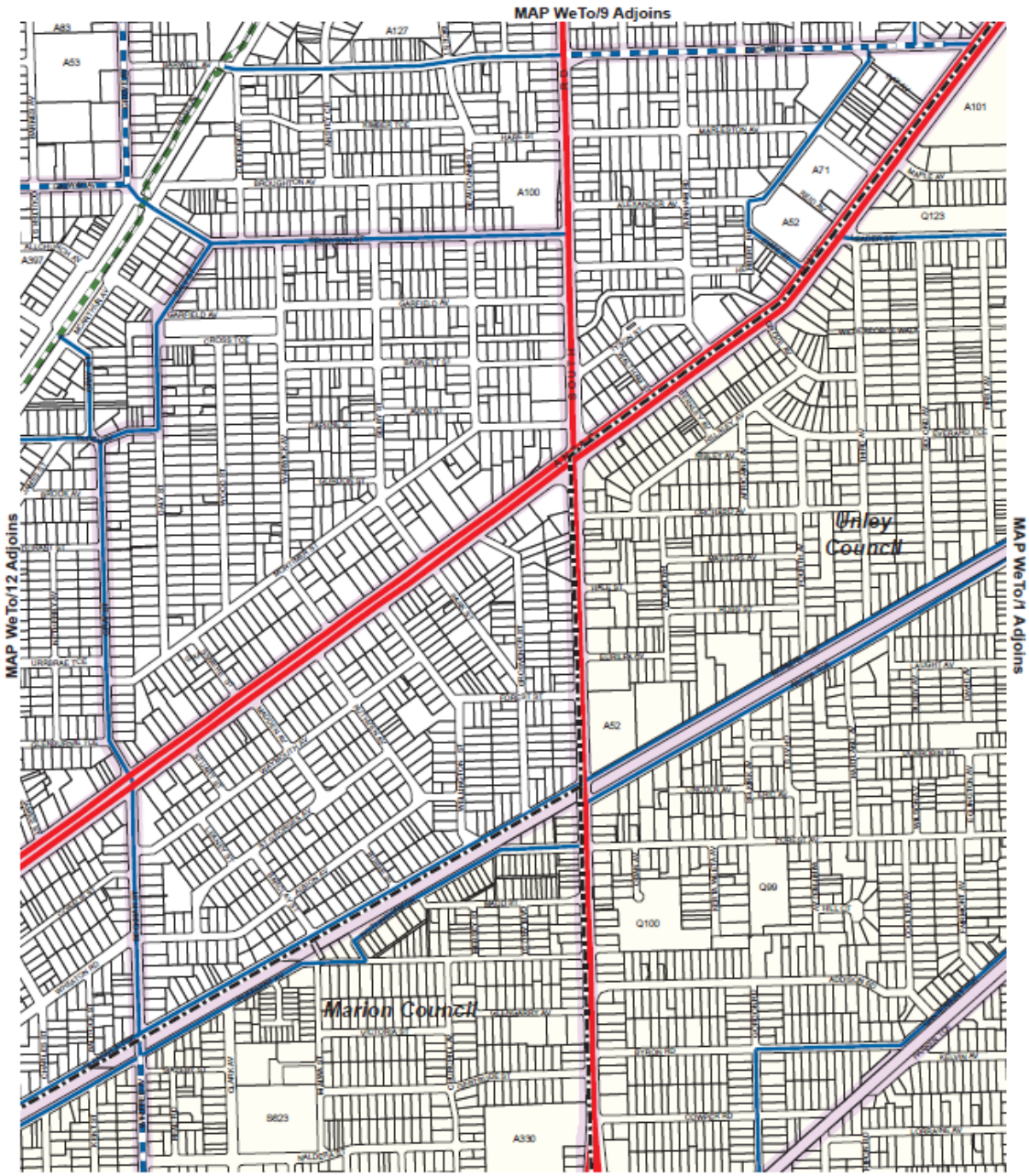
WEST TORRENS COUNCIL
Consolidated - 12 July 2018



S School
P Post Office
H Other Health Services
H Hospital
Railways
Local Reserves
Development Plan Boundary

Location Map WeTo/13

WEST TORRENS COUNCIL
Consolidated - 12 July 2018



Primary Arterial Roads

BikeDirect Network

Main Road - Bike Lane

Main Road

Secondary Road - Bike Lane

Secondary Road

Off Road Sealed Path

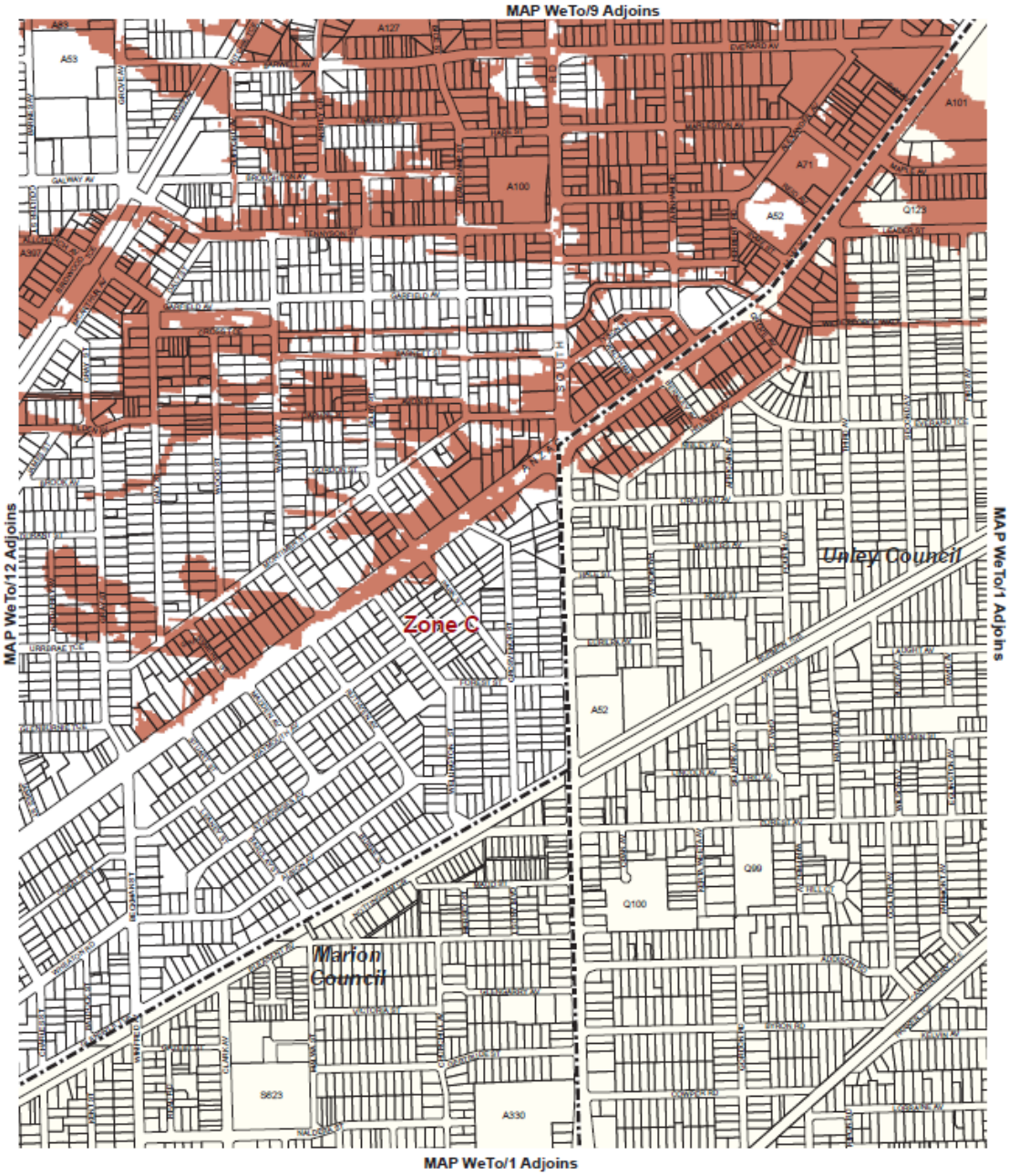
Public Transport

Development Plan Boundary

Overlay Map WeTo/13

TRANSPORT

WEST TORRENS COUNCIL
Consolidated - 12 July 2018



Airport Building Heights
Zone C All Structures Exceeding 15 metres above existing ground level

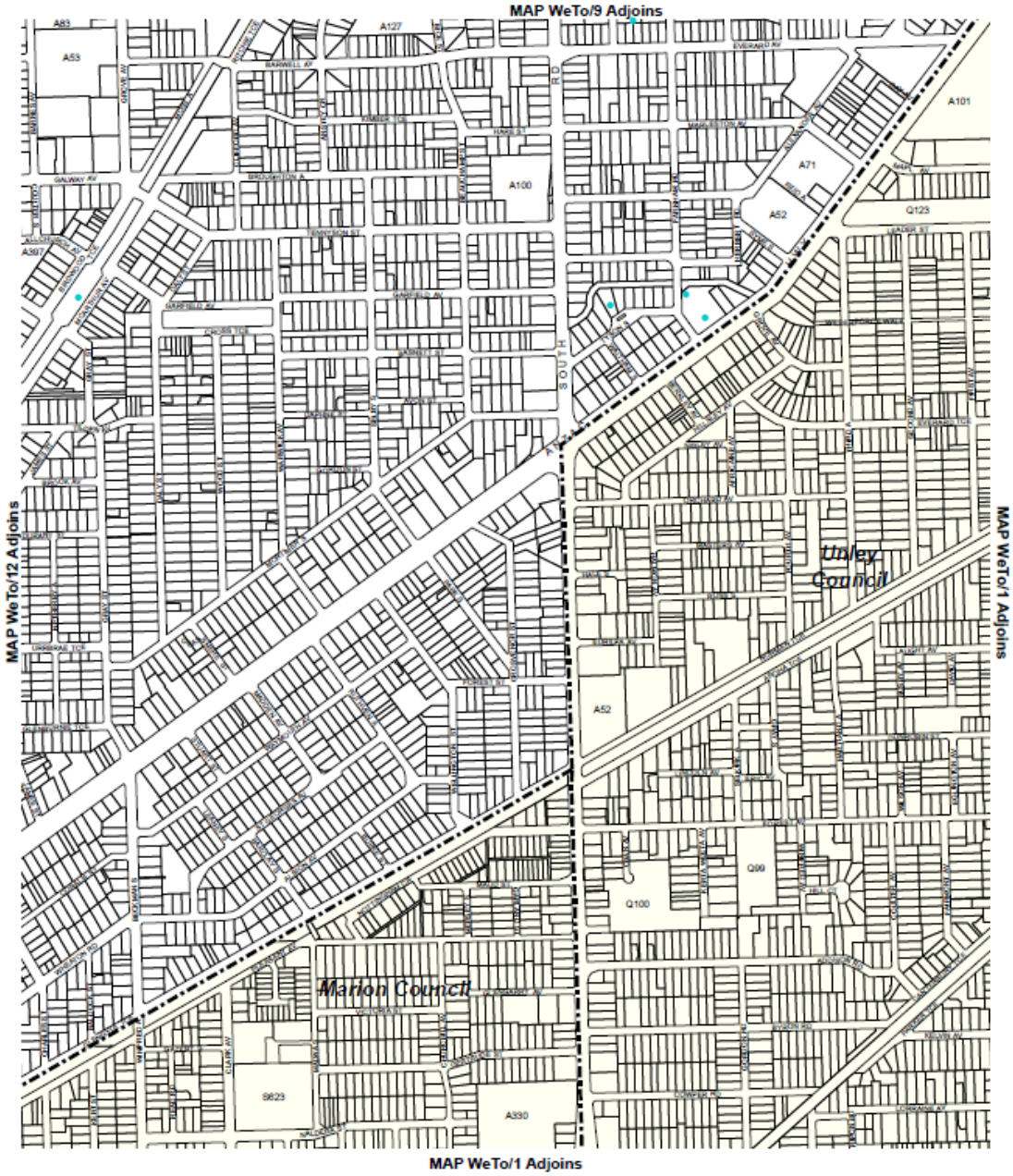
N

0 500 m

Overlay Map WeTo/13
DEVELOPMENT CONSTRAINTS

Airport Building Heights
Flood Hazard
Development Plan Boundary

WEST TORRENS COUNCIL
Consolidated - 12 July 2018



Heritage points are indicative only.
For further information on State and Local Heritage Places and Contributory Items please refer to the relevant tables within this document.

N

0 500 m

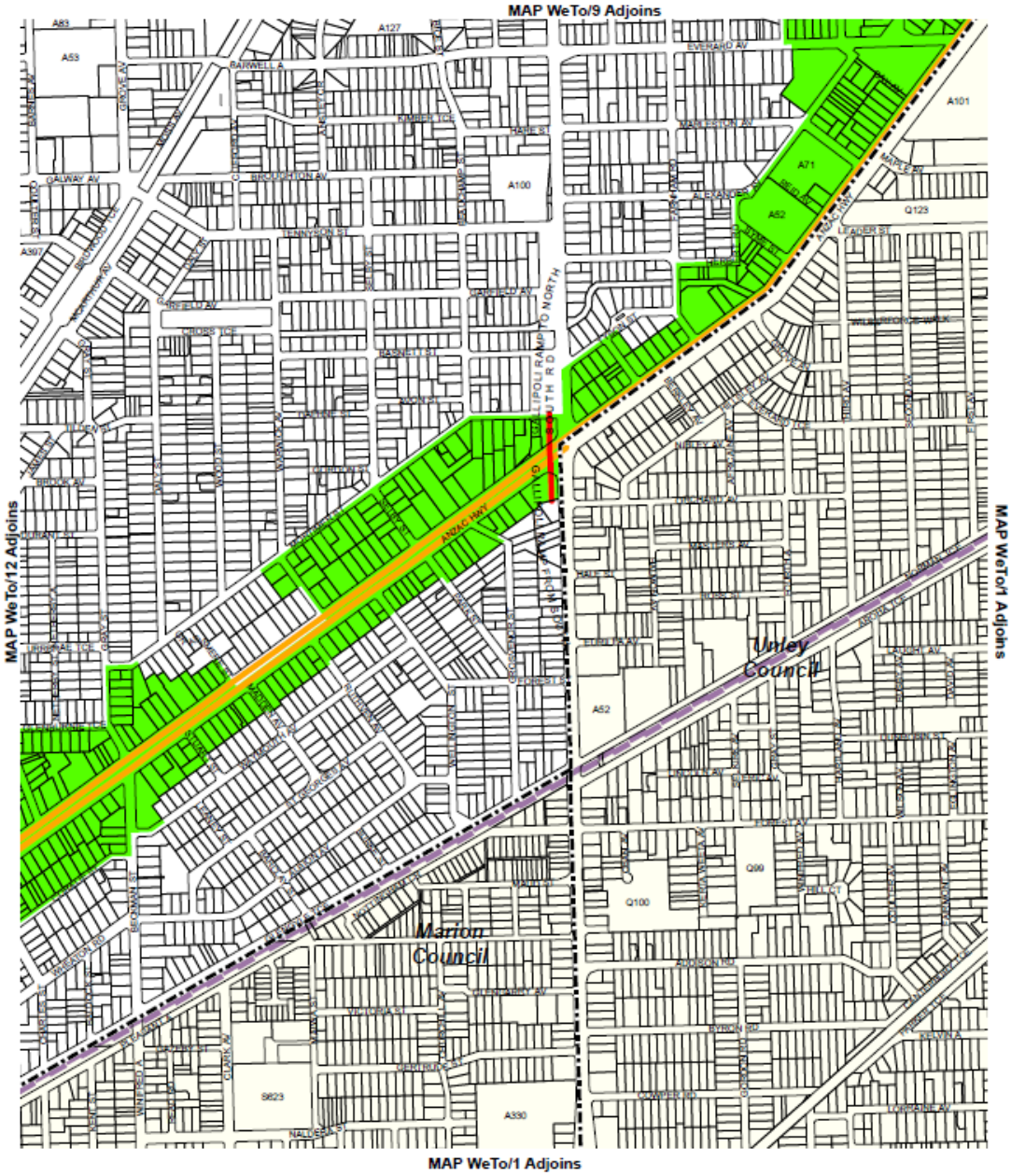
Overlay Map WeTo/13

HERITAGE

Local heritage place

Development Plan Boundary

WEST TORRENS COUNCIL
Consolidated - 12 July 2018

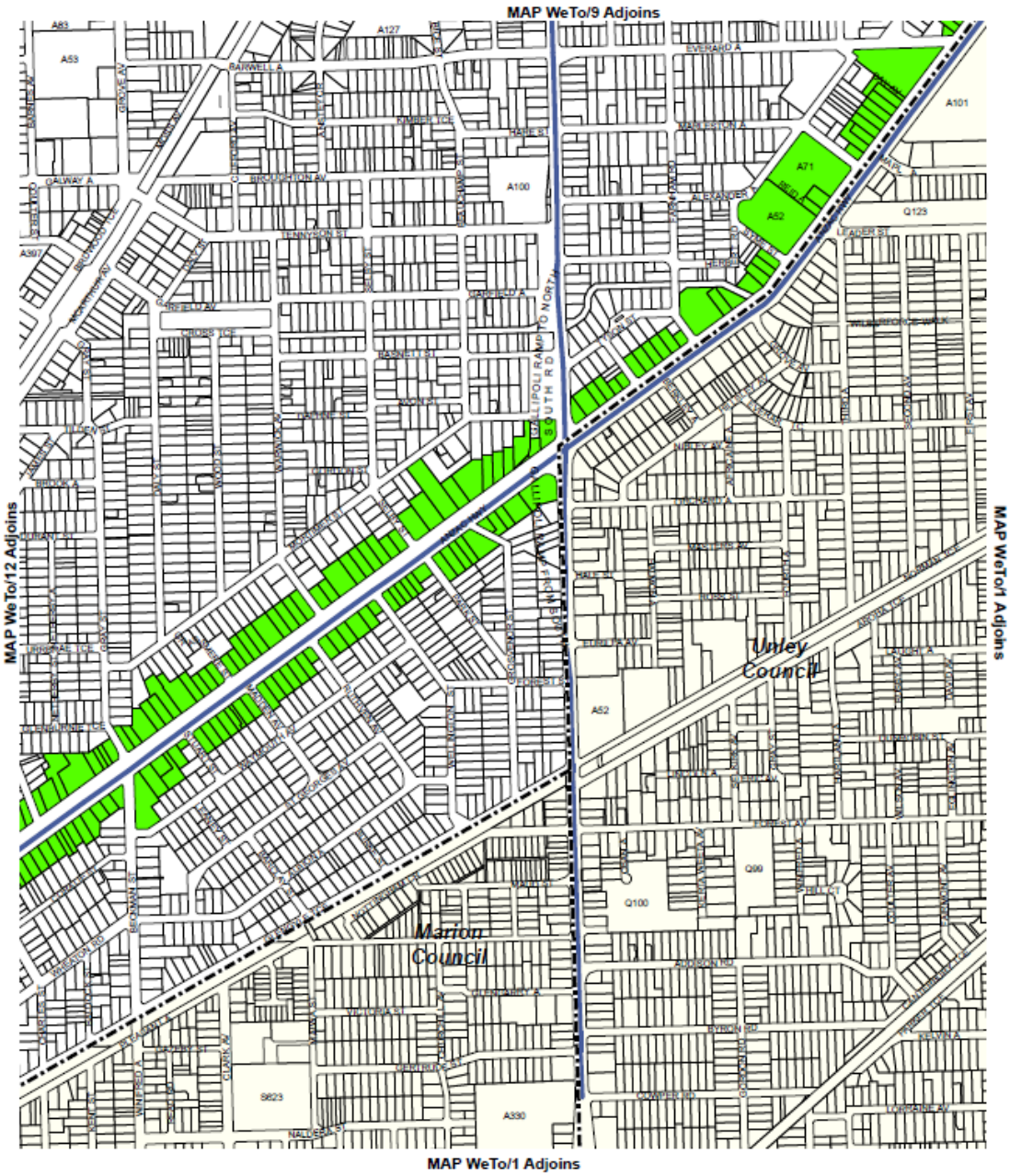


Tram Line
Designated Road: type A road
Designated Road: type B road
Noise and Air Emissions Designated Area
Development Plan Boundary

Overlay Map WeTo/13

NOISE AND AIR EMISSIONS

WEST TORRENS COUNCIL
Consolidated - 12 July 2018

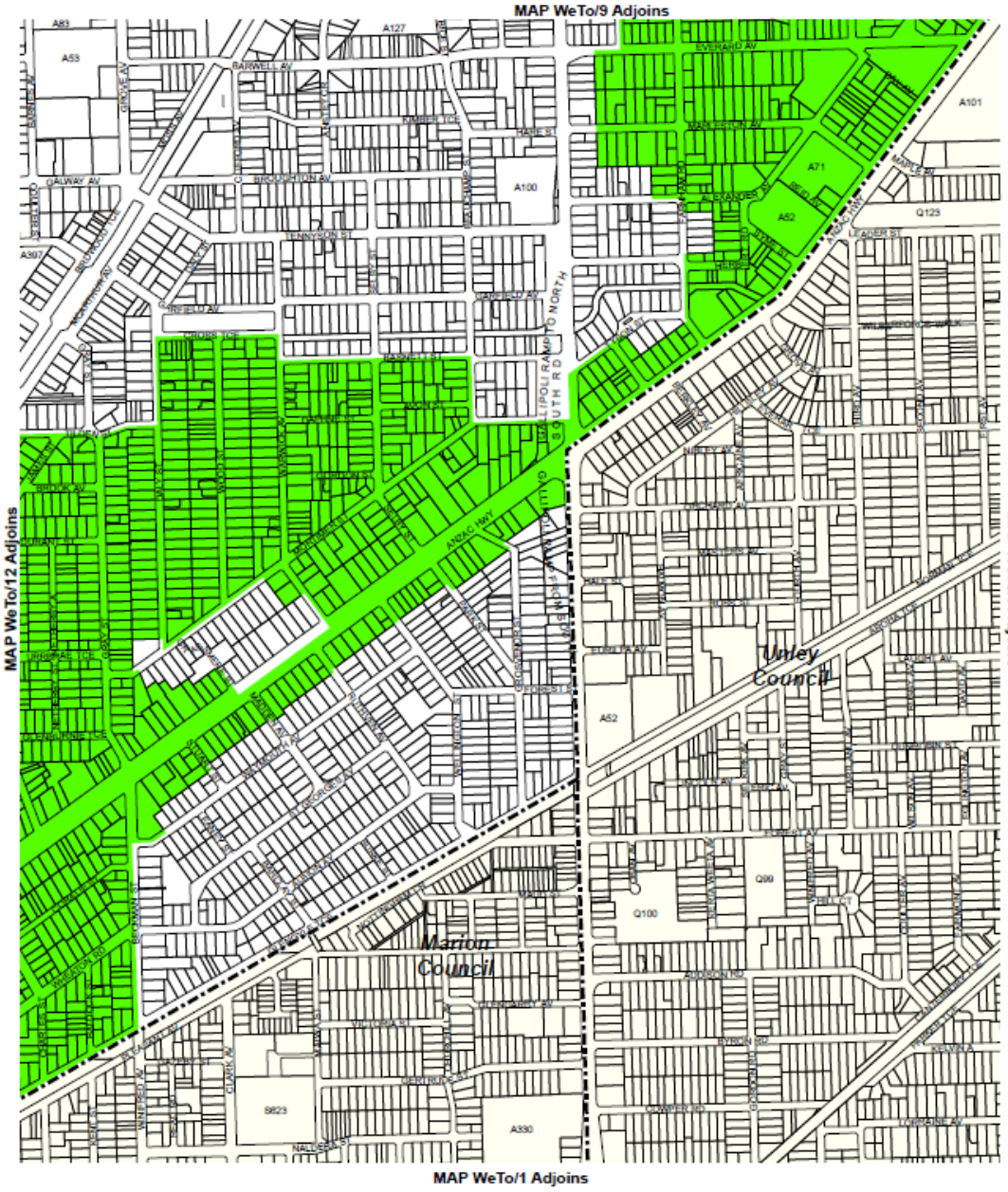


Overlay Map WeTo/13

STRATEGIC TRANSPORT ROUTES

Strategic Transport Route
Strategic Transport Routes Designated Area
Development Plan Boundary

WEST TORRENS COUNCIL
Consolidated - 12 July 2018



Overlay Map WeTo/13

AFFORDABLE HOUSING

Affordable Housing Designated Area

Development Plan Boundary

WEST TORRENS COUNCIL
Consolidated - 12 July 2018

Site Photos

Anzac Highway – looking north west

Anzac Highway – looking south east

Adjacent property – southwest boundary

Adjacent property – Northeast boundary

Adjacent Property Adjacent Property (opposing side of Anzac Hwy) – South west

Adjacent Property (opposing side of Anzac Hwy) – South west

Aerial photo of the subject site and adjacent properties

Government of South Australia
Department of Planning, Transport and Infrastructure

Product	Register Search (CT 5468/776)
Date/Time	12/02/2018 08:29AM
Customer Reference	1592
Order ID	20180212000549
Cost	$28.25

REAL PROPERTY ACT, 1886
South Australia

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.

REGISTRAR - GENERAL SOUTH AUSTRALIA

Certificate of Title - Volume 5468 Folio 776

Parent Title(s) CT 1516/72

Creating Dealing(s) CONVERTED TITLE

Title Issued 10/11/1997 **Edition** 2 **Edition Issued** 02/12/1997

RECEIVED
16 NOV 2018
State Commission Assessment Panel

Estate Type

FEE SIMPLE

Registered Proprietor

LITHOS HOMES PTY. LTD. (ACN: 056 345 950)
OF C/- H AWWAD PO BOX 103 RUNDLE MALL POST OFFICE ADELAIDE SA 5000

Description of Land

ALLOTMENT 118 DEPOSITED PLAN 3108
IN THE AREA NAMED ASHFORD
HUNDRED OF ADELAIDE

Easements

NIL

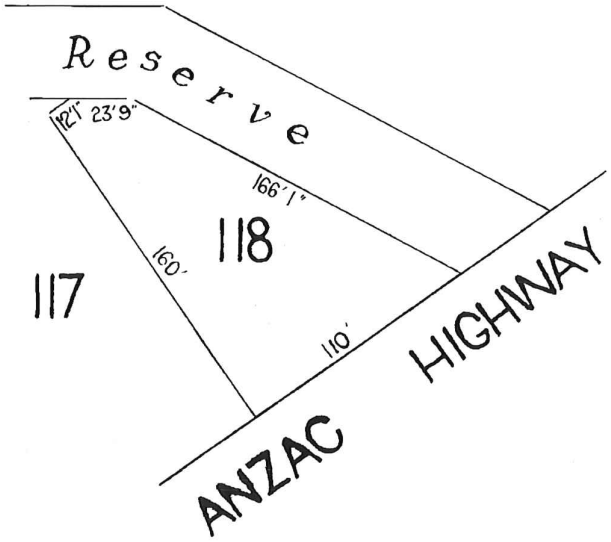
Schedule of Dealings

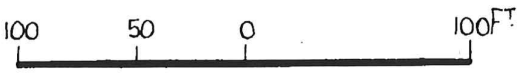
NIL

Notations

Dealings Affecting Title	NIL
Priority Notices	NIL
Notations on Plan	NIL
Registrar-General's Notes	NIL
Administrative Interests	NIL

Product	Register Search (CT 5468/776)
Date/Time	12/02/2018 08:29AM
Customer Reference	1592
Order ID	20180212000549
Cost	$28.25





DISTANCES ARE IN FEET AND INCHES
FOR METRIC CONVERSION

1 FOOT = 0·3048 METRES
1 INCH = 0·0254 METRES

DEVELOPMENT APPLICATION FORM

PLEASE USE BLOCK LETTERS

COUNCIL: CITY OF WEST TORRENS

APPLICANT: AWWAD SUPER FUND PTY LTD

Postal Address: C/- PBA, 26 WAKEHAM STREET
ADELAIDE SA 5000

Owner: LITHOS HOMES PTY LTD

Postal Address: C/- H AWWAD PO BOX 103
RUNDLE MALL POST OFFICE ADELAIDE SA 5000

BUILDER: TO BE ADVISED

Postal Address: _____

Licence No: _____

CONTACT PERSON FOR FURTHER INFORMATION

Name: PHILLIP BRUNNING

Telephone: 82325686 [work] 0407019748 [Ah]

Fax: _____ [work] _____ [Ah]

EXISTING USE: VACANT LAND

FOR OFFICE USE

Development No: _____

Previous Development No: _____

Assessment No: _____

☐ Complying	Application forwarded to DA
☐ Non Complying	Commission/Council on
☐ Notification Cat 2	/ /
☐ Notification Cat 3	Decision: _____
☐ Referrals/Concurrences	Type: _____
☐ DA Commission	Date: / /

	Decision required	Fees	Receipt No	Date
Planning:				
Building:				
Land Division:				
Additional:				
Development Approval				

DESCRIPTION OF PROPOSED DEVELOPMENT: FIVE LEVEL RESIDENTIAL FLAT BUILDING - 14 DWELLINGS

LOCATION OF PROPOSED DEVELOPMENT: _____

House No: 81 Lot No: 118 Street: ANZAC HIGHWAY Town/Suburb: ASHFORD

Section No [full/part] _____ Hundred: _____ Volume: 5468 Folio: 776

Section No [full/part] _____ Hundred: _____ Volume: _____ Folio: _____

LAND DIVISION:

Site Area [m^2] _____ Reserve Area [m^2] _____ No of existing allotments _____

Number of additional allotments [excluding road and reserve]: _____ Lease: **YES** ☐ **NO** ☐

BUILDING RULES CLASSIFICATION SOUGHT: _____ Present classification: _____

If Class 5,6,78 or 9 classification is sought, state the proposed number of employees: Male: _____ Female: _____

If Class 9a classification is sought, state the number o persons for whom accommodation is provided: _____

If Class 9b classification is sought, state the proposed number of occupants of the various spaces at the premises: _____

DOES EITHER SCHEDULE 21 OR 22 OF THE DEVELOPMENT REGULATIONS 2008 APPLY? **YES** ☐ **NO** ☒

HAS THE CONSTRUCTION INDUSTRY TRAINING FUND ACT 2008 LEVY BEEN PAID? **YES** ☐ **NO** ☒

DEVELOPMENT COST [do not include any fit-out costs]: $ 4,000,000

I acknowledge that copies of this application and supporting documentation may be provided to interested persons in accordance with the Development Regulations 2008

SIGNATURE: _____ Dated: 16 / 11 / 18

DEVELOPMENT REGULATIONS 1993
Form of Declaration
(Schedule 5 clause 2A)

To: STATE COMMISSION ASSESSMENT PANEL

From: AWWAD SUPER FUND PTY LTD

Date of Application: 16 / 11 / 18

Location of Proposed Development: .....

House No: 81 Lot No: 118 Street: ANZAC HIGHWAY Town/Suburb: ASHFORD

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

Volume: 5468 Folio: 776

Nature of Proposed Development:

I ...Simon Peter Crom.....**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 1993*.**

Date: 16 / 11 / 2018.

Signed: .....

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.

Ashford 1592 003

14 November 2018

Town Planning
Development Advice
Strategic Management

Mr Ben Scholes
Project Officer
Inner Metropolitan Development Assessment
Department of Planning Transport & Infrastructure
GPO Box 1815
ADELAIDE SA 5001

Dear Ben,

DEVELOPMENT APPLICATION – RESIDENTIAL DEVELOPMENT – 5 LEVEL RESIDENTIAL APARTMENT BUILDING - 81 ANZAC HIGHWAY, ASHFORD

I refer to the Development Application by Awwad Super Fund Pty Ltd that seeks Development Plan Consent to construct a five level residential flat building comprising 14 two bedroom dwellings together with ground level car parking under the main building, fencing and landscaping on land at 81 Anzac Highway, Ashford.

I have been engaged by the Applicant to assist in the presentation of this proposal and provide town planning advice having regard to the existing condition of the land, the pattern and form of surrounding development and relevant provisions of the West Torrens Council Development Plan.

This Development Application is comprised of the following documents:

- Architectural plans and images by TECTVS
- Landscape Concept by Oxigen
- Traffic & Parking Advice by CIRQA
- Integrated Sustainability Strategy by D Squared Consulting
- Waste Management Advice by Colby Industries
- Preliminary Services Report by Trinamic Consultants
- Town Planning advice by PBA (this letter)

1. BACKGROUND

It is appropriate to note that the City of West Torrens (the Council) previously granted consent for a residential development on this land for 5, three storey dwellings in a 'town house' arrangement, with a single access driveway to Anzac Highway. It is understood that this approval has since lapsed.

2. NATURE OF DEVELOPMENT

As described above, the proposed development is in the form of a *residential flat building* as defined by Schedule 1 of the Development Regulations, 1998 in so far as it is for *a single building in which there are two or more dwellings*. The balance of works associated with this development are incidental to the building.

Phillip Brunning & Associates
ABN 40 118 903 021
26 Wakeham Street
Adelaide SA 5000
Telephone 08 8232 5686
Mobile 0407 019 748
phil@phillipbrunning.com

3. RELEVANT AUTHORITY

Schedule 10 of the Development Regulations identifies that the Development Assessment Commission (now the State Commission Assessment Panel) is the relevant authority where development exceeds 4 storeys in height in the Urban Corridor Zone of the Development Plan for the City of West Torrens.

4. PUBLIC NOTIFICATION

The Urban Corridor Zone identifies that where a residential flat building of 3 or more storeys (or greater than 11.5 metres) in height where located on land adjacent to a Residential Zone (the Residential C150 Zone within the City of Unley to the east), the application is to be assigned Category 2.

5. REFERRALS & CONSULTATION

Schedule 8 of the Development Regulations, 2008, identifies that referral is required to:

- Commissioner for Highways
- Commonwealth Department of Transport & Regional Services
- South Australian Government Architect
- the local Council (City of West Torrens).

6. PRELODGEMENT ADVICE & DESIGN REVIEW

It is first appropriate to note that the Applicant participated in the Pre Lodgement assessment process coordinated by officers from the Department of Planning Transport & Infrastructure (DPTI), which included contributions from representatives of the Council and the Traffic Operations section of DPTI.

In respect to Council's advice, I note that:

- there was not fundamental concern expressed in relation to building height;
- the rationale for the 3 storey height limit is not clear, nor of relevance to this site;
- waste management will need to be by private contractor unless otherwise agreed; and
- care will need to be taken in respect to street trees to the front of the site.

Traffic Operations confirmed that proposed access arrangements are appropriate.

Aligned to this process, the Applicant also participated in Designed Review conducted by the Office for Design and Architecture SA (ODASA) as informed by the expert panel which culminated in an advice from Ms Kirsteen Mackay, South Australian Government Architect.

While this process is confidential by agreement of the parties, the advice provided was very supportive and expressed no fundamental concerns. In particular, the five storey (16.9 metres) height of the proposed building was supported have regard to the context of this site and its relationship to surrounding development.

A range of design recommendations have been considered and acted upon i.e.:

- enhanced street address and arrival sequence;
- rationalize paved areas and maximise landscaped areas and the botanic setting;
- review the arrangement and presentation of balconies;
- review internal apartment layouts to maximise natural light; and
- strengthen ground floor screening via increase articulation and materiality.

6. PROPOSAL

The proposal as depicted in the drawings prepared by TECTVS is for a five level residential flat building comprised of 14 dwellings, each of which are to be provided with two bedrooms. A single point of access is provided to Anzac Highway with a total of 14 car parking spaces which are to be assigned at a rate of 1 per dwelling.

The building is sited close to the front property boundary to Anzac Highway, with the ground level parking screened by a planter bed and fence arrangement. Levels 1 through 4 are provided with balances that overlook Anzac Highway. The upper level is recessed from the lower portion of the building and accommodates 2 dwellings.

The building is of a modernist style, displaying simple geometric forms and detailing. While facades are not heavily modulated, the articulation afforded by fenestration and balconies provides for a high level of visual interest and reduces visual bulk and apparent scale. The design is well considered and executed.

The design philosophy is outlined more particularly within the Design Report.

In terms of the relevant metrics, the following summary is provided.

- Site Area — 990 m^2
- Site Coverage — 65%
- Front Set Back (Anzac Highway) — 3.1 m (building face)
- Rear Set Back — 23.4 m (building face)
- Side Set Back (west) — 3 m
- Side Set Back (east) — 1.2 m to 11.8 m
- Private open space (levels 2 to 4) — 11 m^2 - 13 m^2 per dwelling
- Private open space (levels 5) — 38 m^2 - 52 m^2 per dwelling
- Car parking — 1 per dwelling

The proposal displays a strong commitment to sustainability, incorporating the following initiatives so as to achieve a level of energy performance equivalent to a NaTHERS rating of 7 Stars, being 20% better than the minimum Building Code NaTHERS rating of 6 Stars:

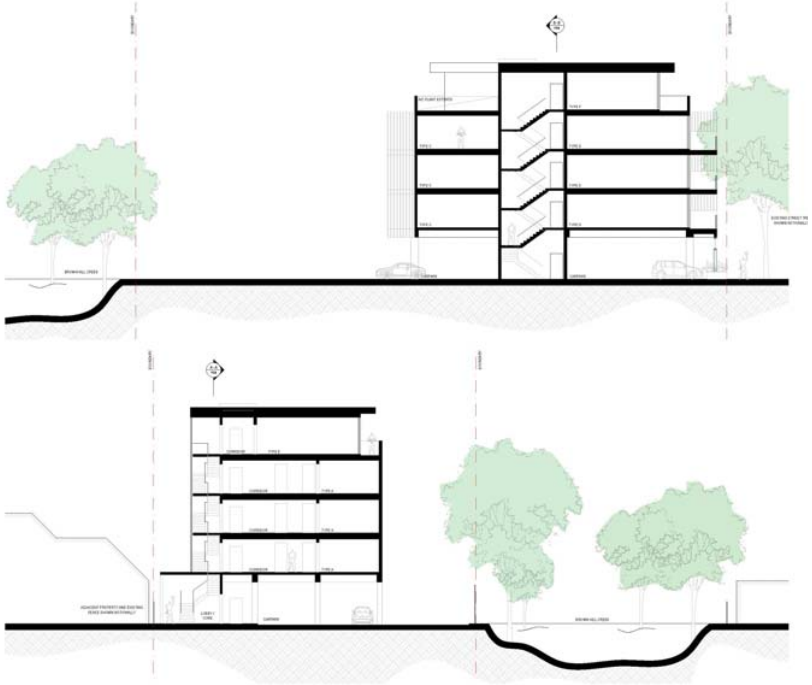
- shading of facades using balconies and window using deep reveals;
- light coloured external finishes and use of high performance glazing;
- natural ventilation to all dwellings and common areas;
- daylight access to all habitable rooms;
- energy efficient lighting systems and zoned air-conditioning;
- a 5.6 kW roof mounted photovoltaic array with potential for expansion to 12 kW;
- provision for battery storage systems by residents;
- gas boosted hot water systems and appliances to European Energy Label A; and
- building energy management system with smart metering.

Landscaping by Oxigen Landscape Architects displays the following elements:

- planted raised bed with integrated screen to frontage
- common garden area with outdoor setting to rear for use by residents
- screening of refuse enclosure to Anzac Highway
- visually permeable fencing to creek with low level planting
- high quality landscape presented to entry

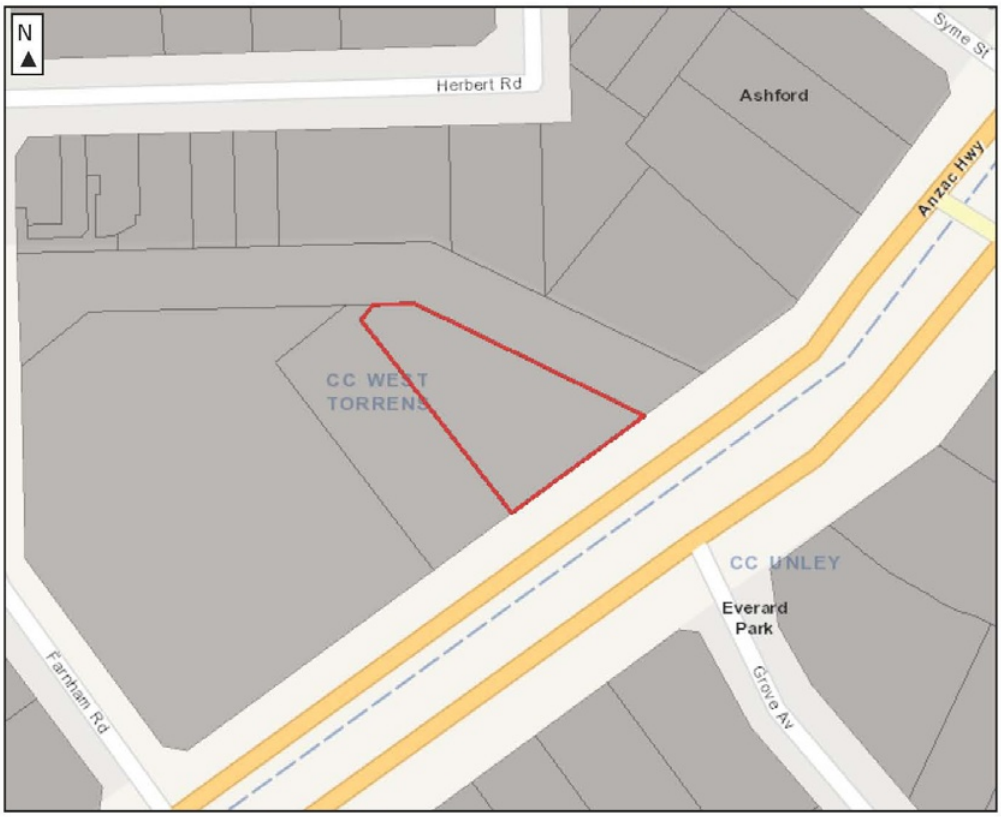

81


81



7. LAND & LOCALITY

The land is more particularly described as Allotment 118 in Deposited Plan 3108 within the Hundred of Adelaide, as recorded in Certificate of Title Volume 5468 Folio 776. The land has an irregular arrangement with a frontage of 33.53 metres to Anzac Highway and 57.86 metres to Brownhill Creek.



The land is vacant having previously been developed with a single dwelling.

The land is relatively flat with a slight grade to the rear (less than 500 mm). Brownhill Creek passes along the northern boundary of the land, flowing in an east west direction. The creek is contained within a concrete lined culvert which has a capacity to accommodate peak flows. The land is not subject to inundation from this creek.

There is a mature palm tree on the land which is not thought to be a regulated tree.

Within the creek channel there are mature ash and elm trees. While identified weed species they afford a leafy canopy over the creek and contribute significant to the visual amenity of this locality and the setting of this site. As I understand it there is no plan to remove these trees from the creek and undertake re-vegetation.

Surrounding land is developed with residential and institutional uses, including a former aged care facility now used as an educational establishment, a dog track on the other side of the creek, single storey dwellings on larger allotments, and health relates uses associated with Ashford Hospital.


nearmap

I note that more recent developments within the locality include:

99 ANZAC HIGHWAY (UNDER CONSTRUCTION)

192 ANZAC HIGHWAY (APPROVED)

4 SELBY STREET (APPROVED)

22-28 ANZAC HIGHWAY (APPROVED)

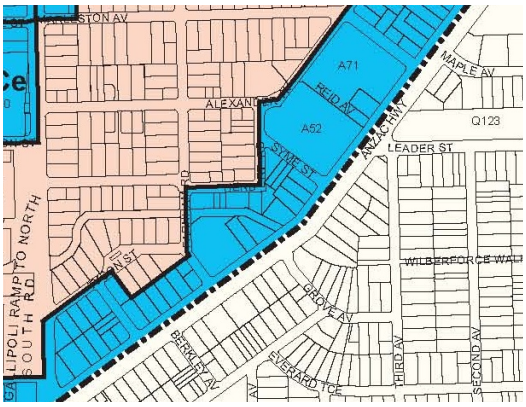
It is apparent that this locality is undergoing change in terms of the scale and form of development which seeks to maximise the benefits arising from this near City location on a major metropolitan arterial road that affords good public transport access, with the rail commuter line within walking distance.

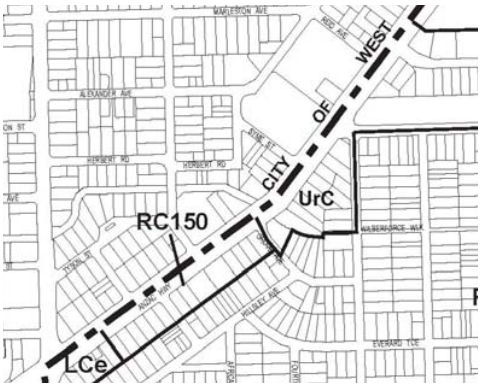
8. DEVELOPMENT PLAN

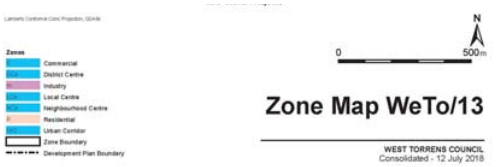
The land is located within the Urban Corridor Zone and more particularly the Boulevard Policy Area 34 of the West Torrens Council Development (the Development Plan), the version which is relevant to the assessment of this proposal being that consolidated on 12 July 2018.

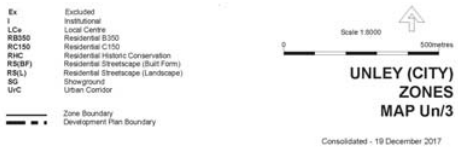
I also note from Maps WeTo /13 that the land:

- has frontage to a Primary Arterial Road;
- is adjacent to a public transport corridor;
- is beyond the flood hazard associated with Brownhill Creek;
- is within Zone C - Airport Building Height – structures exceeding 15 metres;
- is within the Noise and Air Emissions Designated Area;
- is within the Strategic Transport Route Designated Area; and
- is within the Affordable Housing Designated Area.









It is also appropriate to have regard to the provisions of the Development Plan for the adjoining Council area being the City of Unley, more particularly the Residential C150 Zone and the Urban Corridor Zone. I shall discuss the relevance of these policy settings further below.

9. ASSESSMENT

The following matters are most relevant in the assessment of this proposal

9.1 Land Use & Density

The Boulevard Policy Area 34 seeks:

OBJECTIVES

1 Medium and high rise development framing the street, including mixed use buildings that contain shops, offices and commercial development at lower floors with residential land uses above.

This call for medium and high raise development is reinforced by the following Principles of Development Control, noting that opportunity exists for wholly residential buildings and that mixed use development is not obligatory.

PRINCIPLES OF DEVELOPMENT CONTROL

Land use

1 Development should predominantly comprise mixed use buildings, with non-residential development at the ground and first floor and residential development above, and wholly residential buildings.

2 Residential Development should create a medium-to-high density urban environment incorproating residential flat buildings and dwellings in mixed-use buildings, and not lower density residential development such as detached dwellings.

Principle of Development Control 1 for the Urban Corridor Zone identifies certain types of development as being envisaged, including '*residential flat building'*. The proposed development is therefore specifically envisaged within the Zone.

In terms of dwelling density, the following <u>minimum</u> is sought:

5 Residential development (other than residential development in mixed use buildings on allotments less than 5000 square metres), should achieve a minimum net residential allotment density in accordance with the following:

Policy Area	Minimum net residential site density
Boulevard Policy Area 34	100 dwellings per hectare net
High Street Policy Area 35	70 dwellings per hectare net
Transit Living Policy Area 36	45 dwellings per hectare net
Business Policy Area 37	No minimum

The proposal displays a net residential density of 139 dwellings per hectare.

9.2 Form & Character

The Desired Character statement for the Boulevard Policy Area 34 seeks:

The redevelopment of existing commercial and industrial allotments into medium-to-high scale, mixed-use development will occur. Where development has a mix of land uses, non-residential activities such as shops, offices and consulting rooms will be located on lower levels with residential land uses above. In order to achieve the desired transformation of the policy area, dwellings other than detached dwellings will be the predominant form of residential development.

Development will take place at medium and high densities, at a scale that is proportionate to the width of Port Road and Anzac Highway respectively. To achieve this, development will take place on large, often amalgamated allotments. Vehicle access points will be located off side streets and new rear laneways where possible, so that vehicle flows, safety and efficient pedestrian movement along Port Road and Anzac Highway are maintained.

Buildings of up to eight storeys will have a strong presence to Port Road and Anzac Highway. At lower levels, buildings will have a human scale through the use of design elements such as balconies, verandas and canopies. Development on corner allotments will enhance the gateway function of such corners by providing strong, built-form edges combined with careful detailing at a pedestrian scale to both street frontages.

Podium elements, where higher floors of the building are set back further than lower level floors, may be used to improve air quality (through greater air circulation), as well as enhancing solar access, privacy and outlook for both the residents of the building and neighbours.

The proposal is in my view a medium density form of residential development.

Given the depth of the zone in this location and the width of Anzac Highway, the site has a proportionally greater capacity for a scale of development greater than that which may otherwise be possible where the Zone narrows. This arrangement needs to be taken into account when assessing building height.

I note that buildings up to 8 levels are provided for in this Zone.

The Development Plan calls for a transformation in relation to the scale and form of development, and that dwellings other than detached dwellings will be the predominant form of development. This policy position should be considered when assessing the relationship with the adjoining single storey dwelling.

Principles of Development Control 5 and 6 seek:

Form and Character

5 The ground floor of buildings should be built to dimensions including a minimum floor to ceiling height of 4.5 metres to allow for adaptation to a range of land uses including retail, office and residential without the need for significant change to the building.

6 A minimum of 50 per cent of the ground floor primary frontage of buildings should be visually permeable, transparent or clear glazed to promote active street frontages and maximise passive surveillance.

While providing sufficient head height clearance for waste collection vehicles to manoeuvre at ground level, a floor to ceiling height of 4.5 metres is not considered appropriate in this instance given the very low prospect of conversion to another use and the continued need for car parking for car parking.

Although shop fronts are not proposed at ground level, the design provides for suitable levels of visual permeability to assist with passive surveillance while still affording screening to the parking area. I note the screening provided to the uder side of the fronts floor slab in order to screen building services.

Objective 5 speaks to a transition down in scale and intensity at the zone boundary.

Urban Corridor Zone

Objective

5 A built form that provides a transition down in scale and intensity at the zone boundary to maintain the amenity of residential properties located within adjoining zones.

This objective is expanded on within the Desired Character statement for the Zone.

Overlooking, overshadowing and noise impacts will be moderated through careful design. Impacts on adjoining zones where development is lower in scale and intensity will be minimised through transition of building heights and setbacks, judicious design and location of windows and balconies, and the use of landscaping. The transition of building heights and setbacks, and judicious design is especially important adjacent Character Policy Areas, including those Character Policy Areas at Glandore and Ashford. The use of blank walls in these transitional areas, especially at the rear and side of allotments, will be avoided. Plant and service equipment will be enclosed and screened from view from the street and neighbouring allotments.

I note that the land on which this development is proposed does not adjoin land within a different zone. Accordingly, Zone Principle of Development Control 15 is not relevant in the assessment of this proposal. That said, the siting position close to Anzac Highway provides for appropriate set backs to site boundaries.

In terms of policies for the adjoining Council area, I note that the Urban Corridor Zone (Transit Living (Anzac Highway) Policy Area 24 provides for medium density residential development up to 6 storeys, whereas Residential C150 Zone provides for medium density residential development up to 3 storeys.

The lower scale of development envisaged for the Residential C150 Zone on the other side of Anzac Highway is a reflection of the relatively narrow depth of the Zone and limited ability to transition the scale of buildings at the interface with low scale residential development further to the east.

9.3 Design & Appearance

In a general sense, the Development Plan expresses a comprehensive suite of provisions that speak to appropriate design, including that for medium and high rise development (3 or more storeys). Without reproducing these provisions in full, the following design outcomes are sought by the Development Plan:

- design which is responsive to its context;
- appropriate proportions, rhythm, composition and use of materials;
- variation of light and shadow to enhance sense of depth on building facades;
- facades that are well articulated by creating contrasts between solid and void elements;
- buildings which achieve a comfortable human scale and street interface;

- breaking up of facades to reduce visual mass;
- balconies that are integrated into overall architectural form;
- single driveway access, screening of car parking, plant and equipment;
- appropriate entry to multi storey buildings and address to the street;
- maximise natural ventilation and infiltration of daylight;
- surveillance over public and common areas;
- appropriate interface to low scale development in adjacent zones;
- appropriate site facilities and storage areas; and
- deep soil zones for tree planting.

Mores specifically at the zone and Policy Area level, the Development Plan seeks design excellence standard, interesting pedestrian environment and human scale at ground level, careful building articulation and fenestration, with the height, mass and intensity of development focused towards the main road frontage

As one of the key zones in the City of West Torrens where there will be transformation in built form, new buildings will be recognised for their design excellence. These buildings will establish an interesting pedestrian environment and human-scale at ground level through careful building articulation and fenestration, verandas, balconies, canopies and landscaping. In general, the greatest height, mass and intensity of development will be focussed at the main road frontage. Buildings of 3 or more storeys will be the predominant built form. It is for these reasons that dwellings other than detached dwellings will be the predominant form of residential development.

Overlooking, overshadowing and noise impacts will be moderated through careful design. Impacts on adjoining zones where development is lower in scale and intensity will be minimised through transition of building heights and setbacks, judicious design and location of windows and balconies, and the use of landscaping. The transition of building heights and setbacks, and judicious design is especially important adjacent Character Policy Areas, including those Character Policy Areas at Glandore and Ashford. The use of blank walls in these transitional areas, especially at the rear and side of allotments, will be avoided. Plant and service equipment will be enclosed and screened from view from the street and neighbouring allotments.

Where buildings are set back from main roads, landscaping will contribute to a pleasant pedestrian environment and provide an attractive transition between the public and private realm. Large scale development in the zone will facilitate the establishment of areas of communal and public open space, and create links with existing movement patterns and destinations in the zone. Front fencing in the zone will be kept low and/or visually permeable.

6 Vehicle parking should be located to the rear of development or not be visible from public land along the primary road frontage.

7 Buildings should maintain a pedestrian scale at street level, and should:
(a) include a clearly defined podium, or street wall with a parapet, and a maximum building height of 2 storeys from natural ground level
(b) have levels above the defined podium or street wall setback a minimum of 2 metres from that wall.

8 Buildings on allotments with a frontage greater than 10 metres should be well articulated through variations in forms, materials, openings and colours.

9 Buildings should be designed to:
(a) enable suitable sunlight access to public open space
(b) overlook or orientate towards public open space and defined pedestrian and cycle routes.

10 To maintain sight lines between buildings and the street, and to improve safety through passive surveillance, solid fencing should not be constructed between the front building line and the primary or secondary street.

11 Development should minimise the number of access points onto an arterial road, by providing vehicle access:
(a) from side streets or rear access ways
(b) via co-ordinated through-property access rights of way or common rear vehicle parking areas.

As reviewed by the Government Architect during the pre lodgment assessment process, the proposal performs admirably in respect to these design considerations, noting that a podium is not an absolute requirement that that the designed outcome may be achieved through other means.

The proposed single driveway access point and the screening of car parking areas assists in reducing the visual prominence of this function, with the landscape solution proposed complementing the built form so as to achieve an attractive level of presentation at street level.

As outlined within the Architect's Design Statement, the proposal is composed in a considered manner respectful of its 'botanical' setting and relationship to the creek, with the built form response addressing Anzac Highway in an engaging manner that is well composed and provides a high level of visual interest.

For the reasons presented at Design Review, a podium form and set back is not considered critical on this site given the scale of the building concerned and the constraint posed by the geometry of the site. It would serve no practical planning purpose to insist on a podium in this instance.

I note that a podium form was not provided at 99 Anzac Highway.

9.4 Building Height & Set Back

As identified by Zone Principle of Development Control 13, the Boulevard Policy Area provides for development up to 8 storeys and 32.5 metres, other than for those allotments between Syme Street and South Road where a 3 storey (12.5 metres) high limit is expressed.

13 Except where airport building height restrictions prevail, or the interface height provisions require a lesser height, building heights (excluding any rooftop mechanical plant or equipment) should be consistent with the following parameters:

Policy area	Maximum building height (above natural ground height)
Boulevard Policy Area 34	Allotments abutting **Residential Character Glandore Policy Area 24**, and allotments between Syme Street and South Road: 3 storeys and 12.5 metres
	All other allotments: 8 storeys and up to 32.5 metres
High Street Policy Area 35	Allotments west of Marion Road: 3 storeys and up to 12.5 metres
	Allotments between South Road and Marion Road: 4 storeys and up to 16.5 metres
	All allotments east of South Road: 6 storeys and up to 24.5 metres
Transit Living Policy Area 36	Allotments adjoining Henley Beach Road west of Marion Road: 3 storeys and up to 12.5 metres
	Allotments adjoining Henley Beach Road east of Marion Road: 4 storeys and up to 16.5 metres
	All other allotments: 6 storeys and up to 24.5 metres
Business Policy Area 37	6 storeys and up to 24.5 metres

The rationale for this policy setting is not apparent within the Development Plan, either within the statement of Desired Character of the associated narrative. Background was sought from Council as to the reason for this reduction in beholding height, however no definitive reasoning was provided.

One possible explanation might be that the depth of the Zone is relatively shallow in this location (one block deep in most instances) and that in order to achieve a suitable transition in scale at the interface to low scale residential development in the adjoining zone it is necessary to moderate building height.

That said, I note that:

- the Zone in this location is far deeper than for the balance of this area;
- the subject land does not adjoin land within a different zone
- the development at 99 Anzac Highway was approved at 5 storeys.

Accordingly, I think there are good town planning reasons to exercise discretion in this instance and that it would serve no practical purpose to limit height on this land to 3 storeys. The land clearly has a capacity for a more robust building form that may better deliver the housing outcomes sought for this Zone.

In respect to front set backs, Zone Principle of Development Control 17 seeks:

17 Buildings (excluding verandahs, porticos and the like) should be set back from the primary road frontage in accordance with the following parameters:

Policy area	Minimum setback from the primary road frontage where it is Port Road, Anzac Highway, Richmond Road or Henley Beach Road	Minimum setback from the primary road frontage in all other cases
Boulevard Policy Area 34	No minimum at Port Road 3 metres at Anzac Highway	2 metres
High Street Policy Area 35	No minimum	2 metres
Transit Living Policy Area 36	3 metres	3 metres
Business Policy Area 37	3 metres	3 metres

While ground level car parking, the raised planer bed with integrated landscape screen and upper level balconies may encroach into the 3 metres, the substantive building form is set back the required distance. The proposed arrangement provides for a suitable relationship to Anzac Highway.

19 Buildings (excluding verandahs, porticos and the like) should be set back in accordance with the following parameters:

Designated area	Minimum setback from rear allotment boundary	Minimum setback from side boundaries (where not on a street boundary)
Boulevard Policy Area 34	3 metres where the subject land directly abuts an allotment of a different zone No minimum in all other cases	For allotments with a frontage width of 20 metres or less: no minimum up to a height of 2 storeys and 3 metres above this height. For allotments with a frontage width of more than 20 metres: 3 metres.

The proposal more than meets both the side and rear set back requirements.

9.5 Private Open Space

The Development Plan expresses the following in relation to private open space.

22 Dwellings located above ground level should provide private open space in accordance with the following table:

Dwelling type	Minimum area of private open space
Studio (where there is no separate bedroom)	No minimum requirement
1 bedroom dwelling	8 square metres
2 bedroom dwelling	11 square metres
3+ bedroom dwelling	15 square metres

23 Private open space located above ground level should have a minimum dimension of 2 metres and be directly accessible from a habitable room.

24 Private open space may be substituted for the equivalent area of communal open space where:
(a) at least 50 per cent of the communal open space is visually screened from public areas of the development
(b) ground floor communal space is overlooked by habitable rooms to facilitate passive surveillance
(c) it contains landscaping and facilities that are functional, attractive and encourage recreational use.

The proposal satisfies the quantitative measure in respect to the size and depth of balconies that are provided with access from habitable rooms for the enjoyment of future residents. Balustrades are partially open so as to allow for views down to common and public areas.

9.6 Access & Parking

The following provisions are most relevant in respect to access and car parking.

Objective

3 Development that does not compromise the transport functions of the road corridor.

Principle of Development Control

20 Development should provide off-street vehicle parking and specifically marked accessible car parking places to meet anticipated demand in accordance with *Table WeTo/6 - Off Street Vehicle Parking Requirements for Designated Areas*.

Table 3: Residential development, in the form of residential flat buildings and residential development in multi-storey buildings

Location of development	Rate for each dwelling based on number of bedrooms per dwelling	Plus number of required visitor parking spaces
Boulevard Policy Area 34 within the **Urban Corridor Zone**	0.25 per studio (no separate bedroom) 0.75 per 1 bedroom dwelling 1 per 2 bedroom dwelling 1.25 per 3 + bedroom dwelling	0.25 per dwelling

While I defer in the first instance to the expert advice provided by Mr Ben Wilson of CIRQA, I am of the view that the proposed access arrangements are satisfactory in so far as a single coordinated point of entry is provided (rather than multiple) and that all vehicles may enter and exit in a forward direction.

I note that the driveway is in the same location as previous approved.

In respect to car parking, the proposal was initially presented with 17 car parking spaces. As a result of Design Review a decision was taken to delete 3 spaces and revert to one space per dwelling so as to reduce the extent of paved area and maximise landscape open space for enjoyment of residents.

This was a conscious 'trade off' in favour of amenity and landscape character. I am of the view that visitors would be unlikely to utilise these parking spaces on the site in so far as they are secured behind eclectic gates, and that more than adequate opportunity exists for visitor parking on street within the surrounding locality.

Given the location of this land on a strategic public transport route, the provision of parking in line with this measure (which applies more generally across the Council area) is not considered to be critical given the practical alternatives available and the reduced reliance on personal motor vehicles in this instance.

9.7 Affordable Housing

As noted, the land is within an area designated as suitable for affordable housing.

OBJECTIVES

1 Affordable housing that is integrated into residential and mixed use development.

2 Development that comprises a range of affordable dwelling types that caters for a variety of household structures.

PRINCIPLES OF DEVELOPMENT CONTROL

1 Development comprising 20 or more dwellings should include a minimum of 15 per cent affordable housing (as defined by the *South Australian Housing Trust Regulations* as amended).

As the proposal is for 14 dwellings there is no express requirement for affordable housing within this project. While not *affordable housing*, as per the statutory definition, the proposed dwellings will be competitively affordable in the context of the local housing market.

9.8 Noise & Air Emissions

The land is within an area subject to noise and air emissions overlay.

OBJECTIVES

1 Protect community health and amenity from adverse impacts of noise and air emissions.

PRINCIPLES OF DEVELOPMENT CONTROL

1 Noise and air quality sensitive development located adjacent to high noise and/or air pollution sources should:
- (a) shield sensitive uses and areas through one or more of the following measures:
  - (i) placing buildings containing less sensitive uses between the emission source and sensitive land uses and areas
  - (ii) within individual buildings, place rooms more sensitive to air quality and noise impacts (e.g. bedrooms) further away from the emission source
  - (iii) erecting noise attenuation barriers provided the requirements for safety, urban design and access can be met
- (b) use building design elements such as varying building heights, widths, articulation, setbacks and shapes to increase wind turbulence and the dispersion of air pollutants provided wind impacts on pedestrian amenity are acceptable
- (c) locate ground level private open space, communal open space and outdoor play areas within educational establishments (including childcare centres) away from the emission source.

I understand that the proposed building will be specified and constructed to meet the requirements of Ministers Specification 78B – Construction requirements for the control of external sound.

9.9 Land Division

24 Land division in the zone is appropriate provided new allotments are of a size and configuration to ensure the objectives of the zone can be achieved.

While land division is not proposed as part of this development application, it will occur in due course so as to create individual titles for each residential dwelling, with the associated car parking and access rights. It is expected that this will occur through a plan of Community Division.

10. CONCLUSION

The proposal is considered to be an appropriate form of development that generally accords with the relevant provisions of the Development Plan and therefore warrants consent. To the extent that the proposal may depart from certain provision of the Development Plan, no serious planning impacts are anticipated.

Yours faithfully

PHILLIP BRUNNING & ASSOCIATES PTY LTD

PHILLIP BRUNNING RPIA
Registered Planner

Ashford Housing

v1.0 2018.11.06

Design Report

‘We propose a development of a high design standard and appearance responding to and reinforcing the positive aspects of the local environment and built form in a botanic setting’

Contents

Executive Summary

We propose a development of a high design standard and appearance responding to and reinforcing the positive aspects of the local environment and built form in a botanic setting.

The development addresses the material character of Ashford through clever articulation of massing and material choices that situate the development within the broader urban interface.

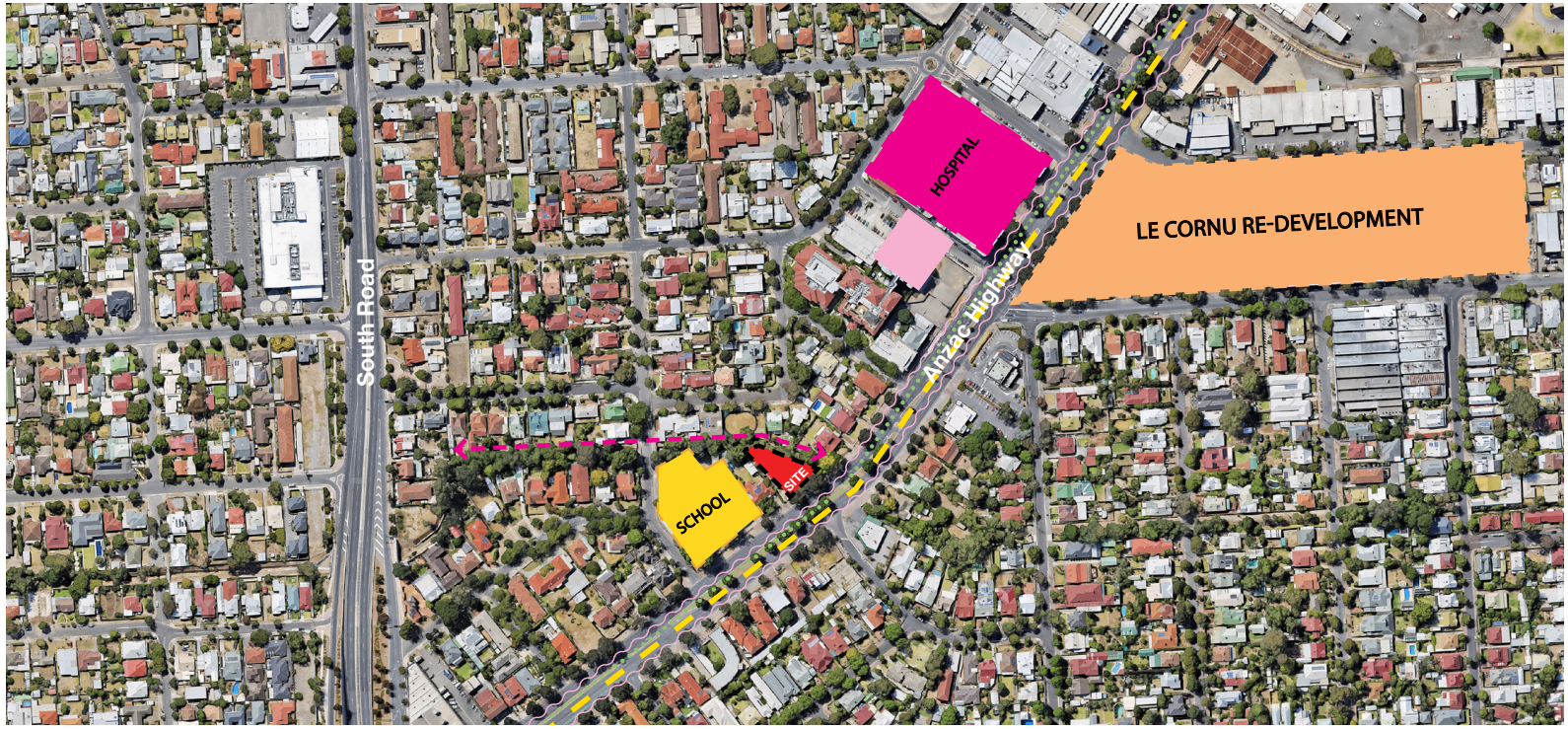
Particular attention has been paid to the apartment layouts, movement, and the overall massing.

1

Site Conditions

Urban Context

MACRO



Key

Site

Brown Hill Creek/ Willawilla

Pedestrian
- 15 mins to Kurralta shops

Bicycle
- 15 mins to city
- 25 mins to Glenelg

Public Transport

Services to City every 15mins

Services to Glenelg, Marion and Southern Suburbs every 15mins

NOT TO SCALE

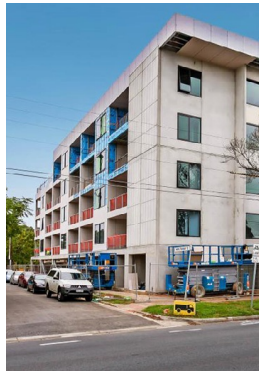
Urban Context

SURROUNDS









Imagery of immediate surrounds capture the leafy and 'botanic' setting in which the site is situated.

Varied built form prevails with similar scales to the proposed development existing nearby.

Clockwise from top left:

1 Herbert Road
2 Anzac Highway - North
3 Anzac Highway - South West
4 99 Anzac Highway
5 2-8 Syme Street - Ashbrook Apartments
6 83 Anzac Highway - Adjacent
7 79 Anzac Highway - Adjacent

2

Precedent Study

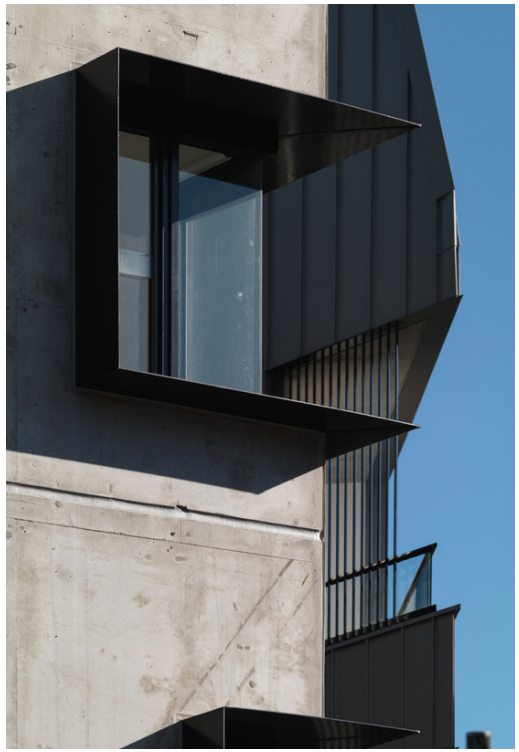
Precedents

Previous Tectvs designs formulated through volumetric and massing studies proved influential.

Clockwise from left:

- Alta Apartments, Adelaide
- Luminaire Apartments, Bowden

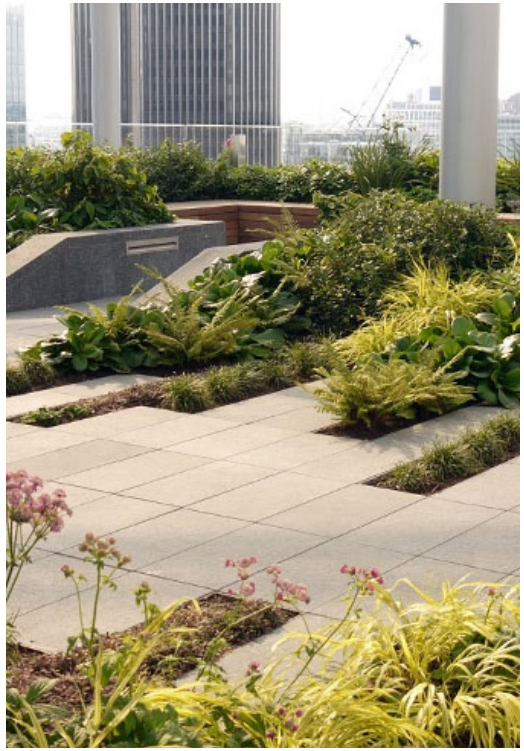
Precedents

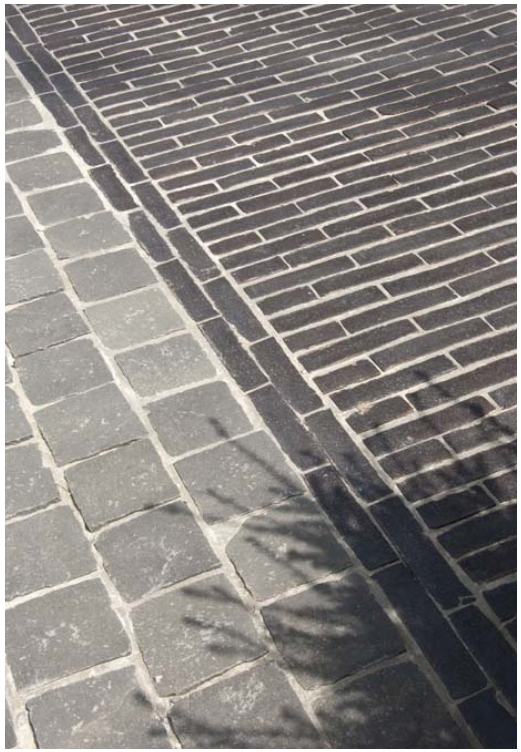


ARTICULATION

Expressive facade criterion as a consistent language of the surrounding context connect built fabric and landscaped spaces.

Precedents

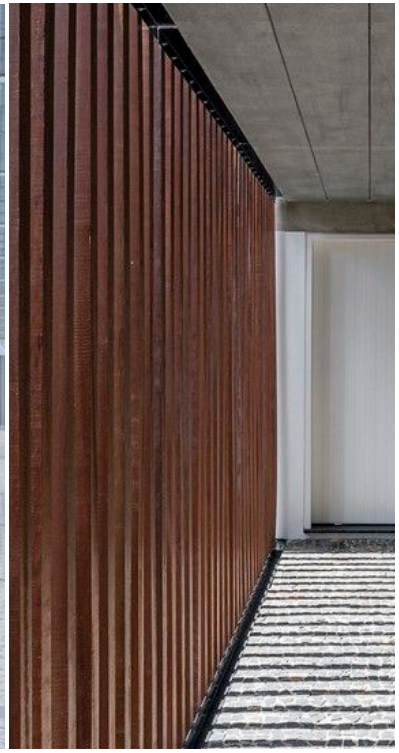




GARDEN

Feature green areas soften edges and provide opportunities for residents.

Precedents



SCREENING

Naturally ventilated car parks provide enhanced visibility through permeable screen devices such as timber and perforated metal.

3

Design Response

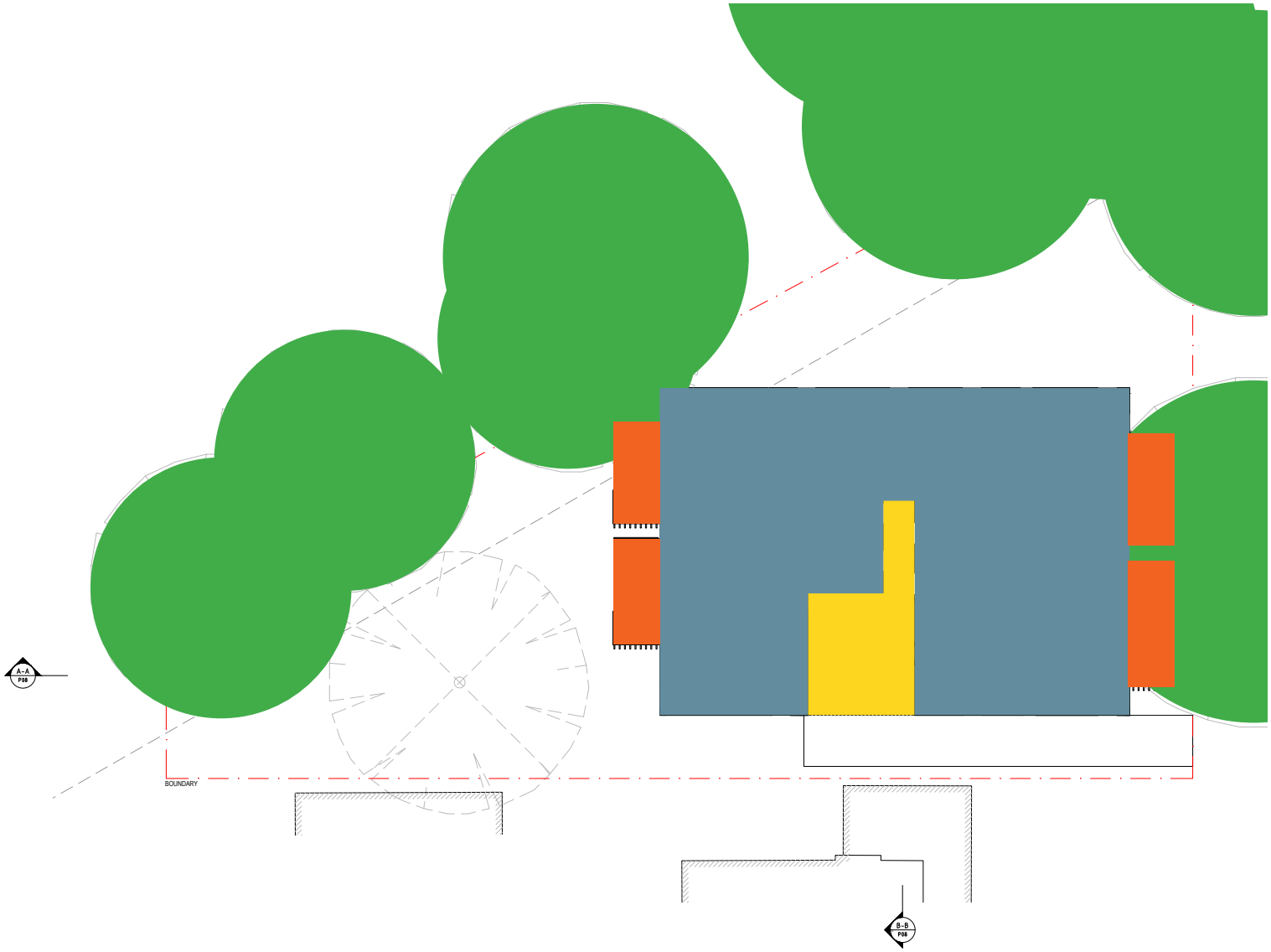
Plans

GROUND FLOOR PLAN

NOT TO SCALE

Plans

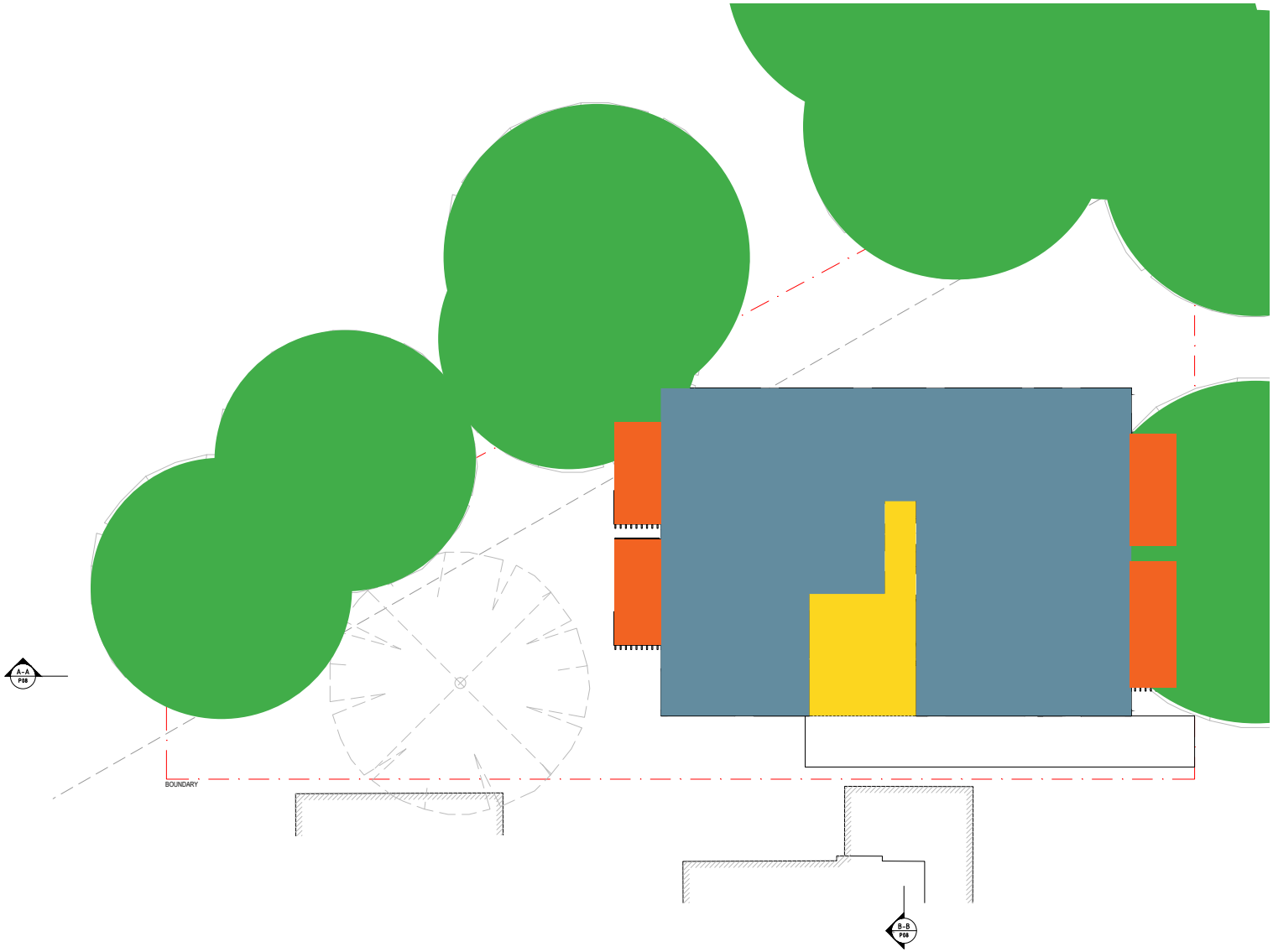
FIRST FLOOR PLAN



NOT TO SCALE

Plans

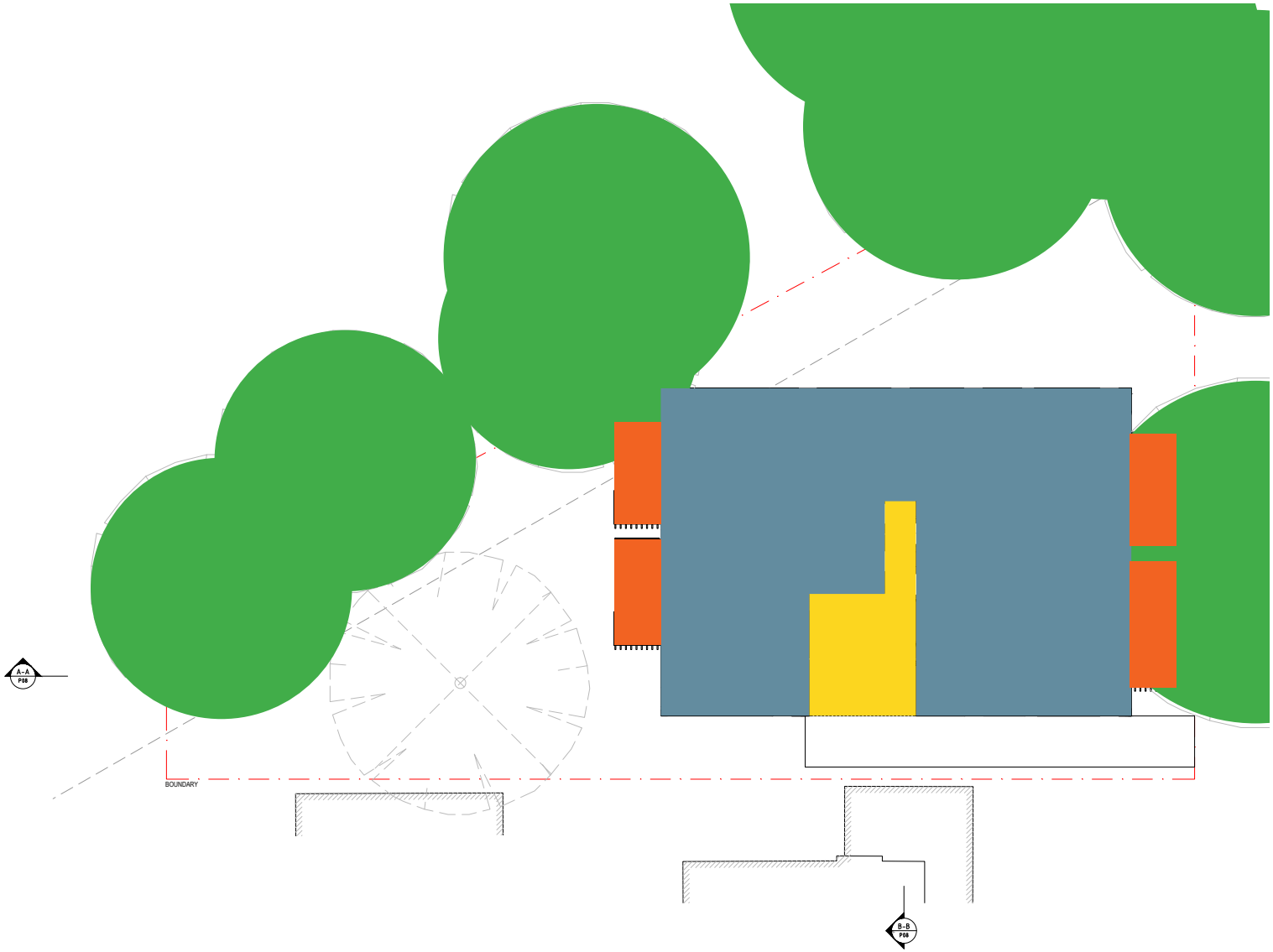
SECOND FLOOR PLAN



NOT TO SCALE

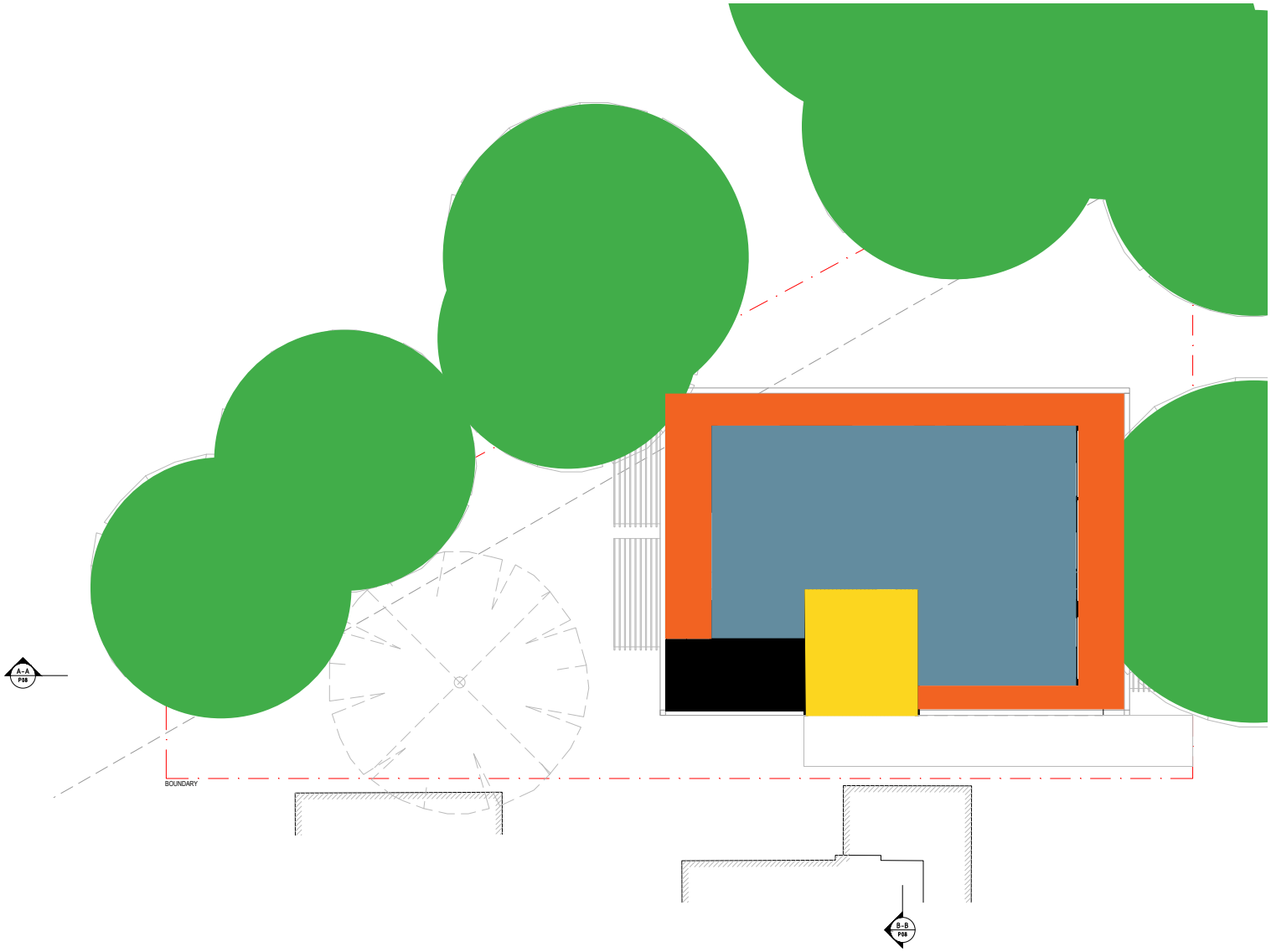
Plans

THIRD FLOOR PLAN



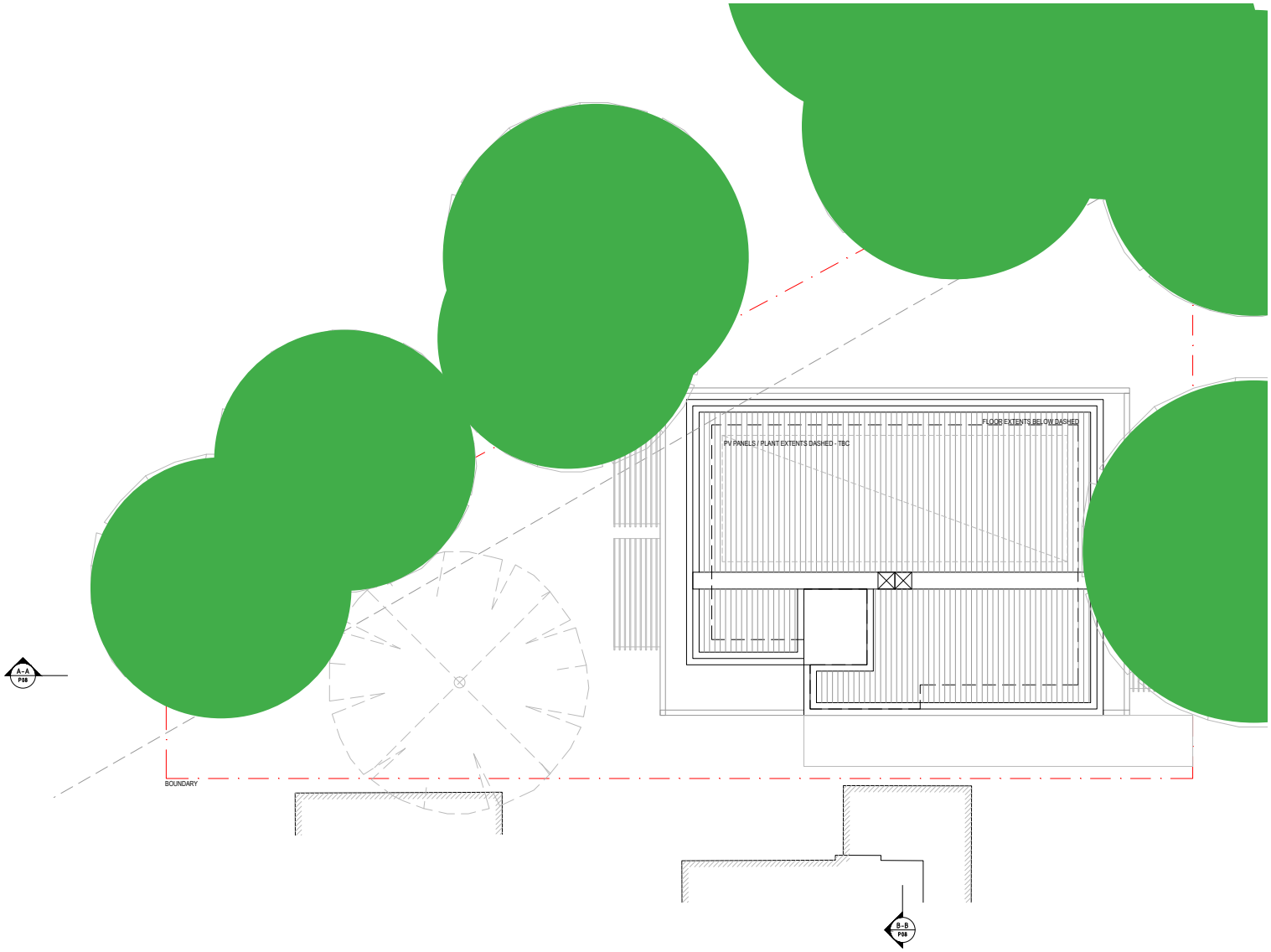
Plans

FOURTH FLOOR PLAN

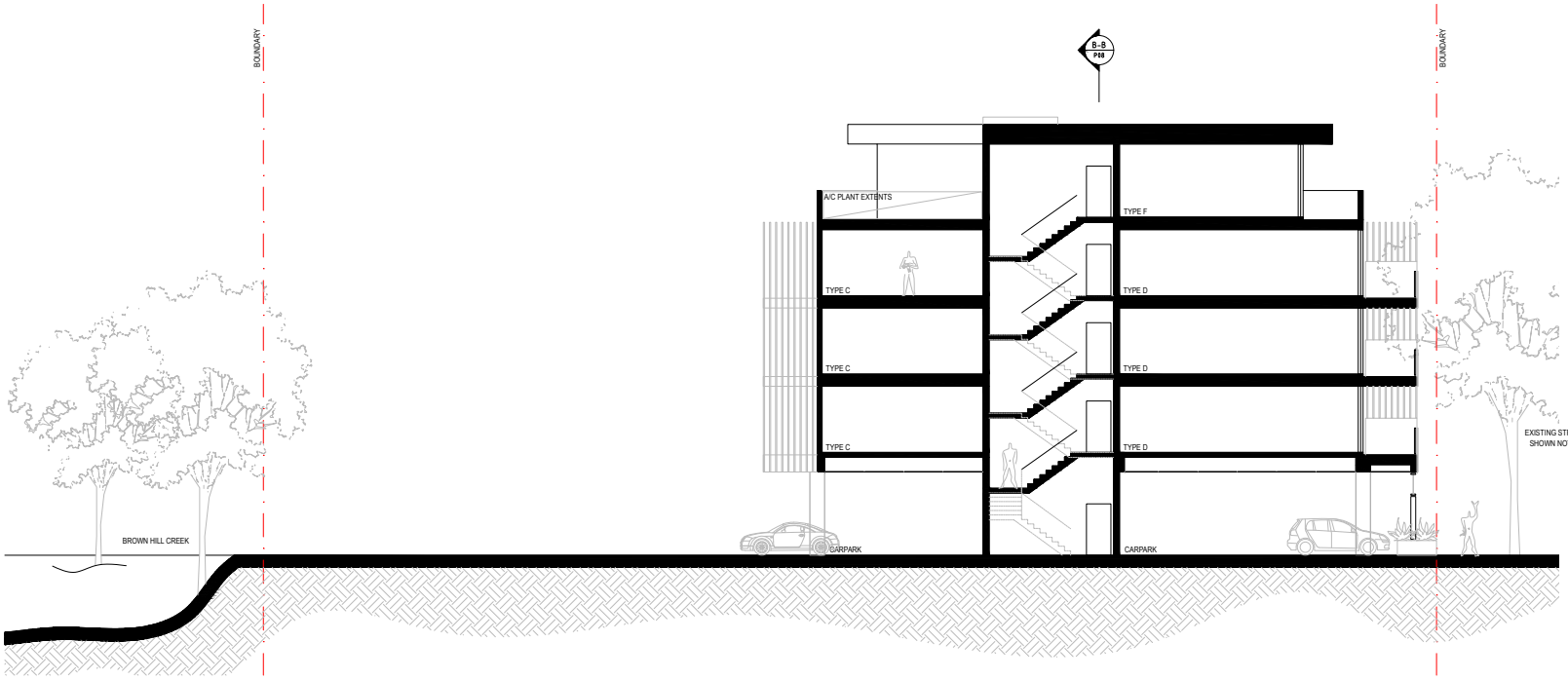


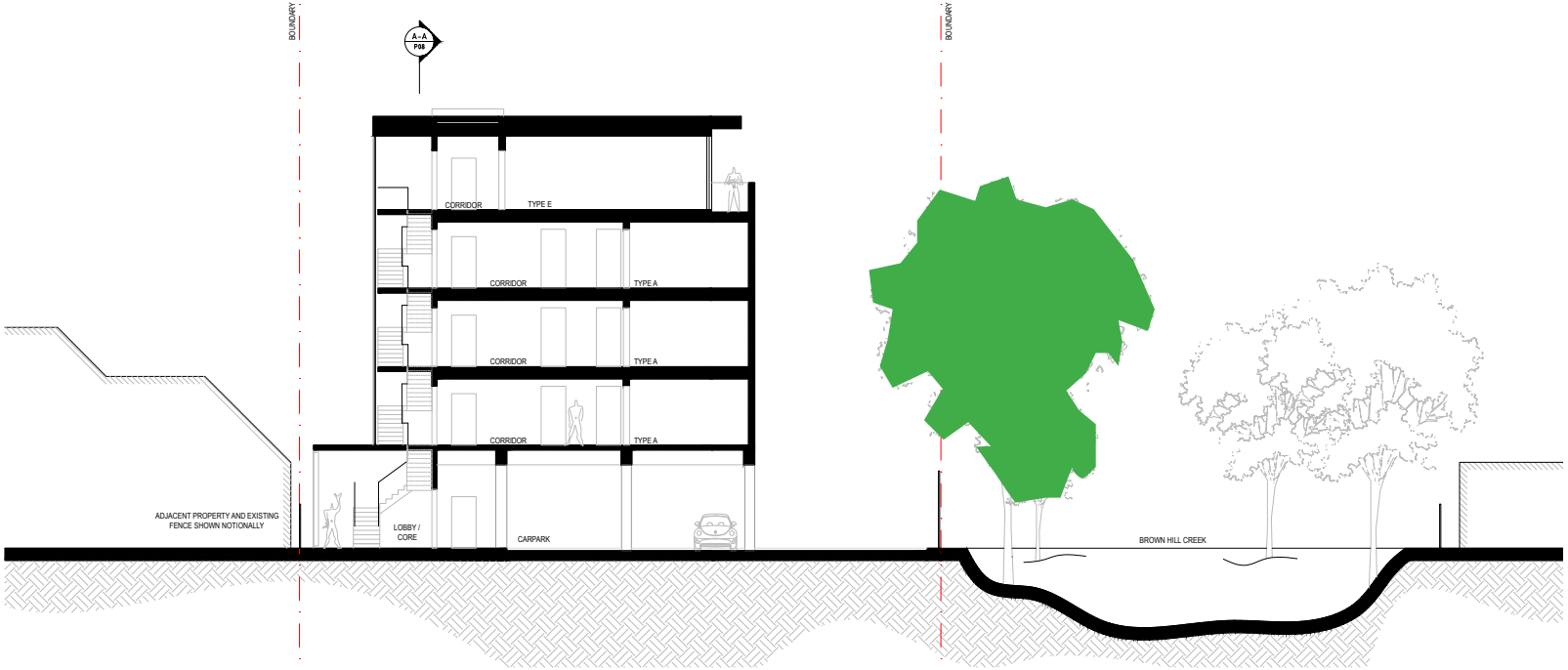
Plans

ROOF PLAN



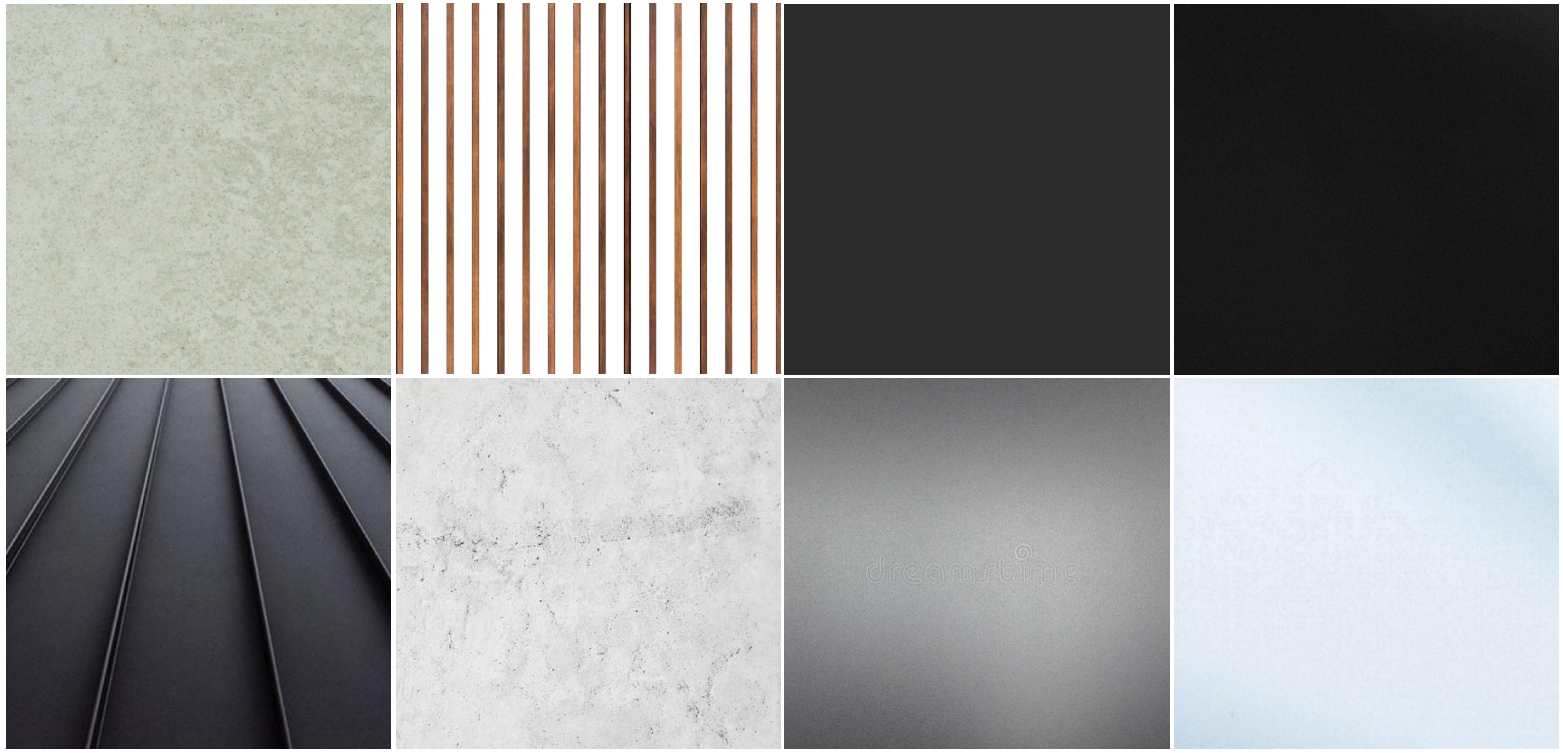
Sections





NOT TO SCALE

Materiality



EXTERIOR PALETTE

Clockwise from top left:

- Pre-finished CFC sheeting system
- Timber Screening
- Powder Coated Aluminium
- Treated Steel
- Clear Glass
- Tinted Glass
- Natural Concrete
- Metal Cladding

Materiality

INTERIOR PALETTE

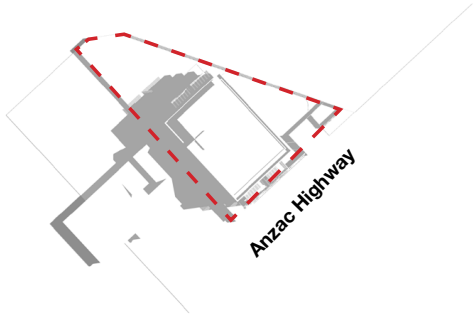
Clockwise from top left:

- Soft Timber
- Tiles
- Feature Tiles
- Timber floorboards
- Stone benchtop
- Clear Glass
- Carpet

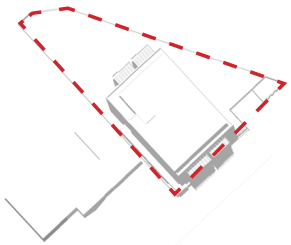
Shadows

Summer Solstice

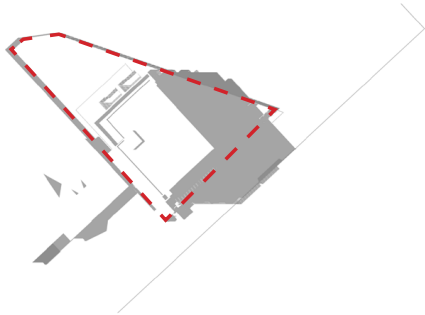
0900



1200

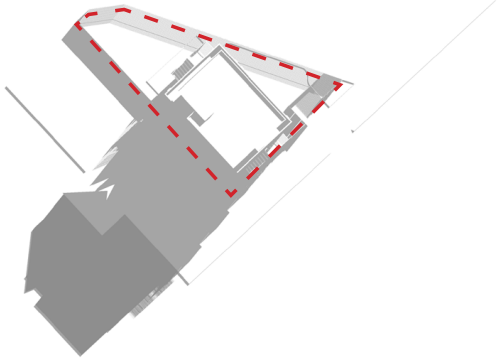


1500

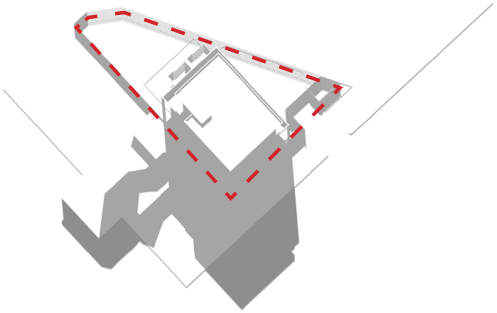


Winter Solstice

0900



1200



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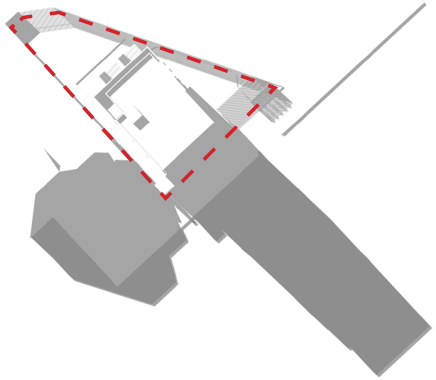
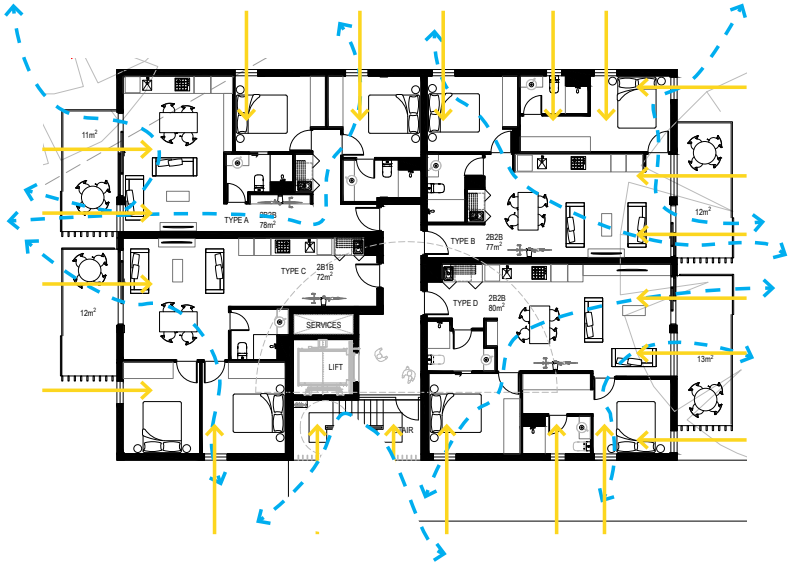


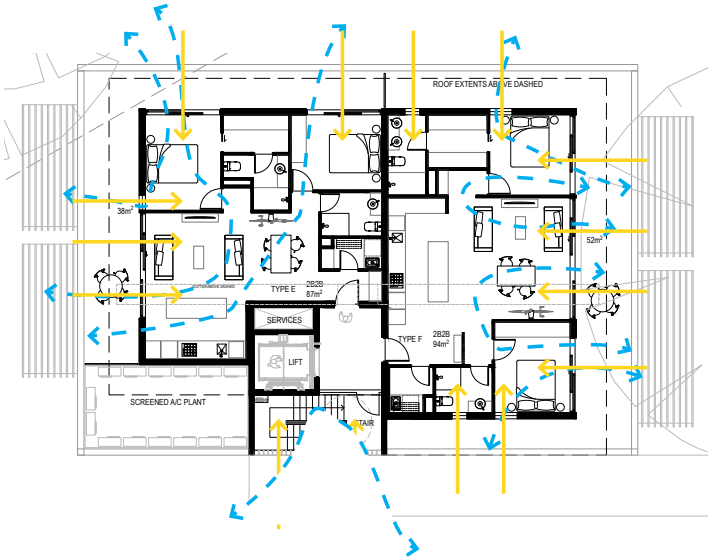
SHADING STUDY

Building shadows cast during summer and winter solstice demonstrated.

NOT TO SCALE

ESD





SUSTAINABILITY STUDY

In addition to the 'Sustainability Vision' report outlining overiding principles for the proposal (D2), the building has been designed to allow direct natural light to all habitable rooms along with opportunities for cross ventilation.

Cross Ventilation

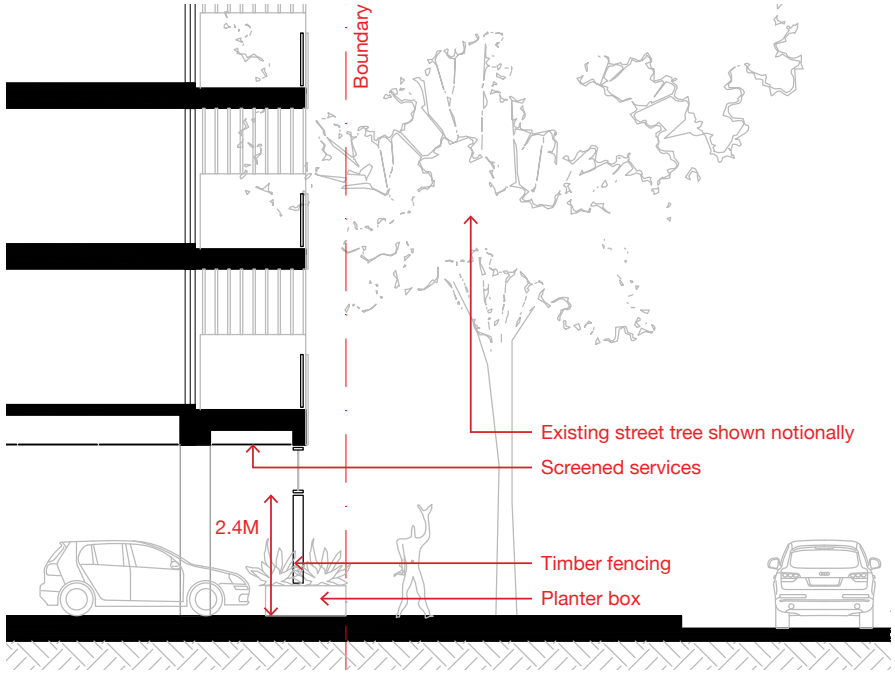
Direct Sunlight

Entrance

ADDRESS

Studies left capture consideration to the clarity and presentation of the pedestrian entrance, along with the proposed interface conditions with Anzac Highway.

Screening



SCALE

The interface with Anzac Highway has been carefully considered through scale, articulation and materiality.

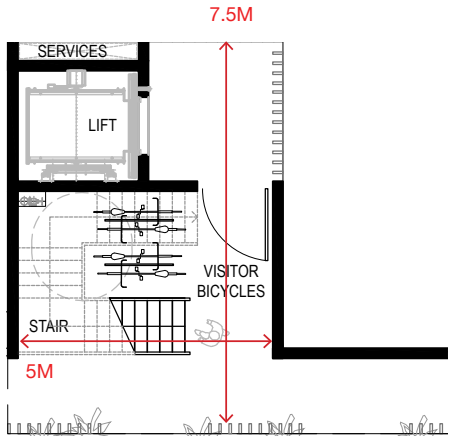
A softened and visually permeable presentation to Anzac Highway maintains suitable screening of the carpark and services beyond with a scale and patterning relatable to passers-by.

Lobby

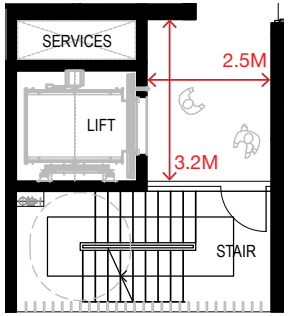
ADDRESS

The lobby and arrival area at each floor has been maximised to provide residents with a generous sense of space around the core.

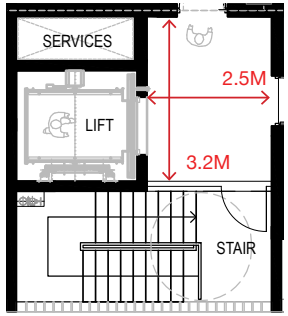
The lobby at ground is arranged as a single open space with direct and continuous access from Anzac Highway or the carpark.



GROUND



TYPICAL

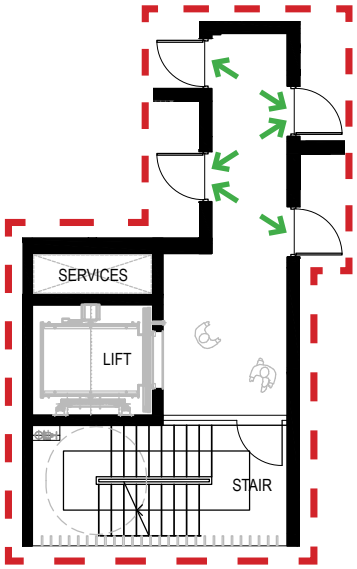


FOURTH

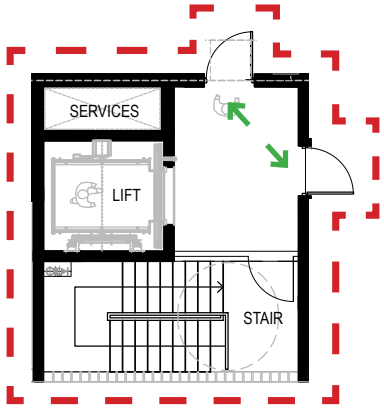
Sequence

STAGGER

The location of entry doors off the communal corridor at each level have been staggered to promote a sense of privacy for each resident.



TYPICAL



FOURTH

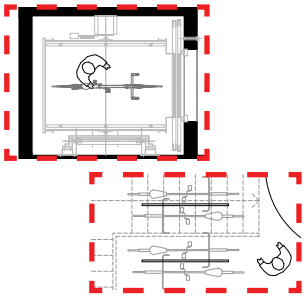
Aspect

DIRECTION

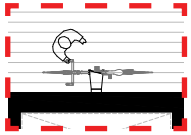
Encouraged view directions have been identified, responding to both adjacent balconies and beyond to mitigate overlooking.

Encouraged view
Privacy screen - 1.5m
Permeable screen - Full height
Permeable Balustrade - 1.1m
Opaque panel - 1.1m

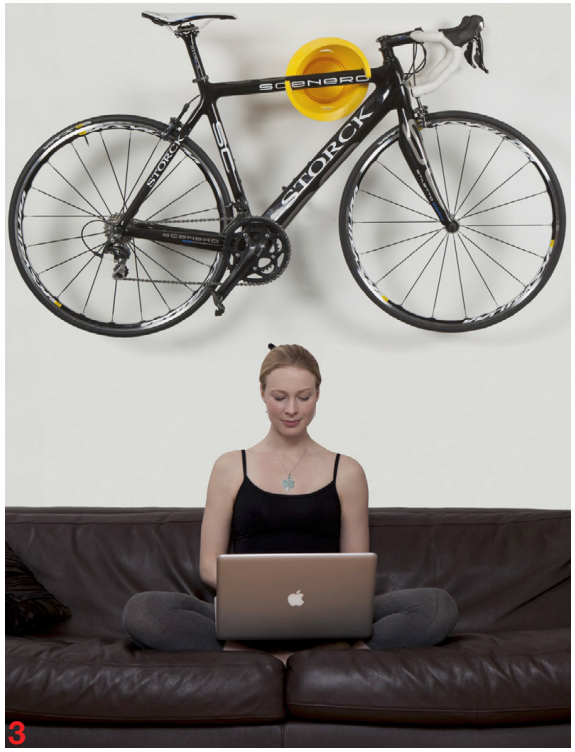
Bicycles



1



2



3

PARKING

The use of bicycles is promoted through provision of storage and parking facilities. Two typologies for bike storage/parking are highlighted:

- Visitor bike parking provided in the ground floor lobby.
  (Image 1)
- Within each apartment residents are provided with a bicycle hanger for storage.
  (Images 2 & 3)

4

Conceptual Visualisation

Visual

APPROACH

From Anzac Highway

5

Building Matrix

Matrix

PRODUCT

A breakdown of product mix and associated areas throughout the development is provided.

		Net Floor Area (m²) Property Council Guidelines							Balconies (m²)						Gross Floor Area (m²) Property Council Guidelines
	Total Apt	**TYPE A**	**TYPE B**	**TYPE C**	**TYPE D**	**TYPE E**	**TYPE F**	Circulation (m²)	**TYPE A**	**TYPE B**	**TYPE C**	**TYPE D**	**TYPE E**	**TYPE F**	
Areas		**78**	**77**	**72**	**80**	**87**	**94**		**11**	**12**	**12**	**13**	**38**	**52**	
Ground	**0**	0	0	0	0	0	0	62 (lobby / core only)	1	1	1	1	0	0	660
First Floor	**4**	1	1	1	1	0	0	38	1	1	1	1	0	0	393
Second Floor	**4**	1	1	1	1	0	0	38	1	1	1	1	0	0	393
Third Floor	**4**	1	1	1	1	0	0	38	1	1	1	1	0	0	393
Fourth Floor	**2**	0	0	0	0	1	1	32	0	0	0	0	1	1	346
Total	**14**							**208**							**4553**

	Bed 1	Bed 2	Bathroom 1	Bathroom 2	Separate Laundry	Storage x + robe (m³)
TYPE A	✔	✔	✔	✔	Euro	4 + 6.5
TYPE B	✔	✔	✔	✔	Euro	1.5 + 6.5
TYPE C	✔	✔	✔	•	Euro	1.5 + 7
TYPE D	✔	✔	✔	✔	Euro	4 + 8
TYPE E	✔	✔	✔	✔	✔	4 + 7
TYPE F	✔	✔	✔	✔	✔	3.5 + 13

Carparking

	Carparks
Total Car Parks	**14**

Note: All areas are approximate only

Ref: 18042|BNW

15 November 2018

Mr Phillip Brunning
Phillip Brunning & Associates
25 Wakeham Street
ADELAIDE SA 5000

Dear Phil,

PROPOSED RESIDENTIAL FLAT BUILDING
81 ANZAC HIGHWAY, ASHFORD

I refer to the proposal to develop a residential flat building at 81 Anzac Highway, Ashford. As requested, this letter provides a review of traffic and parking matters associated with the proposal.

ACCESS AND PARKING DESIGN

The proposal comprises the construction of a residential flat building with 14 dwelling units. An at-grade (undercroft) car park will be provided with 14 parking spaces for residents.

Vehicle access will be provided via a two-way access on Anzac Highway (adjacent the site's north-eastern corner). The access will be 6.0 m wide and include provision for the 2.5 m x 2.0 m pedestrian sight line triangle required adjacent egress movements. The access gate will be set in to the site to provide a queuing/storage area to avoid impact on through movements on Anzac Highway. It is understood that a previously approved development proposal for the site included similar access arrangements on Anzac Highway. The access arrangements have also been discussed with the representatives of the Department of Planning, Transport and Infrastructure's Transport Assessment and Policy Reform (TAPR) section. It is understood that the arrangements are acceptable to TAPR.

The parking area generally complies with the requirements of the Australian/New Zealand Standard for *"Parking Facilities – Part 1: Off-street car parking"* (AS/NZS 2890.1:2004) and the Australian/New Zealand Standard for *"Parking Facilities – Part 6: Off-street parking for people with disabilities"* (AS/NZS 2890.6:2009) in that:

- parking spaces will be 2.4 m wide and 5.4 m long;
- the parking space for use by disabled persons will be 2.4 m wide and 5.4 m long with an adjacent shared area of the same dimension;
- parking aisles will be 5.8 m wide;
- 1.0 m end-of-aisle extensions will be provided beyond the last parking space in the two aisles;
- columns will be located outside of the car clearance envelope;
- 0.3 m clearance will be provided (where applicable) to obstructions.

There is a small length of circulation road which will reduce to one-way width (approximately 4.1 m). This restriction is considered acceptable given only five (resident) spaces will be accessed from the aisle connecting directly to the section of restricted width circulation road. The volumes associated with these spaces would be well below the limit identified in AS/NZS 2890.1:2004 (approximately 30 peak hour movements) above which two-way passing provisions are required.

Waste will generally be collected on-site by private contractor (with the exception of organics which will have shared bins and are proposed to be collected by Council's kerbside service). The site layout allows for small rear-lift refuse collection vehicles (7.4 m or smaller in length with an operating clearance of 3.6 m or less) to be driven into and out of the site in a forward direction (as illustrated in Figure 1). Such vehicles are available within several contractors' fleets (including Cleanaway and Veolia).

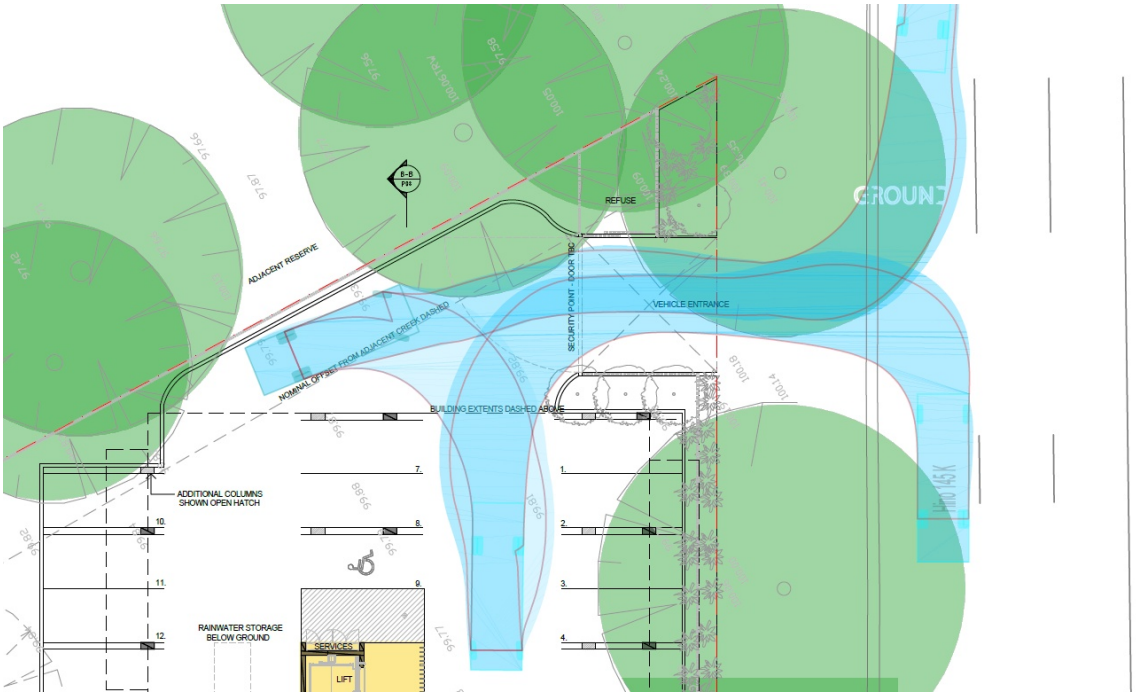


Figure 1 - Refuse vehicle turning movements into, within and out of the site

PARKING PROVISIONS

The City of West Torrens' Development Plan (Table WeTo/6) identifies a parking requirement of one parking space per two-bedroom dwelling in a residential flat building plus 0.25 spaces per dwelling for visitors. This results in a 'base' requirement for 17.5 parking spaces. It should be noted, however, that Table WeTo/6 also states that a lesser parking number of spaces may be provided based on the nature of the development and parking conditions in the wider locality (including consideration of the availability of on-street parking).

The proposal will meet the requirement for resident parking spaces, but will not provide visitor parking on-site. Visitor parking will therefore need to be accommodated on-street. There is ample parking on Anzac Highway outside of the hours of operation of the part-time bicycle lane (which applies between 7am and 10am). During these periods, alternative opportunities for on-street parking are available on the opposite side of Anzac Highway (noting that a pedestrian refuge is provided in close proximity to the site), in Syme Street (to the north-east), in Grove Street (to the south-east) and in Farnham Road (to the south-west). The small number of visitor spaces associated with the proposal (3.5 spaces, or 4 rounded up) would easily be accommodated within the surrounding on-street areas.

In addition to the above, it is noted that an initial proposal for the development included three on-site visitor spaces (a total of 17 spaces). As a result of the Design Review with the Office for Design and Architecture SA (ODASA), the visitor spaces were removed to maximise amenity and landscaping on the site (noting that there were opportunities for visitors to park on-street in the vicinity of the site). This outcome aligns with the contemplation within Table We/To6 of a lesser parking provision. This is also further supported by the high level of accessibility for the site via walking, cycling and public transport facilities and services.

TRAFFIC IMPACT

Residential apartment dwellings such as those proposed are typically assessed at a rate of 5 daily (vehicle) trips per dwelling. On this basis, the proposal would generate 70 daily trips with 10% (or 7 trips) occurring in the peak hour. Such volumes are very low and would be readily accommodated at the site's two-way access point and on the adjacent road network.

SUMMARY

The proposed development comprises the construction of a residential flat building containing 14 dwellings.

Vehicle access to the site is proposed via a two-way access point on Anzac Highway. The site's secure gates will be set in to the property to ensure vehicles do not queue on to Anzac Highway when entering the site (i.e. waiting for the gate to open).

Based upon the 'base' parking requirements identified in Council's Development Plan, the proposal meets the requirement for resident parking (no visitor parking is provided on-site). However, the Development Plan contemplates a reduced parking provision based on the nature of the development and parking conditions in the wider locality (on-street parking availability). There is ample capacity on the adjacent road network to accommodate on-street parking for the small number of visitors associated with the development.

With regard to traffic impact, the proposed development is forecast to generate less than 10 trips in the peak hours. Such a low traffic generation will be easily accommodated on the adjacent road network with negligible impact.

Please feel free to contact me on (08) 7078 1801 should you require any additional information.

Yours sincerely,

BEN WILSON
Director | CIRQA Pty Ltd

Thursday, 15 November 2018

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Awwad Superannuation Fund
C/O Francesco Bonato, Tectvs
Email: fran@tectvs.com.au

CC: Simon Cross, simon@crosscompany.com.au

Dear Fran,

Re: ***Waste Management Advice & Plan – 81 Anzac Highway, Ashford***

Please find in the letter below waste management advice and plan to support planning approval of this proposed development.

1 Description of proposed development

The property is located on Anzac Highway in the City of West Torrens (Council). Based on the proposed plans (per Design Proposal and Architectural Drawings, received 9/11/2018), the development involves a 5-storey building with:

- Fourteen (14) 2-bedroom apartments in Levels 1 to 4
- Car parking and building access at Ground Level – see Ground Floor plan in Figure 1 overleaf.

Provision on the plans has already been made for waste and recycling bin storage at Ground Level. The Ground Level clearance is 3.4m (from floor to soffit under Level 1) for access by a (small rear-lift) waste collection truck.

2 Waste & recycling volumes

Table 1 below estimates the waste and recycling volumes for Routine services to be provided at the development. These estimates are based on recommended Waste Resource Generation Rates (WRGRs) for High Density Residential Dwelling in the South Australian Better Practice Guide (SABPG) – Waste Management in Residential or Mixed-Use Developments (Zero Waste SA, 2014). These estimates assume shared waste storage for townhouse residents at the site. They also assume any garden maintenance waste at the property will be collected and disposed of separately by the contractor providing this service (and thus on-site storage of this waste material is not needed).

Table 1: Estimated waste & recycling volumes for proposed development – Routine Services

Waste Stream	Volume (L/week) (14 dwellings, 28 bedrooms) [High Density Residential Dwelling – Food Waste Only]	Service Provider / Type	Collection frequency	No. bins (recommended)	Bin type [shared storage]
General waste/Rubbish	840 L/week	Private contractor / Small rear-Lift truck	Weekly	1	1,100L Skip
Dry recycling	700 L/week	Council kerbside	Fortnightly (alternating)	6	240L MGB
Food organics	280 L/week			3	240L MGB

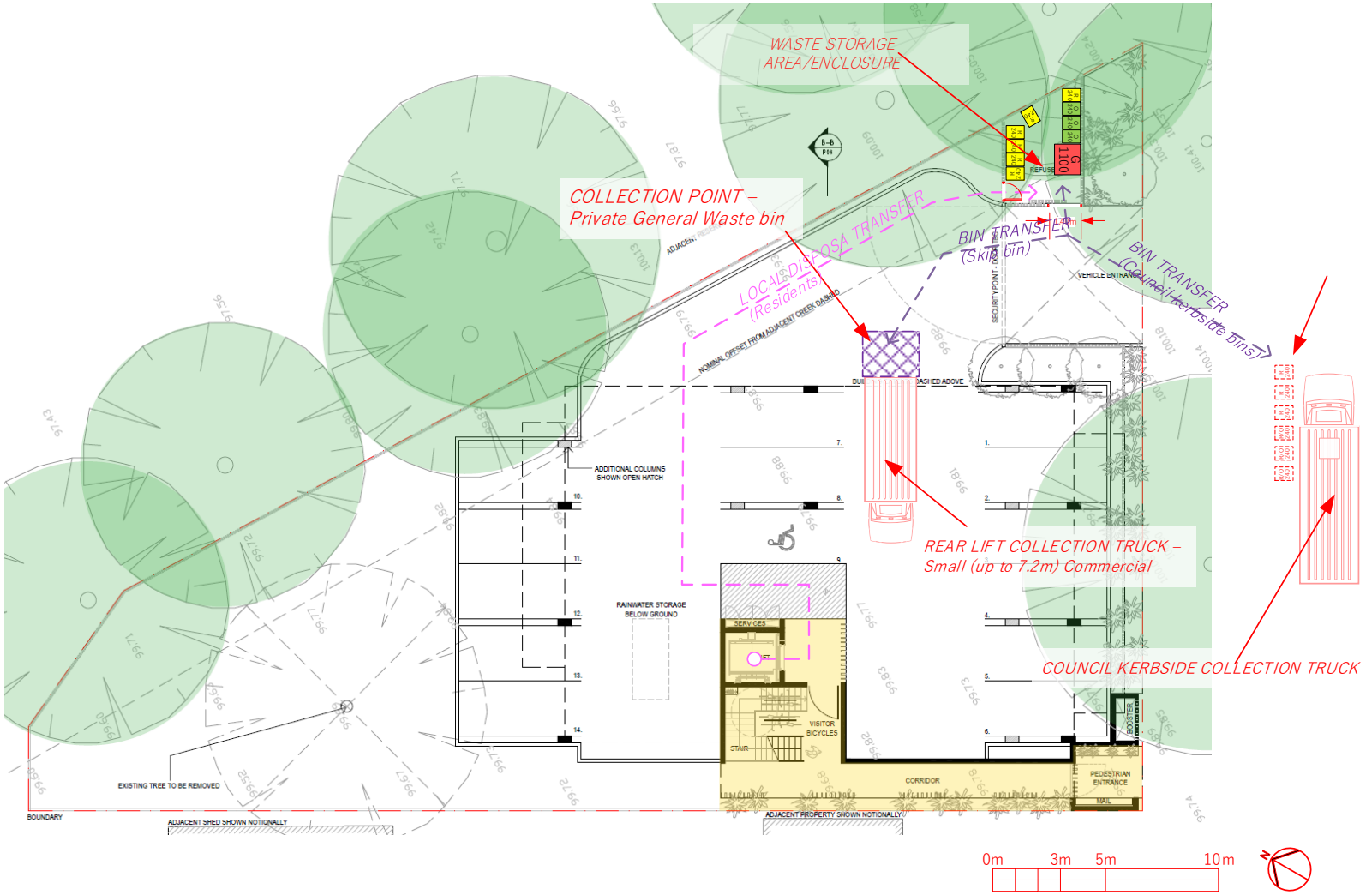

Figure 1: Site plan with locations of recommended bin storage, on-site collection point for General waste skip bin, and kerbside presentation for recycling bins on designated Council kerbside collection days. *Note: Bin labels are: G – General Waste; R – Recycling; O – Organics*

3 Stakeholder consultation

Colby Industries and the traffic engineer, CIRQA, have previously met with Council (Andrew King, Coordinator Engineering Services, City of West Torrens) about similar developments along Anzac Highway. These consultations have identified the following.

- ***Access to and availability of Council kerbside services?***
    - This type of site would be suitable for Council's standard kerbside collection service using shared bins for residents except that the number of bins collected kerbside if all services were provided would exceed the '10 or more' bin threshold (at which time on-site collection is recommended instead) in the Council Development Plan (West Torrens Council, 19 December 2017).
    - A compromise to this limitation, which would enable residents to access Council recycling services and reduce their waste collection costs, is a 'hybrid' service where:
        - General waste is collected by a private contractor, using skip bins and rear-lift truck; and
        - Recycling and food waste are still collected by the Council kerbside service, where number of bins presented weekly would be less than the Development Plan '10 or more' bin threshold.
    - The above 'hybrid' service arrangement is considered acceptable by Council.
    - The general waste skip collection should have a collection frequency of weekly to future proof it in event that Council elects to provide this service with access arrangements to allow for a small rear-lift truck (of at least 7.2m length).
- ***Collection point for rear-lift truck providing the General waste collection service?***
    - On-site collection is required as on-street collection is not permitted by the Department of Transport, Planning and Infrastructure (DPTI) along this section of Anzac Highway.

In view of the above, the proposed services would comprise the following arrangements (per Table 1).

- **General Waste**: 1×1,100L skip bin, Weekly collection, Private waste contractor, On-site collection point, Small rear-lift collection truck (up to at least 7.2m length)
- **Recyclables**: 6×240L MGB, Fortnightly collection, Council kerbside service
- **Food waste**: 3×240L MGB, Fortnightly collection (alternating), Council kerbside service

The waste management system description below outlines how this arrangement would work. Final details should be confirmed with the private waste contractor and Council when the site becomes operational.

4 Waste Management System

4.1 Routine Services

Table 1 includes the recommended bin storage assuming shared bins and collection arrangements and services as proposed above. Figure 1 on the previous page shows where the recommended bin storage would be located at the site and where on-site collection and kerbside presentation would occur. The system would operate as follows.

- **Disposal** – Apartment residents would dispose of their waste and recycling to bins in the on-site bin storage area.
    - ***General waste*** – would be disposed to the 1,100L skip bin; and
    - ***Recycling and food waste*** – would be disposed to (Council) 240L MGBs provided.
- **Collection** – On designated collection dates, the Strata Corporation would organise for collection to occur:
    - ***General waste*** – a private contractor would park their truck on-site and empty the 1,100L skip bin from the front waste area.

        - A small rear-lift collection truck (up to 7.2m length, up to 3.3m travel/operating height) would be used.
        - The collection truck would enter in a forward direction, park at the collection point (per Figure 1), then manoeuvre on-site to exit from the property in a forward direction back onto Anzac Highway – as demonstrated by swept path modelling presented in the traffic engineer's report.
            - *Note: The swept path modelling in traffic engineer's report was performed for a truck smaller than 7.2m, but the traffic engineer has confirmed with us that an at least 7.2m truck can be accommodated.*
        - There are rear-lift trucks meeting these size requirements available from existing waste contractors to provide this service in Metropolitan Adelaide.
    - ***Recycling and food waste*** – the designated Property Manager (or other contractor appointed by the Strata Corporation) would transfer and present (the night before) 240L MGBs at kerbside for collection by Council (via their standard kerbside collection service), then retrieve these bins the next day and return them to the recycling area.
        - Council already runs its kerbside collection services along Anzac Highway Rd to neighbouring properties.
        - There should be adequate space on the road verge in front of the development to accommodate presentation of bins for this purpose, including recommended spacing (20-30cm) between bins and setbacks from kerb, pedestrian path and other public infrastructure.

4.2 Hard Waste management

Each household within the City of West Torrens can access two free at-call hard waste collections per financial year (http://www.westtorrens.sa.gov.au/Environment_waste/Waste_recycling/Hard_waste). The Strata Corporation should contact Council to discuss suitable arrangements for apartment residents to access this service. The residents would be able to use the road verge in front of the property as a temporary area for hard waste presentation in the same way as other properties do. This may require negotiation with Council to schedule at-call hard waste collection outside designated kerbside collection days (which is only one day of the week) to avoid any conflicts.

4.3 Management of Other Waste

The Strata Corporation would ensure townhouse residents are made aware of Council information (available on Council's Web site) on where they can correctly dispose of other waste items, e.g.

- Printer cartridges
- Batteries
- Lighting
- Household hazardous waste

4.4 Collection & Traffic Issue

For on-site collection of general waste, the traffic engineer has undertaken swept path modelling to confirm that a small rear-lift truck can enter the property in forward direction and manoeuvre to exit in a forward direction (back onto Anzac Highway).

- This modelling is presented in their traffic report (which is submitted separately), a copy of the which is reproduced in Figure 2 overleaf (CIRQA, 27 September 2018).
    - *Note: The swept path modelling in traffic engineer's report was performed for a truck smaller than 7.2m, but the traffic engineer has confirmed with us that an at least 7.2m truck can be accommodated*

- Collection of general waste is therefore wholly on-site and should not interfere with traffic on Anzac Highway.

For recycling and food waste collections, the site would use Council's standard kerbside collection service.

- Council trucks take less than 5-10 seconds to pick up a bin, then move on quickly.

Consequently, there should be no collection or traffic issues caused by either of these services.

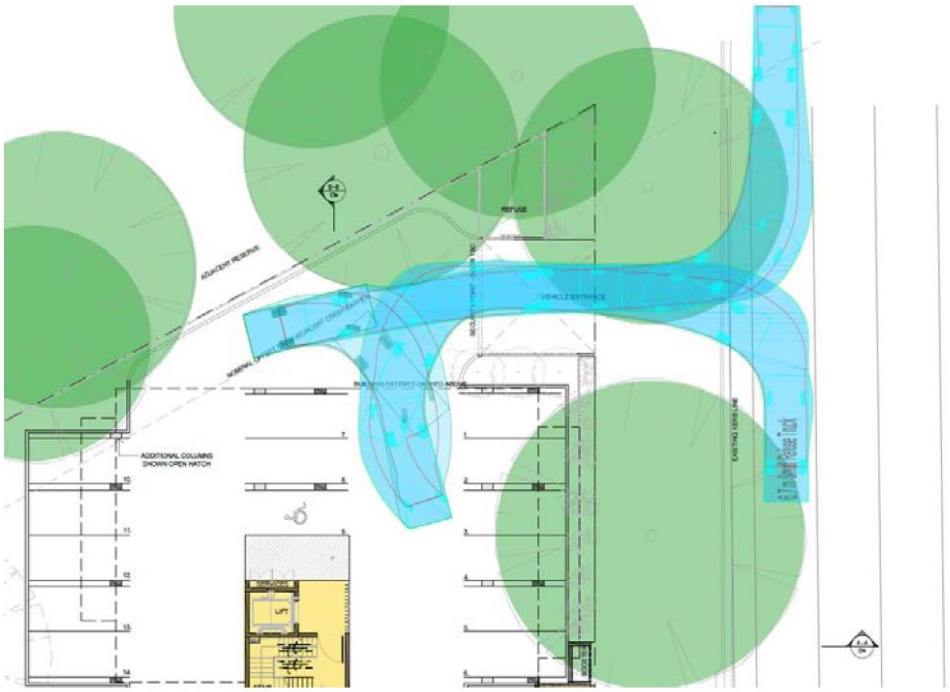

Figure 2: Swept path modelling by traffic engineer for small rear-lift waste collection truck (CIRQA, 27 September 2018)

4.5 Operation, Management & Communication

- ***Waste system operation and management*** – The Strata Corporation would be responsible for managing and operating the waste system at the site.
- ***Building User Manual*** – Advice and instructions on waste management and using the waste system would be included in the Building Manual for townhouse residents, including contact information for further information, questions and/or issues.
- ***Community/Strata title arrangements –*** Obligations for residents and/or property owners to comply with requirements for using the waste system would be written into the Community/Strata plan lodged with the Lands Titles Office.

4.6 Other Waste System Design or Management Issues

The following should be considered and/or implemented during building design and/or when site becomes operational.

- ***Bin colours*** –
    - The general waste skip bin to have a red lid in line with Council standard colours for general waste bins, and otherwise conform to the Australian Standard for Mobile Waste Containers (AS 4213).
    - Council would supply recycling and food kerbside bins to the property with requisite colours.
- ***Signage*** –

    - Appropriate signage should be used in the bin storage area to encourage correct disposal of waste and recycling.
    - Council may supply signage to the Strata Corporation for this purpose.
- ***Vermin, hygiene & odour management (inc. ventilation)***
    - The Strata Corporation should make provision for residents to report spill, odour or hygiene problems, so these can be promptly addressed by a maintenance service.
    - The Strata Corporation would organise regular bin cleaning, e.g. every 3-6 months, which would be outsourced to an external contractor as part of the above hygiene and odour management program (and thus an on-site bin wash area is not required).
- ***Screening*** –
    - The bin storage area should be screened from view at Ground Level from the public and / or residents, using appropriate screening design and materials that also provide ventilation relief to mitigate any potential odour build-up.
- ***Access & security*** –
    - Gates to the waste and recycling area should be lockable with key or security code access for residents, Property Manager and the commercial waste contractor.
    - CCTV video recording of the bin storage area may be useful for encouraging appropriate waste disposal practices in the bin storage area.
- ***Transfer pathways*** –
    - *Disposal pathways* (from apartment building to bin storage area) – Must be hard surfaces, free of steps, no grades greater than 1:15, and cater for mobility impaired users.
    - *Presentation pathway* (from bin storage to on-site collection point or kerbside presentation on road verge) – Must be hard, even surfaces, no steps or grades greater than 1:10.

I trust that this letter and WMP supports planning approval of this development. Please let me know of any queries or where further information is required. If needed, I would be available to meet or speak with the Council or other stakeholders regarding any further questions they may have.

Yours Sincerely,

Chris Colby

Principal Consultant & Managing Director – **Colby Industries**

References:

CIRQA. (27 September 2018). *PROPOSED RESIDENTIAL DEVELOPMENT, 81 ANZAC HIGHWAY, ASHFORD (Ref: 18042|BNW).*

West Torrens Council. (19 December 2017). Development Plan, Consolidated.

Zero Waste SA. (2014). South Australian Better Practice Guide – Waste Management in Residential or Mixed Use Developments.

MAGRYN

8th April 2019

PO Box 149
Crafers, 5152

Project: 16176

Dear Simon Cross,

Re: 81 Anzac Highway, Ashford – Stormwater Management Plan

In regards to the stormwater management plan:

Detention - Pre-development v Post-development (Refer Page 1 calculations):
As per City of West Torrens recommendations we have undertaken calculations to ensure that the post development runoff does not exceed an equivalent pre-development runoff with 25% impervious cover and 75% pervious (for a 20 year ARI event). As per the calculations it is shown that the post-development runoff would be higher and hence a detention tank is required.

Detention tank size (refer Page 2 calculations):
The detention tank will only collect roof stormwater and hence, based on the calculations, the flow from the roof will need to be reduced to 7L/s. Therefore, based on the critical rainfall period for a 1 in 20 year storm, a minimum detention of 2801.6 litres is required. As a result, a minimum of a 3000L detention tank has been called up. As per the calculations an orifice of 60mm is required to reduce the flow to 7L/s. This is the minimum requirement, any additional tank storage to client's requirements, shall be connected to toilets. Note that if tank storage of more than the 3000L detention is supplied, this is greater than the minimum requirement.

Stormwater Outlet:
As per City of West Torrens recommendations, stormwater outlet shall be to Anzac Highway and not to the open drain.

Yours faithfully,

Langdon Williams

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PRELIMINARY STORMWATER COMMENTS AND CALCULATIONS

FOR

AWWARD SUPERFUND

AT

81 Anzac Highway, Ashford

Project No. 16176

Contents:	***Date:***
Drawing 16176-1B	8/04/2019
Stormwater Calculations Sheets 1-2	8/04/2019
Ecosol Storm Pit Class 2 Information	8/04/2019

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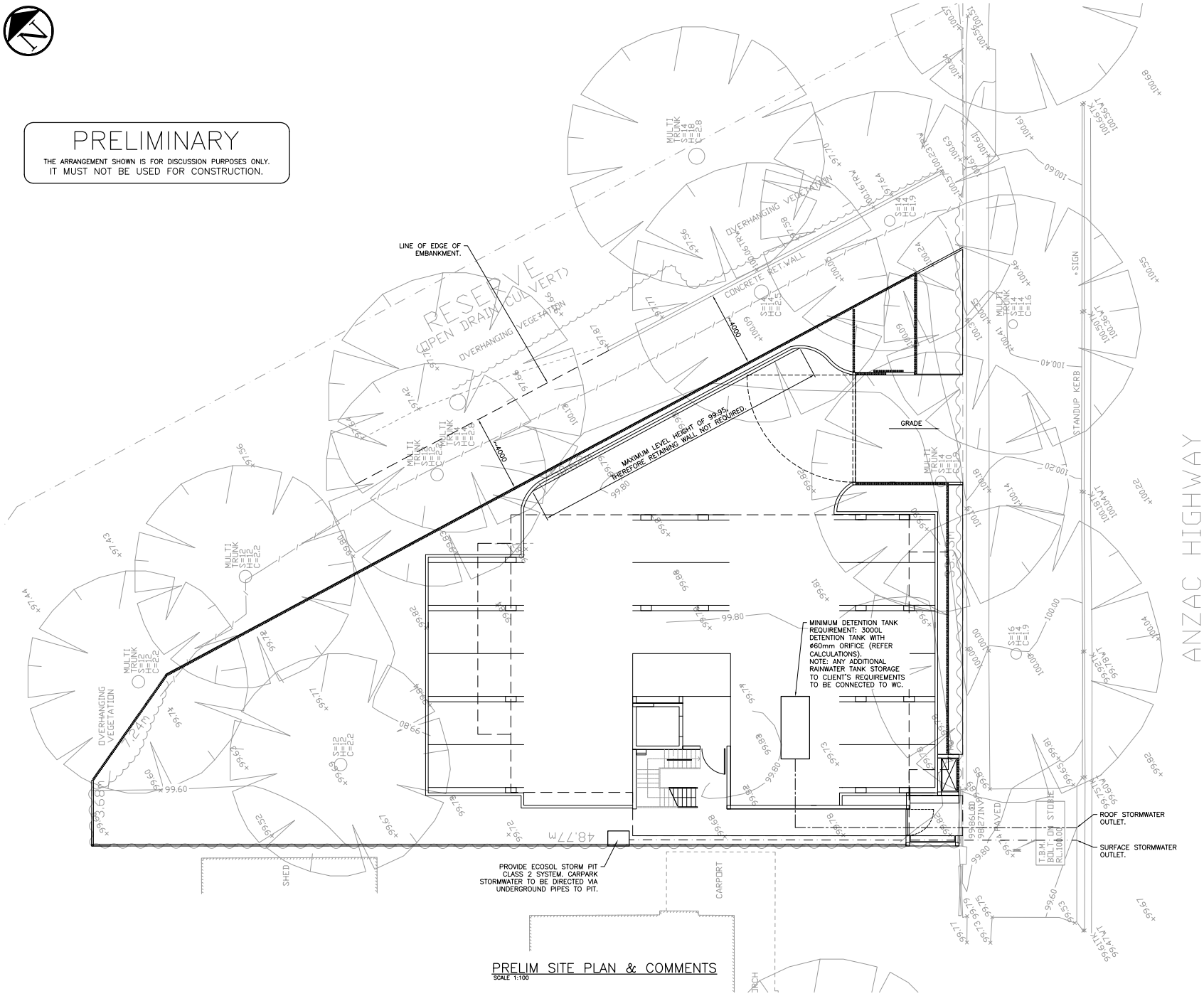
PRELIMINARY

THE ARRANGEMENT SHOWN IS FOR DISCUSSION PURPOSES ONLY.
IT MUST NOT BE USED FOR CONSTRUCTION.



PRELIM SITE PLAN & COMMENTS

SCALE 1:100

ISSUE	AMENDMENTS	INT./DATE
B	PRELIMINARY ISSUE	TH 08.04.19
A	PRELIMINARY ISSUE	TH 26.02.19

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> MINING
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CLIENT:
AWWAD SUPERANNUATION FUND

PROJECT:
PROPOSED 3 STOREY BUILDING

PROJECT ADDRESS:
81 ANZAC HWY, ASHFORD

TITLE:
PRELIM SITE PLAN, COMMENTS & DETAIL

CONTRACTORS MUST VERIFY ALL DIMENSIONS PRIOR TO ANY OFF SITE FABRICATION.

DESIGN: LW	SCALE: AS SHOWN	DATE: FEB. 2019
SHEET SIZE: A1	DRAWING NUMBER: 16176–1	REVISION: B

Date	5/04/2019	Sheet No	1
Engineer	LW	Job No	16176

Stormwater Detention Design

Pre Development

ARI	**20 yrs storm**	(As per West Torrens Council requirements)
Duration	**5 mins**	
I	121 mm/hr	
Cpervious	0.4	
Total Area	990 m2	
Roof Area	247.5 m2	25% (As per West Torrens Council requirements)
Paved Area	0 m2	
Pervious Area	742.5 m2	75% (As per West Torrens Council requirements)
Qroof	8.31 L/S	
Qpaved	0.00 L/S	
Qpervious	9.97 L/S	
Qtotal	18.27 L/S	(Post development to not exceed)

Post Development - Must not exceed pre-development

Total Area	990 m2
Roof Area	430 m2
Paved Area	223 m2
Pervious Area	337 m2
Qroof	14.43 L/S
Qpaved	6.74 L/S
Qpervious	4.52 L/S
Qtotal	25.69 L/S

Therefore detention required
6.74+4.52 = 11.26 L/s.
Therefore, roof needs to be reduced to 7.01 L/s (18.27-11.26 L/s) (refer sheet 2).

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Date	5/04/2019	Sheet No	2
Engineer	LW	Job No	16176

Detention Based on 1 in 20 year storm

Roof Detention Tank Size:

Allowable Flow Out = 7.01 L/s

Duration	Intensity	Volume in	Volume out	Volume Detained	
5 min	120.81	3896.1	2103	1793.1	
6 min	112.12	4339.0	2313.3	2025.7	
10 min	89.02	5741.8	3154.5	2587.3	
12 min	81.34	6295.7	3575.1	2720.6	
15 min	72.43	7007.6	4206	2801.6	Critical
18 min	65.59	7615.0	4836.9	2778.1	
20 min	61.83	7976.1	5257.5	2718.6	
24 min	55.66	8616.2	6098.7	2517.5	
30 min	48.71	9425.4	7360.5	2064.9	
45 min	37.79	10968.5	10515	453.5	
60 min	31.32	12120.8	13669.5	-1548.7	
90 min	24.02	13943.6	19978.5	-6034.9	
120 min	19.83	15348.4	26287.5	-10939.1	
180 min	15.08	17507.9	38905.5	-21397.6	

Max Orifice Diameter

Height, Hmax	**0.90 m**
Velocity, V	4.20 m/s
Flow from tank, Q	7.01 L/S
Area required, A	2.73E-03 m2
Maximum Orifice Diameter, D	59 mm

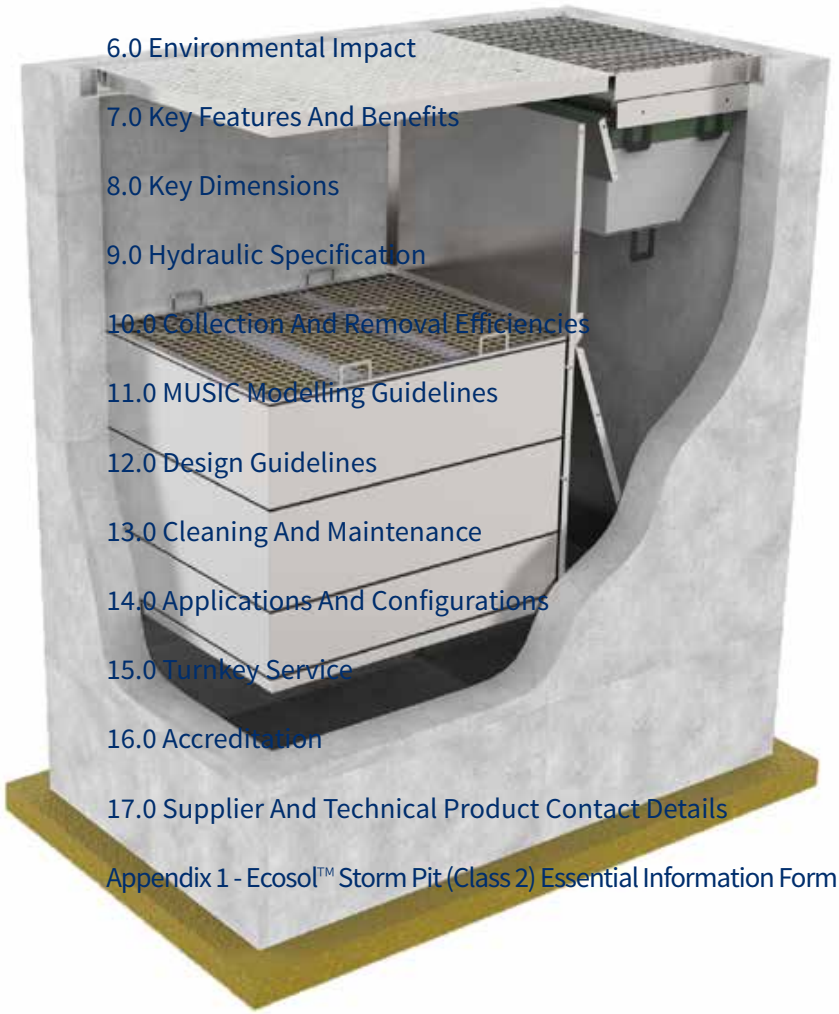
As per the table above, 2801.6 L detention required.
Therefore provide a minimum detention tank of 3000L.
Any detention or rention above the 3000L as per client's requirements.

Ecosol™ Storm Pit (Class 2)
Technical Specification

environmentally engineered
for a better future

URBAN
ASSET SOLUTIONS

CONTENTS



URBAN ASSET SOLUTIONS

1.0 Introduction

Increasingly stringent environmental best management practice requires planners and developers to apply a fit-for-purpose treatment train approach to stormwater treatment to achieve today's water quality objectives (WQO's).

An integral element to any good WSUD is primary and secondary treatment of stormwater flows to remove coarse sediment and gross pollutants prior to tertiary treatment.

The Ecosol™ Storm Pit (Class 2) is a modern, fully self contained stormwater treatment system that provides primary and secondary treatment of stormwater pollutants within the one compact device.

Ecosol™ Storm Pit (Class 2) Typical Configuration

In particular it is designed to remove, at pre-determined treatable flows, particulate, dissolved and in some cases colloidally bound contaminants such as:

- suspended solids;
- heavy metals;
- oil & grease;
- hydrocarbons;
- nitrogen; and
- phosphorous.

Ecosol™ Storm Pit (Class 2) Typical Configuration

The Ecosol™ Storm Pit (Class 2) is an all-in-one primary and secondary filtration system that helps overcome the need for multiple treatment measures on small catchments. It has been designed specifically to meet today's stringent water quality targets. In developing this innovative stormwater treatment system careful consideration has been given to durability, longevity, cost and maintainability. Key commercial technical features include:

- widely available chemically conditioned filtration medias;
- a system capable of achieving low pollutant discharge levels;
- low visual impact and energy footprint;
- designed hydraulics with proven performance and longevity;
- scalable design; and
- cost effective maintenance regime.

This technical manual describes the operation and performance characteristics of the system.

URBAN ASSET SOLUTIONS

2.0 How The Ecosol™ Storm Pit (Class 2) Works

The Ecosol™ Storm Pit (Class 2) is an all-in-one primary and secondary filtration system that helps overcome the need for multiple treatment measures on small catchments.

The system is ideally suited for smaller catchments such as commercial car park applications with inlet flows ranging from 10 – 110L/s. It provides a compact, cost efficient treatment solution specifically targeting suspended solids, heavy metals, phosphorous and nitrogen including free floating oils and grease. Housed in a pre-cast concrete pit, the unit consists of a primary treatment inlet litter basket designed to capture and retain all particles larger than 200 micron and then incorporates a series of internal baffles for retention of hydrocarbons in a spill situation and the retention of particles (> 93 micron). It also includes a unique patented multi barrier media filter for secondary treatment.

Stormwater flows enter the primary treatment chamber where pre-screening occurs via the primary filtration basket. Filtered stormwater then enters the sump (also known as the detention bay) consisting of a series of flow dissipating baffles where oils and floatables rise and settling material drops out of the flow by gravitational separation. This pre-treatment of incoming stormwater flows, significantly enhances the performance and operational life of the multi barrier filter bed as only a fraction of the finer particles <93 micron are released into the secondary treatment chamber at predetermined flows.

Flows from this primary treatment chamber are then diverted to the secondary treatment chamber where it then passes up through the multi-barrier filter bed for removal of particulate, dissolved and colloidally bound contaminants. The treated stormwater then discharges through the outlet pipe to the drainage network.

Ecosol™ Storm Pit- Class 2 (20L/s) Typical Configuration

URBAN ASSET SOLUTIONS

2.0 How The Ecosol™ Storm Pit (Class 2)Works Continued

The multi barrier media bed comprises of the following three filtration media's:

- Porous Polypropylene –designed to remove fine solids, oil & grease, and particulate bound contaminants aiming to protect and increase the lifespan and performance of the secondary filter media;
- Chemically conditioned Clinoptilolite – designed to remove mainly positively charged dissolved contaminants and in some cases colloidally bound contaminants. In particular heavy metals such as mercury, cadmium, chromium, nickel, zinc, copper, lead and nutrients such as ammonium nitrogen;
- Laterite – designed to remove negatively charged dissolved contaminants. In particular heavy metals such as arsenic and nutrients such as nitrate nitrogen and phosphate. In addition this layer functions as a final polishing step to achieve stringent discharged limits in regard to heavy metal concentrations.

One of the great advantages of the Ecosol™ Storm Pit (class 2) multi-barrier filter bed is its flexibility. A tailored filter bed arrangement with specific layer characteristics can be provided to accommodate site specific requirements. For example, if there is a need to target the removal of copper, zinc and/or lead then the Clinoptilolite layer can be designed thicker than the other two layers. Alternatively, if arsenic or phosphorous is a key focus then a thicker laterite layer can be incorporated. This tailored solution achieves higher performance and ensures a longer filter media bed operational life.

Images of a typical Ecosol™ Storm Pit (Class 2) components

URBAN ASSET SOLUTIONS

3.0 Ecosol™ Storm Pit (Class 2) Credentials & Case Studies

Urban Asset Solutions Pty Ltd has always sought pro-actively to validate its products through independent laboratory and extensive field testing. The test results have been verified, where appropriate, by computer simulation and industry peers.

The multi-barrier filter bed as well as its three specific filter materials have been trialled in water, wastewater, and stormwater treatment applications around the world. The results obtained have been published in peer review journals and international conference proceeding's. This section summarises the findings of these studies.

Otsu, Shiga-Japan Trial

A stormwater treatment device packed with Porous Polypropylene media was trialled in Otsu, Shiga-Japan along the roadway of route 165 between October 2000 and January 2001 (Saburo Matsui et al., 2003). Eight rainfall events were monitored with the total rainfall and maximum intensity ranging from 7mm to 51mm and from 2mm/hr to 10mm/hr, respectively. The mean removal efficiency for pollutants studied was 92.3% for Total Suspended Solids (TSS), 71.9% for Chemical Oxygen Demand (COD), and 43.6% for Total Phosphorous (TP) and above 70% and 60% for the heavy metals and Polycyclic Hydrocarbons (PAHs), respectively.

Wastewater Trials

Clinoptilolite's high selectivity for NH_4-N is very well known in municipal and agricultural wastewater treatment. Examples of the application of Clinoptilolite in wastewater include:

- A 27 ML/d capacity plant at Lake Tahoe, California, used several hundred tonnes of Clinoptilolite from the Hector deposit (Butterfield and Borgending 1981),
- Wastewater plants with capacities of 45 and 245 ML/d in Virginia, USA (Gunn 1979).
- Pig farm wastewater with 10,000 pigs (150 m^3/d) was treated in a cascade multi-step system using mechanical, chemical, and biological processes (Zubaly et al., 1991). Large suspended particles were first removed by grating the sewage. Suspended particles, colloids and dissolved organic and inorganic species not removed by the grate were then passed through a channel (six 20m sections separated by barrages). Approximately 20m^3 of Clinoptilolite from the Tokaj Hills deposit in Hungary were placed in each section. The Clinoptilolite filter removed 100% of oils and fats, 98% of suspended solids and 95% of dissolved organic and inorganic impurities from the wastewater. The Clinoptilolite filters successively removed these impurities for two years. The exhausted Clinoptilolite was then used as a fertiliser.

Several studies that illustrate the effective use of Clinoptilolite for the removal of NH4-N have been published in the last 20 years (Hankins et al., 2004; Sprynskyy et al., 2005; Aiyuk et al., 2004).

3.0 Ecosol™ Storm Pit (Class 2) Credentials & Case Studies Continued

Clinoptilolite has been used as a natural ion exchanger for the removal of radioactive cations such as Cs^{+} and Sr^{2+} and heavy metal cations such as Cu^{2+}, Cd^{2+}, Zn^{2+}, Ni^{2+}, Pb^{2+}, Hg^{2+}, Cr^{3+}, and Mn^{2+}. Examples of full scale applications using zeolites such as Clinoptilolite for the removal of Cs^{+} and Sr^{2+} from radioactive wastes are (Mercer and Ames, 1978):

- Hanford Nuclear Lab., Washington, USA;
- Idaho National Engineering Laboratory, Idaho, USA;
- Savannah River Plant, Aiken, South Carolina, USA; and
- British Nuclear Fuels, Sellafield, USA.

University of Munich Trial

A Clinoptilolite cartridge filter was trialled in Garching campus of the Technical University of Munich, in Germany treating the runoff from an eleven years old zinc roof (Athanasiadis et al., 2004). Samples of 24 rain events were examined and zinc was detected in the roof runoff in concentrations up to 25 mg/L, and lead which originated from the tin-solder was present in concentrations up to 84 µg/L. The Clinoptilolite filter was able to remove up to 97% of zinc from the roof runoff.

Academy of Fine Arts, Munich Trial

A technical infiltration system equipped with Clinoptilolite as an artificial barrier material for the treatment of copper roof runoff was installed and monitored in the Academy of Fine Arts in Munich, Germany (Athanaiadis et al., 2007). During the 2yr sampling period, 30 rain events were examined. The technical infiltration system was able to reduce the copper concentration from the roof runoff by a factor up to 96%.

THE UNIVERSITY of ADELAIDE

University of Adelaide Trial

Urban Asset Solutions Pty Ltd has always sought pro-actively to validate all its products' performance through extensive independent laboratory and field testing. In May 2014 Ecosol commissioned EngTest the commercial arm of the University of Adelaide, Sim Physics Pty Ltd and GHD to undertake additional laboratory and desktop modelling to further confirm the products performance. Several additional field pilot sites are currently being established with additional product performance technical reports to be peer reviewed and published.

URBAN ASSET SOLUTIONS

4.0 Warranty And Life Expectancy

The Ecosol™ Storm Pit (Class 2) has a one-year warranty covering all components and workmanship. Urban Asset Solutions Pty Ltd will rectify any defects that fall within the warranty period. The warranty does not cover damage caused by vandalism and may be invalidated by inappropriate cleaning procedures or where the unit is not cleaned within the recommended frequency. The 200 micron primary treatment filtration basket has a life expectancy of 5 years whilst the stainless steel flow disputing baffles and multi-barrier media bed framework all has a life expectancy of 15 years and the pre-cast concrete pit has an estimated 50- year life span.

5.0 Safety Considerations

The simple, yet effective design of the Ecosol™ Storm Pit (Class 2) reduces OH&S risks as most of the work is undertaken in a controlled factory environment. The unit arrives to site complete and ready for installation reducing significantly on-site time, an important factor given the costs associated with delays that can be caused by inclement weather. The lockable access lids reduce the likelihood of vandalism and are easily removed by hand using readily-available lifters.

6.0 Environmental Impact

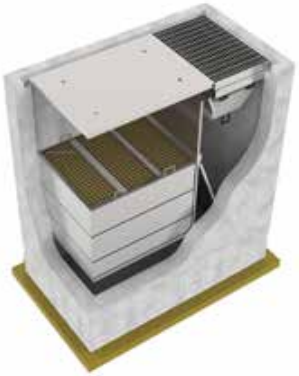
Urban Asset Solutions Pty Ltd is accredited o ISO 14001 (Environment) and undertakes all manufacturing and construction within the requirements of this Standard. Hence, its carbon impact is limited and as the Ecosol™ Storm Pit (Class 2) is housed in a pre-cast pit and is usually located underground it has little or no impact on the environment with the access lids designed to blend in with the surrounds of the site.

7.0 Key Features And Benefits

The Ecosol™ Storm Pit (Class 2) is a fully self-contained system supplied to site ready to install thereby reducing on site construction lead-times and disruption to the general public. The Ecosol™ Storm Pit (Class 2), is designed as a compact total treatment system incorporating primary and secondary treatment within the one underground device. The system has its own unique features and benefits, some of which are listed below:

Ecosol™ Storm Pit (Class 2)	
Key Features	**Benefits**
Hydraulics	• Minimal head/hydraulic loss • Does not affect stormwater inlet capacity • Treats 100% of incoming flows up to the designed TFR
Pollutant Capture and Retention	• All-in-one,cost-efficient primary and secondary filtration system • Retains free floating hydrocarbons • No remobilisation of captured pollutants
Design and Construction	• Arrives on-site complete with all components fitted ensuring easy and safe installation • Simple compact trafficable design with durable, corrosive-resistant materials • Can be retrofitted to most existing stormwater systems • Product is made in-house thereby reducing lead times significantly
Cleaning and Maintenance	• Can be inspected from the surface without removing the access lids • Easily cleaned and maintained either manually or by small eductor truck • Dry storage of gross pollutants helps reduce the risk of toxic fermentation • Pollutants do not need to be handled during cleaning
Environmental Impact	• Effective mini-treatment train system helps achieve water quality objectives • Unit is housed in its own pit underground with little effect on the site aesthetics
Tried and Tested	• Independently tested • Meets all relevant industry standards and guidelines

Figure 1 - Ecosol™ Storm Pit (Class 2) Key Features and Benefits



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8.0 Key Dimensions

The Ecosol™ Storm Pit (Class 2) product range has been designed to help practitioners meet today's stringent water quality objectives. Whether installed at-source, in-line, or end-of-line the system is adaptable to most applications. Table 1 highlights the key dimensions for the range of Ecosol™ Storm Pits (Class 2).

This system is also designed to target gross pollutants, coarse sediment and hydrocarbons however it is also designed to remove, at pre-determined treatable flows, particulate, dissolved and in some cases colloidally bound contaminants such as:

- suspended solids;
- heavy metals;
- nitrogen; and
- phosphorous.

Table 1 highlights the key dimensions for the Ecosol™ Storm Pit (Class 2) product series.

Product Code	Maximum Outlet Pipe Diameters (Assumed 1% Gradient)	Approximate External Unit Dimensions (L x W x D below invert)	Loading classification	Pollutant Holding Capacities		
				Gross Pollutants	Sediment	Hydrocarbons
	(mm)	(mm)		(m^3)	(m^3)	(L)
Storm Pit (Class 2) 10L/s	150mm	3600 x 1650 x 1600	D	0.288	1.104	2,208
Storm Pit (Class 2) 20L/s	225mm	3600 x 1650 x 1600	D	0.288	0.710	1,408
Storm Pit (Class 2) 40L/s	225mm	4500 x 1950 x 1600	D	0.360	0.828	1,656
Storm Pit (Class 2) 60L/s	300mm	5600 x 2300 x 1600	D	0.432	1.260	2,520
Storm Pit (Class 2) 80L/s	300mm	6500 x 2600 x 1600	D	0.504	1.806	3,612
Storm Pit (Class 2) 110L/s	375mm	7450 x 2950 x 1600	D	0.576	2.208	4,416

Table 1 – Ecosol™ Storm Pit (Class 2) Key Dimensions

Please Note: For optimal performance this system requires a minimum drop from the grated inlet or inlet pipe invert to the outlet pipe invert level of 430mm.

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8.0 Key Dimensions Continued

The below table provides general information of the typical Ecosol™ Storm Pit (Class 2) multi barrier media bed, replacement material volumes and approximate bed dimensions.

Product Code	Maximum Bed Dimensions (Length xWidth)	Polypropylene		Clinoptilolite		Laterite	
		Volume	Bed Depth	Volume	Bed Depth	Volume	Bed Depth
	(mm)	(m^3)	(mm)	(m^3)	(mm)	(m^3)	(mm)
Storm Pit (Class 2) 10L/s	840 x 1200	0.202	200	0.302	300	0.302	300
Storm Pit (Class 2) 20L/s	1670 x 1200	0.401	200	0.401	200	0.802	400
Storm Pit (Class 2) 40L/s	2670 x 1500	0.801	200	0.801	200	1.602	400
Storm Pit (Class 2) 60L/s	3350 x 1800	1.206	200	1.206	200	2.412	400
Storm Pit (Class 2) 80L/s	3850 x 2100	1.617	200	1.617	200	3.234	400
Storm Pit (Class 2) 110L/s	4600 x 2400	2.208	200	2.208	200	4.416	400

Table 2 – Ecosol™ Storm Pit (Class 2) Key Multi-Barrier Filter Media Dimensions and Volumes.

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9.0 Hydraulic Specification

Treatable Flow Rate (TFR) is defined as the maximum flow rate through the Ecosol™ Storm Pit (Class 2) before flows surcharge and commence by-passing the system untreated. For the purpose of assisting designers we have adopted conservative values and recommend designing the system with an outlet at 1% gradient to achieve optimal capture efficiencies and maximum treatable flow rates. Further each system has been designed specifically to cater for peak flow by-pass conditions in the event that the system is full of contaminants and a significant storm event is occurring. This fail safe by-pass eliminates the risk of potential localised flooding.

9.1 The Ecosol™ Storm Pit (Class 2) Hydraulic Specification

This Ecosol™ Storm Pit (Class 2) is designed to treat stormwater runoff for typical urban catchments of 1.0 - 3.0 Ha based on the product selection and on a 100% impervious catchment area. The system provides both primary and secondary treatment within the one compact underground device thereby reducing the space and cost of downstream tertiary treatment measures.

Product Code	Maximum Outlet Pipe Diameter (Assumed 1% Gradient)	Maximum Treatable Flow Rate (L/s) (L/s)	Maximum By-Pass Capacity (L/s) (L/s)
Storm Pit (Class 2) 10L/s	150mm	11	15
Storm Pit (Class 2) 20L/s	225mm	22	45
Storm Pit (Class 2) 40L/s	225mm	44	45
Storm Pit (Class 2) 60L/s	300mm	66	97
Storm Pit (Class 2) 80L/s	300mm	88	97
Storm Pit (Class 2) 110L/s	375mm	121	175

Table3 – Ecosol™ Storm Pit (Class 2) Hydraulic Specification.

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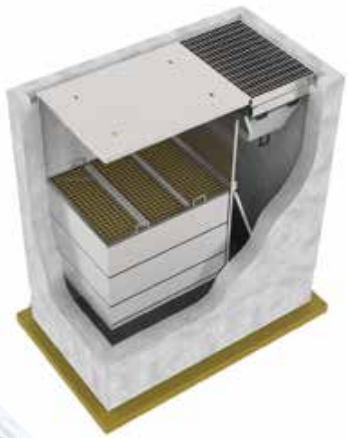
10.0 Collection And Removal Efficiencies

In recent years modern Water Sensitive Urban Design (WSUD) objectives and principles now applied to most urban development's require more onerous water quality objectives (WQO's) specifically targeting the removal of suspended solids, nitrogen, phosphorus and heavy metals.

The Ecosol™ Storm Pit (Class 2) provides engineers with a compact treatment measure that when implemented with other measures such as rain gardens or swales will achieve the necessary Water Quality Objectives. The Ecosol™ Storm Pit (Class 2) is the ideal treatment solution for applications where space is limited.

ECOSOL STORM PIT - CLASS 2 CAPTURE EFFICIENCY PERFORMANCE SUMMARY		
POLLUTANT	CAPTURE EFFICIENCY	DETAILS
Gross Pollutants (GP)	98%	Particulate > 200 micron
Total Suspended Solids (TSS)	70%	Suspended Particulate
Total Phosphorus (TP)	52%	Particulate and dissolved
Total Nitrogen (TN)	52%	Particulate and dissolved
Heavy Metals	41%	Particulate and dissolved
Total Petroleum Hydrocarbon (TPH)	81%	Particulate and dissolved

Table 4 – Ecosol™ Storm Pit (Class 2) Pollutant Removal Efficiencies.



1) Typical pollutant removal efficiencies based on results derived from the independently tested Ecosol™ Litter Basket and Ecosol™ Storm Pit (Class 2) published performance data.

2) Independently field tested and evaluated by the University of Adelaide (Eng Test - School of Civil Environmental and Mining Engineering) and Moreton Environmental to the Draft SQIDEP (May 2017 - October 2018).

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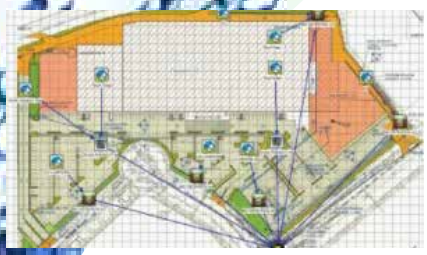


11.0 MUSIC Modelling Guidelines

These guidelines provide instruction to the creation and application of a treatment node for the Ecosol™ Storm Pit (Class 2) for the Model for Urban Stormwater Improvement Conceptualisation (MUSIC). The Ecosol™ Storm Pit (Class 2) can be modelled in MUSIC using the Gross Pollutant Trap Treatment node to represent the results derived from independent testing by the University of Adelaide (ENGTEST The school of civil, environmental and mining engineering) and extensive testing from a number of Australian and international papers on the Multi-Barrier filter bed (detailed in section 3.0). The guidelines apply to the creation of the treatment node within MUSIC v6.1.

Insert a GPT treatment node into your model by selecting "GPT" under the treatment nodes menu. When the node is created the node properties dialog is displayed. There are several changes that need to be made in this dialog.

- Adjust the text in the Location box to read "Ecosol Storm Pit (Class 2)" plus any other relevant information (Class 2, 10L/s etc.).
- Adjust the low flow bypass to reflect any flow (m3/sec) diverted away from the unit before treatment (usually zero).
- Adjust the high flow bypass to reflect the treatable flow rate (TFR values are detailed in table 3) (m^3/sec) any higher flows will bypass treatment.

NOTES: Can be used to describe assumptions or location of reduction values for authority approvals.

Adjust the transfer function for each pollutant selecting the pollutant and editing (right click on the function point) the input and output values on the graph below to reflect the capture efficiencies (CE) of the treatment device. Table 5 provides the input and output values for the Ecosol™ Storm Pit (Class 2)

Pollutant	Removal Rate (%)	Entered Input Value	Entered Output Value
Total Suspended Solids	70	1000	300
Total Phosphorus	52	1000	480
Total Nitrogen	52	1000	480
Gross Pollutants (>200µm)	98	1000	20
Heavy Metals	41	n/a	n/a
Total Petroleum Hydrocarbons	81	n/a	n/a

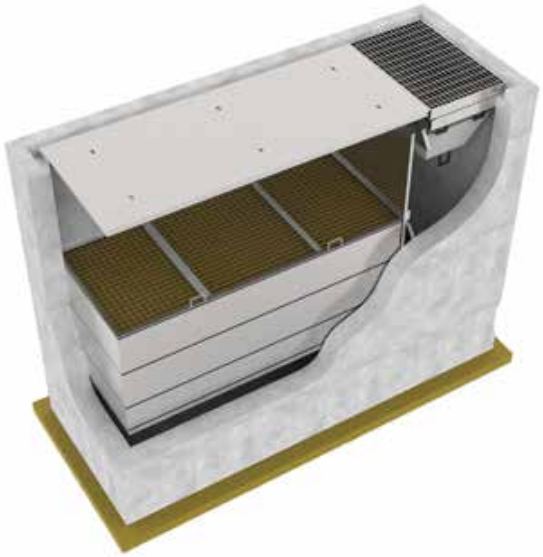
Table 5 - Ecosol™ Storm Pit (Class 2) – MUSIC node input and output values.

12.0 Design Guidelines

To ensure your system is appropriately designed for its intended application and meets local water quality objectives it is essential that the following minimum information is provided:

- Confirm the required treatable flow rate – this is the minimum stormwater run-off volume that must be treated. Typically this is the 1 in 3 month to 1 in 1 year ARI (Refer to section 9.0 for product treatable flow rate data).
- Confirm the proposed location of the unit relevant to other stormwater controls and overall drainage design. It is also important we know the catchment size including percentage of impervious area and hydrology for each proposed Ecosol™ Storm Pit (Class 2) installation.
- Confirm local water quality objectives - Recent state governmental planning policies have established clear stormwater quality bench mark objectives for local and regional councils. Accordingly local and regional council water sensitive urban design objectives have been amended to meet these stormwater pollution reduction targets. It is important we are provided this information specific to your site and local council regulations, this enables us to select the most appropriate Ecosol™ Storm Pit (Class 2) for the site.
- Confirm sediment loads, composition and concentrations of target pollutants generated from the site. This may vary significantly from one site to the next depending on the land use. This data is essential as it allows Urban Asset Solutions Pty Ltd to appropriately size and configure your unit specific to its application. Should this information not be available then typical urban roads mean pollutant concentration levels will be assumed specific to the catchment type and land use.

For further assistance in sizing or specifying a system for your next project please complete the form in Appendix 1 and forward to your local Urban Asset Solutions Pty Ltd representative.



13.0 Cleaning And Maintenance

As with all filtration systems, the Ecosol™ Storm Pit (Class 2) should be monitored and cleaned regularly. The cleaning frequency, and the cost, depends heavily on the surrounding environment, the unit's proximity to a waste facility and the quality and quantity of stormwater run-off conveyed to the system.

Urban Asset Solutions Pty Ltd has a very competitive cleaning service. After each clean we provide a report detailing the volume and type of pollutants removed. We believe that it is in your best interests for Urban Asset Solutions Pty Ltd staff to clean and maintain the unit, not only because we are specialists, but also because proper monitoring and maintenance enhances the unit life significantly.

Should you use another company to clean the unit, or undertake this work yourself, we request that it be conducted according to Urban Asset Solutions Pty Ltd specifications. Otherwise, you may invalidate your warranty, as damage caused by inappropriate cleaning procedures is not covered. The advantages of using Urban Asset Solutions Pty Ltd to clean and maintain your unit are that you get:

- regular inspections of your unit;
- a comprehensive cleaning service with removal and disposal of all captured pollutants;
- a detailed report provided on completion of each clean;
- trained and experienced staff; and remedial work completed if required.

Table 6 provides a broad guideline about the number of cleans required annually for each treatment element within the Ecosol™ Storm Pit (Class 2).

Product Code	Pollutant Holding Capacicties			Optimal Maintenance Frequency			Optimal Catchment Area
	Gross Pollutants	Sediment	Hydrocarbons	Primary Treatment Chamber		Secondary Treatment Chamber	
	(m^3)	(m^3)	(L)	Litter Basket Clean	Detention Bay Clean	Storm DMT Filter Media Exchange	(Ha)
Storm Pit (Class 2) 10L/s	0.288	0.104	2,208	2	1	1	1.5
Storm Pit (Class 2) 20L/s	0.288	0.710	1,408	2	1	1	1.5
Storm Pit (Class 2) 40L/s	0.360	0.828	1,656	3	1	1	1.8
Storm Pit (Class 2) 60L/s	0.432	1.206	2,520	3	1	1	2.1
Storm Pit (Class 2) 80L/s	0.504	1.806	3,612	4	1	1	2.7
Storm Pit (Class 2) 110L/s	0.576	2.208	4,416	4	1	1	3.0

Table 6 - Ecosol™ Storm Pit(Class 2) Maintenance Frequencies

14.0 Applications And Configurations

The unit can be installed either at-source or in-line on pipes ranging in diameter from 100mm up to 375mm, usually in small commercial and high-density catchments ranging in size from 1.5 to 3.0Ha. For larger pipe sizes contact your local Urban Asset Solutions Pty Ltd office.

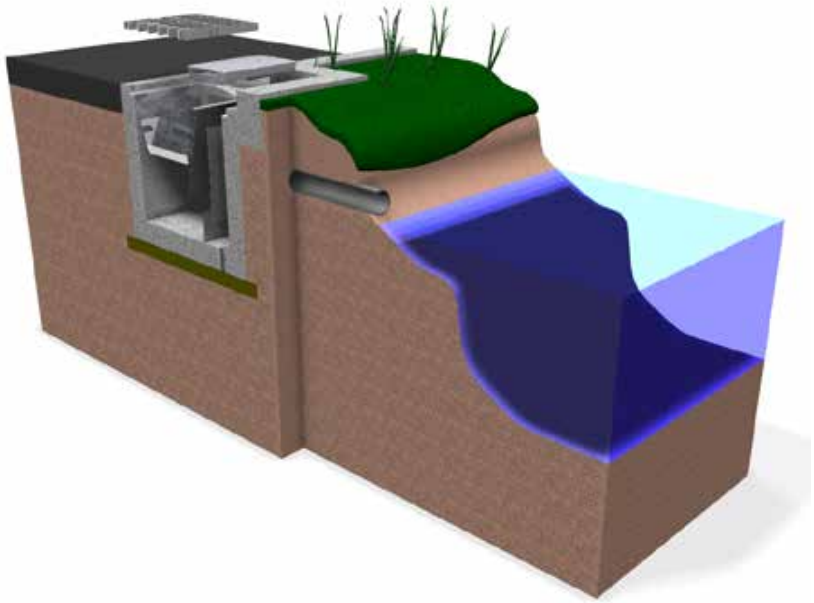
The Ecosol™ Storm Pit (Class 2) is a unique compact at-source or in-line stormwater filtration system designed to carry out multiple treatment processes on stormwater runoff within the one compact underground device. In particular it is designed to remove, at pre-determined treatable flows, particulate, dissolved and in some cases colloidally bound contaminants.

Typically, the Ecosol™ Storm Pit (Class 2) is designed for trafficable loadings and is located in commercial car parks, high rise residential apartment complexes, hardstand areas in shopping centre car parks and industrial estates.

Typical applications include:

- light industrial estates;
- mining and bulk handling facilities;
- Industrial and commercial sites such as car parks and shopping centres commercial wash down bays such as truck stops and council depots; and
- high density housing estates.

This systems is often a preferred choice in developments where site space constraints prohibits the installation of multiple treatment measures. It also provides an efficient solution for pre-screening of stormwater run-off prior to on site detention or rain water harvesting systems.



15.0 Turnkey Services

Urban Asset Solutions Pty Ltd design and estimating staff provide a dedicated management approach towards your project. In addition all staff are capable of liaising with the client, the consulting engineer, the contractor and all other interested third parties to achieve a successful outcome.

Urban Asset Solutions Pty Ltd provides a complete turnkey service from design, manufacture and installation to cleaning and maintenance for its product range and prides itself on providing its client with a cost effective, efficient service.

16.0 Accreditation

Urban Asset Solutions Pty Ltd is accredited to AS/NZS ISO 1400 (Environment) and AS/NZS 9001 (Quality). Our commitment to continuously improving our products and services is demonstrated by our ongoing accreditation for Quality and Environmental Management. Urban Asset Solutions Pty Ltd is also committed to a safe environment for its employees. We are fully third-party accredited to AS/NZS 4801.

17.0 Suppiler And Technical Product Contact Details

For any maintenance or technical product enquiries please contact:
Urban Asset Solutions Pty Ltd
Tel: 1300 706 624
Fax: 1300 706 634
Email: info@urbanassetsolutions.com.au

ATLAS CERTIFICATION OHSAS 18001
ATLAS CERTIFICATION AS/NZS 4801
ATLAS CERTIFICATION ISO 9001
ATLAS CERTIFICATION ISO 14001

Appendix 1

Ecosol™ Storm Pit (Class 2) Essential Information Form

To ensure your system is appropriately designed for its intended application and meets local water quality objectives it is essential that the following minimum information is provided:

Customer Details

- Contact Person:
- Company Name:
- Phone:
- Fax:
- Email:

Project and Site Information

- Project Name:
- Project Address:
- Type of Development/Catchment Type:
- Catchment area (ha):
- Impervious area fraction (%):
- Pollutant Removal Targets (%): Site Water Quality Objectives (WQO's)
  - Gross Pollutants (>2000µm)
  - Total Suspended Solids (20 – 2000µm)
  - Total Phosphorus
  - Total Nitrogen
  - Heavy Metals
  - Total Petroleum/ Hydrocarbon
  - Other
- Local Authority:
- Device Location:
- Designed Discharge (Peak ARI Flow Rate) L/s:
- Treatable Flow Rate (L/s):
- Designed Discharge (Peak ARI Flow Rate) L/s:
- Other essential design or site relevant information:

Please forward the above information for your next project to your local Urban Asset Solutions Pty Ltd representative. On receipt Urban Asset Solutions Pty Ltd will model and design the most appropriately sized system to suit your application to assist you achieve the project Water Sensitive Urban design objectives.

Email: info@urbanassetsolutions.com.au
Fax: 1300 706 634

URBAN ASSET SOLUTIONS

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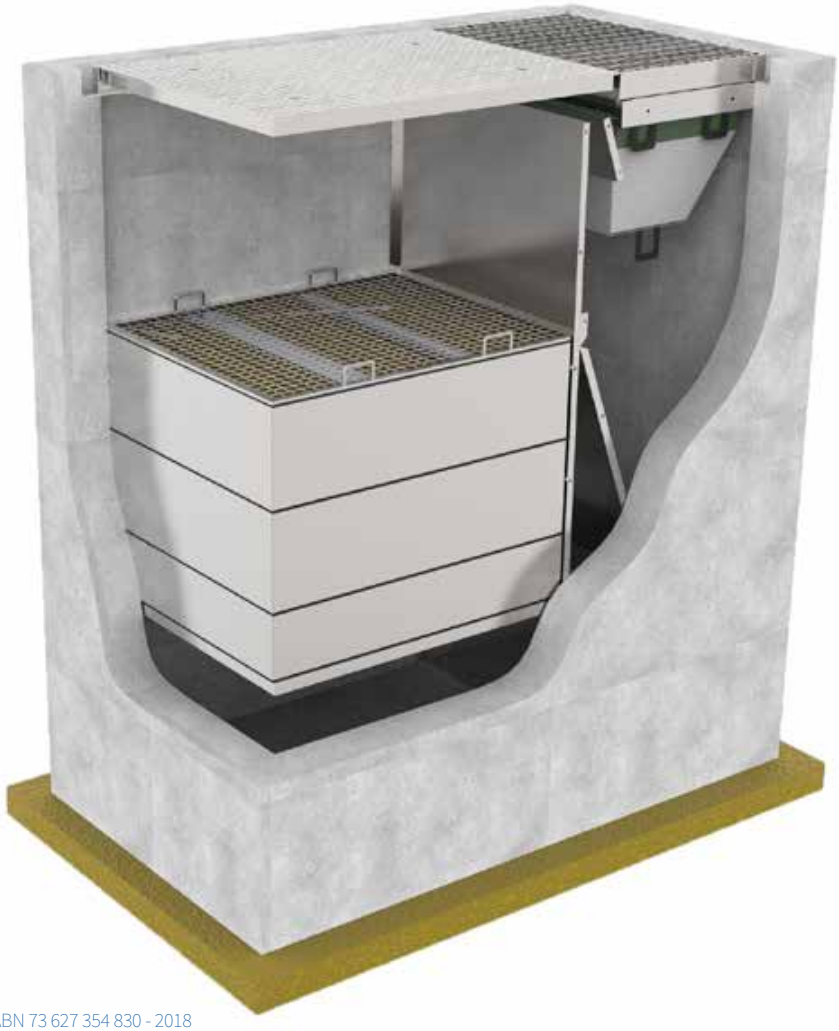
Fax: +603 7710 2586
Website: www.ecosol.com.my



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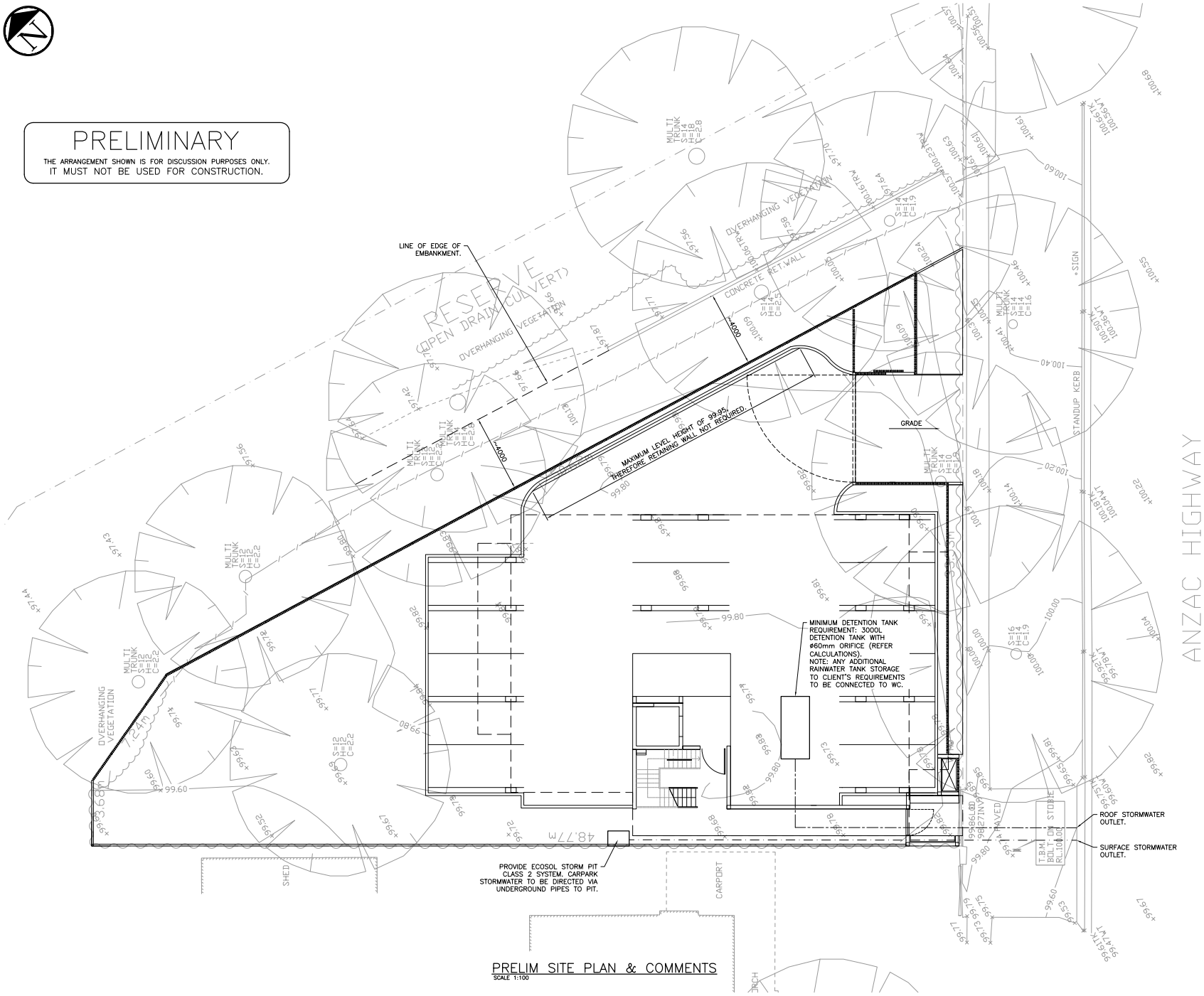
PRELIMINARY

THE ARRANGEMENT SHOWN IS FOR DISCUSSION PURPOSES ONLY.
IT MUST NOT BE USED FOR CONSTRUCTION.



PRELIM SITE PLAN & COMMENTS

SCALE 1:100

ISSUE	AMENDMENTS	INT./DATE
B	PRELIMINARY ISSUE	TH 08.04.19
A	PRELIMINARY ISSUE	TH 26.02.19

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> MINING
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> COASTAL
> CIVIL

CLIENT:
AWWAD SUPERANNUATION FUND

PROJECT:
PROPOSED 3 STOREY BUILDING

PROJECT ADDRESS:
81 ANZAC HWY, ASHFORD

TITLE:
PRELIM SITE PLAN, COMMENTS & DETAIL

CONTRACTORS MUST VERIFY ALL DIMENSIONS PRIOR TO ANY OFF SITE FABRICATION.

DESIGN: LW	SCALE: AS SHOWN	DATE: FEB. 2019
SHEET SIZE: A1	DRAWING NUMBER: 16176–1	REVISION: B

Think beyond the square

ESD and Sustainability Consultants
Master Planning
Resource Management
Strategic Advice
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Advocacy

Ashford Housing

81 Anzac Highway

Integrated Sustainability Strategy

D Squared Consulting Pty Ltd
Trading as dsquared
ACN 159 612 067
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green building council australia
MEMBER 2017-2018

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Document Control

Issue	Date	Change	Checked	Approved
1	7/12/17	First Draft issue	PD	DD
2	9/3/18	Second draft issue with team input	PD	DD
3	11/9/18	Updated following DRP review	PD	DD

Think beyond the square

Contents

1 Introduction

This report proposes the Sustainability Vision - the overriding principles which will be applied to the Ashford Housing Development, and the Sustainability Strategies which will be employed to reduce the development's impact on the environment in both construction and operation.

The Vision:

> *"A development that addresses the material character of Ashford, with clever articulation of massing, and material choices situating the development within the broader urban interface.*
>
> *We propose a development of a high design standard and appearance responding to and reinforcing the positive aspects of the local environment and built form, in a botanic setting."*

This report is based on a review of the building design and proposal summary prepared by Tectvs Architects and the commitments made at planning stage by the Client and project design team.

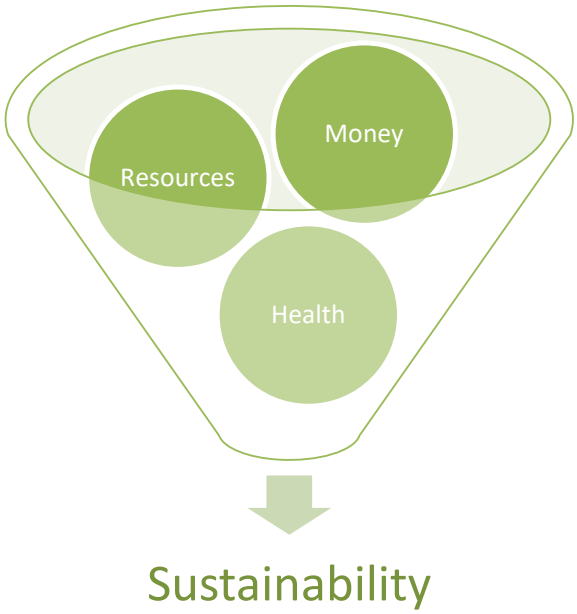
The report has been prepared Paul Davy, a Director of consultancy firm dsquared. Paul has over 30 years' experience in the UK, Europe, Asia and Australia as an engineering, ESD, and sustainability consultant. Paul holds IEng and MCIBSE Accreditation, is a Green Star Certified Assessor, a Green Building Council of Australia Teaching Faculty Member, an Ambassador for the Living Futures Institute of Australia, and a member of the South Australian Government ODASA Design Review Panel.

2 Sustainability Guiding Principles

These are the Sustainability Guiding Principles for the Project:

- *That the development is attractive to residents, visitors and the surrounding community*
- *That a sustainable lifestyle is created, where energy, water and waste are minimised, and a healthy ecology is developed*
- *That the building is designed in accordance with best practice in sustainable development*
- *That the site provides a botanic setting for residents*
- *That the development encourages the transition towards carbon neutral living*
- *That the development provides a positive social return on investment*
- ***That the development delivers on the triple bottom line of sustainability:***

  Environmental, Economic, and Social



3 Sustainability Initiatives

3.1 Façade

The façade has been designed using passive design principles, with computer modelling techniques informing the different treatments of the north, south, east and west elevations. Orientation specific façade features include:

1. the use of privacy screens, panels, and blades as shading features;
2. the use of balcony floors and overhangs as shading features;
3. the introduction of solid wall elements, in particular to the west elevation, in order to reduce the extent of glass subject to direct summer sun incidence;
4. using predominantly light-coloured external finishes (in particular roof coverings) to reflect heat, reduce solar gain through absorption, and reduce the heat island effect; and
5. the use of high-performance glazing with a silver interlayer/low-e coating.

The result is that the apartment thermal loads are proposed to achieve a level of performance at least 20% better than current Building Code minimum NaTHERS rating of 6 Stars average, representing a dwelling average NaTHERS Rating of 7 Stars.

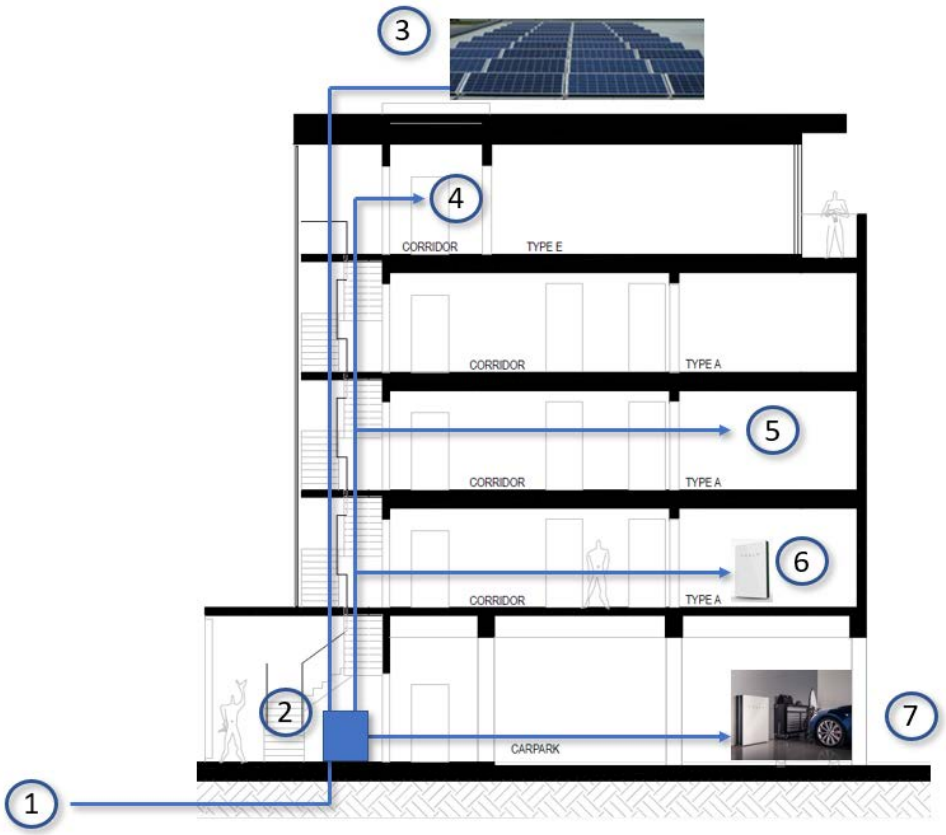
3.2 Energy

The following Energy initiatives are included:

1. All common areas at Ground level and above will be naturally ventilated and provided with daylight access, including the car parking for residents.
2. Electricity will be supplied via an inset (embedded) network, so that residents can benefit from the option of reduced electricity supply rates, and the ability to share renewable energy from the building solar PV array.
3. Daylight control to lighting systems in common areas.
4. Selection of energy efficient lighting fittings. All lighting will be LED.
5. Zoning the apartment air conditioning systems into functional areas (e.g. living rooms, bedrooms) and providing automatic and manual controls. All apartment air conditioning units will be inverter controlled and rated to the highest available Energy Star rating. All units can be operated in fan mode providing low energy air circulation.
6. Providing a kill switch to each apartment allowing a one touch isolation of all lighting and air conditioning power when the apartment is vacant.
7. Providing a 5.6kW roof mounted solar photovoltaic array. The array will be connected via the inset network so that it can benefit all residents and tenants in the development but is sized to adequately provide renewable energy equivalent to 100% of the common area power needs. Roof space and electrical reticulation infrastructure will be sized to accommodate an expansion of the system to a maximum of 12kW if required by the apartment owners.
8. Providing space and electrical infrastructure connections for the future deployment of battery storage systems, to facilitate their installation by the residents.

9. Using gas boosted hot water systems, gas hobs, and European Energy Label A category ovens for cooking throughout in order to reduce peak electricity demands, reduce the overall development carbon footprint, and provide an economical amenity for apartment owners.
10. Providing a building energy management system with smart metering to automatically record and monitor the building's resource use and establish trends and profiles to assist with the ongoing control of energy use. This information will be made available on-line.
11. Providing apartment owners with retractable clothes racks in their apartments, to minimise electric clothes drier use. These facilities will also minimise the incidence of clothes drying on exposed balconies.

The result is an integrated approach to low carbon and affordable energy:



1: Incoming grid power supply

2: Inset Energy Network management system

3: 5.6kW Solar PV *(expandable to 12kW)*

4: 100% of common area powered by renewables

5: Power to apartments – 20% cheaper and 10% greener than standard grid power via Inset Energy Network agreement

6: Purchaser option for in-home battery

7: Purchaser option for electric vehicle charge point

3.3 Indoor Environment Quality

The following Indoor Environment Quality initiatives are included:

1. Using paints, sealants, adhesives, carpets, coverings and furniture which have low off-gassing properties (low VOC, low formaldehyde).
2. Maximising access to daylight to all residential areas whilst minimising glare.
3. All dwellings will be fully naturally ventilated.
4. All common areas at ground level and above will be fully naturally ventilated.

3.4 Water

The following Water initiatives are included:

1. Selecting water efficient fittings of a minimum 6 Star WELS rating for taps, 4 Star for WCs, and 3 Star for showers.
2. Selecting appropriate landscape planting to minimise irrigation water use.
3. Providing rainwater storage for communal watering and washing down. This may be combined with stormwater detention on site in a combined below ground storage facility.

3.5 Community and Social Sustainability

The following Community and Social Sustainability initiatives are included:

1. Connecting the building with the local environment and allowing the building to respond to the seasons.
2. Providing access to views from within the building to outside, from external vantage points to the environment, and into the building from outside to provide transparency and a visual connection between residents and the community and environment.
3. Using materials cognisant of the local environment, providing a connection between the residents and the local history and heritage.
4. Provide easily accessible communal areas to both residents and visitors to the building.
5. Utilise the landscape for community and social activities, and to minimise the local climatic heat impacts by developing a botanic setting at ground level.

3.6 Transport

The following Transport initiatives are included:

1. Providing bicycle storage facilities for apartment residents and visitors, with a minimum of one secure rack provided per apartment. Additional racks will be provided for visitors at ground floor level.
2. All apartment purchasers will be offered the option of the provision of an electric vehicle charge point at their car park space, in order to promote the de-carbonisation of Adelaide's transport network. Dependent upon the final size of PV array installed, a number of these points can be supplied with 100% renewable energy.

3.7 Waste

The following Waste initiatives are included:

1. Construction waste will be minimised through efficient design techniques including standardisation and wherever practicable off-site pre-fabrication.
2. All Construction waste will be managed via the implementation of an approved Environmental Management Plan.
3. A minimum of 90% of all construction waste will be diverted from landfill. All Construction waste will be sorted and binned on site to facilitate ease of recycling.
4. Each apartment kitchen will be designed to accommodate split bins for general, recycling, and compost waste.
5. The building will incorporate naturally ventilated and weather proof storage facilities for the collection and disposal of general, recyclable, and organic waste, which will be separated on site to facilitate ease of disposal for recycling.

3.8 Construction

The following Construction initiatives are included:

1. Selecting locally sourced materials wherever viable.
2. Selecting recycled and recovered materials wherever viable, particularly sourced from the local area in order to build in a recognition of the local area and heritage.
3. Selecting materials with a comparatively low embodied energy/carbon profile e.g. timber in preference to steel, where practicable.
4. Selecting materials which are from a renewable source e.g. timber and bamboo flooring, subject to the final purchaser selections made.
5. Using off site pre-fabrication techniques to reduce on site construction time, waste, and greenhouse gas emissions, wherever practicable.

THE Adelaide TREE SURGERY
A division of tree aware

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LONSDALE SA 5160
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Arboricultural Assessment and Report

Prepared for
Cross Company
Mr Simon Cross
PO Box 149
Crafers SA 5152

Site Address:
81 Anzac Highway
Ashford SA 5035

In Regard to
1 x Significant *Phoenix canariensis* (Canary Island Date Palm)

Prepared By:
Mark Elliott *Consulting Arborist/Diploma Arboriculture*

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1.0 INTRODUCTION

1.1 This report has been prepared at the request of Mr Simon Cross form the Cross Company and is in relation to one **"Regulated"** ***Phoenix canariensis*** **(Date Palm)** which is located at 81 Anzac Highway, Ashford SA 5035.

1.2 The property of 81 Anzac Highway, Ashford SA 5035 is currently vacant and it is proposed to construct a residential building **(refer Section 5).**

2.0 TERMS OF REFERENCE

2.1 Instructions were received in February 2019 via email.

2.2 The instructions received were an arborist report on the Date Palm in relation to the proposed development at 81 Anzac Highway, Ashford SA 5035.

3.0 CAVEAT EMPTOR

3.1 This is a stage 1 **'Ground Report'**. The tree was inspected from the ground only.

3.2 The report is limited by the time of the inspection.

3.3 The report reflects the Date Palm as found on the day of inspection. Any changes to site conditions or surroundings, such as construction works, landscape works or further failures or pruning, may alter the findings of the report.

3.4 The inspection period to which this report applies is three months from the date of the report.

4.0 THE SITE

4.1 The subject Canary Island Date Palm is growing towards the rear north western corner of the vacant allotment at 81 Anzac Highway, Ashford SA 5035

4.2 **Ashford** is located with the council boundaries of the City of West Torrens which is located approximately 2 - 8 km west to south west from the **Central Business District (CBD).**

4.3 The surrounding area is a very highly vegetated area that is a large number of native and exotic trees growing along the Brownhill Creek, Anzac Highway, residential properties and also council land (street scape and reserves).

Figure 1 shows an aerial image of 81 Anzac Highway, Ashford SA 5035. The Canary Island Date Palm is highlighted in red.

5.0 THE PROPOSAL:

5.1 It is propsed to construct a new residential building which includes car parking and also an extensive landscaping plan at 81 Anzac Highway, Ashford SA 5035 **(refer Figure 2).**

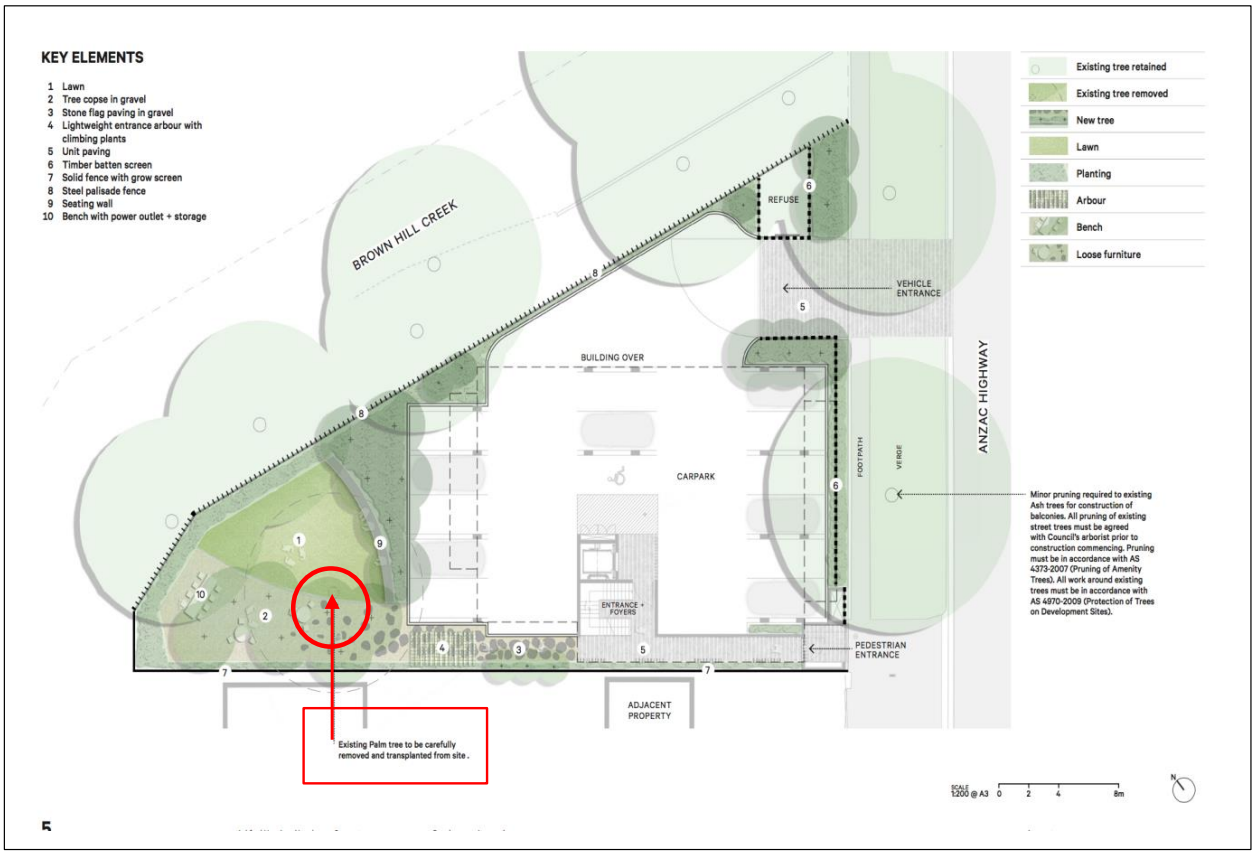


Figure 2 shows the proposed plans for the vacant allotment at 81 Anzac Highway, Ashford SA 5035.

6.0 THE TREE - One "Regulated" *Phoenix canariensis* (Canary Island Date Palm)

6.1 The Canary Island Date Palm is a large mature specimen.

6.2 The Date Palm has a stem circumference when measured at one meter above natural ground level of 2.98 meters, therefore the tree can be declared as a **"Regulated Tree"** as per the **Development Regulations 2008.**

6.3 The Date Palm has not been maintained and there are a large number of dead fronds within the lower section of the crown and also lying around the base of the palm. The trunk of the palm is also in its original condition.

6.4 The Canary Island Date Palm appears to of have had soil built up around the base in the past. The Date Palm appears to be sitting onto of natural ground level which could have been a result of built up soil.

6.5 The base of Date Palm has an obvious bend and the trunk doesn't straighten until approximately 3 – 4 feet above ground level.

Figure 3 shows the Canary Island Date Palm which is located in the North western corner of the vacant allotment at 81 Anzac Highway, Ashford SA 5035.

7 DISCUSSIONS

7.1 The **Canary Island Date Palm** is a mature tree that has had minimal maintenance undertaken in recent years. The condition of this palm is typical if the species.

7.2 The palm does not provide a large amount of amenity to the local area as a result of it being located towards the rear of the allotment and also due to the large number of mature trees surrounding the area which are located along Brownhill Creek at the rear of the property and also a number of large mature Ash Trees which are council trees growing along Anzac Highway.

7.3 Due to the Date Palm having an obvious bend in the base of the trunk which unfortunately cannot be corrected, I do believe this will reduce the amenity of the Date Palm to the proposed development.

7.4 The location of the Date Palm to the new proposed development is approximately 4 meters from the northern side of the building. Unfortunately, due to the location of the Date Palm and the shape of the allotment, there will be a large amount of non-usable land within the rear north west corner and also limited opportunity to develop the property and maximize the land.

7.5 Transplanting of suitable Date Palms is a common occurrence but unfortunately in this case the subject Canary Island Date Palm is a female which are not often sort after for transplanting.

7.6 Based on the findings within this report, I am recommending that the Date Palm is approved to be removed to allow for the proposed reasonable development of the site as per the supplied plans.

8 LEGISLATE REQUIREMENTS

8.1 The canary Island Date Palm is classified as a "Regulated" as per the ***Development Regulations 2008*** and also refers to the **City of West Torrens Development Plan** consolidated 12th July 2018.

Section	Definition	Findings
2	**Development in balance with preserving regulated trees that demonstrate one or more of the following attributes:**	
a	significantly contributes to the character or visual amenity of the locality	***No – the Canary Island Date Palm does not significantly contribute to the local area due to the size and location of the Date Palm and also due to the large number of surrounding trees/vegetation.***
b	indigenous to the locality	***No – the Canary Island Date Palm is not indigenous to the local area.***
c	a rare or endangered species	***No – The Canary Island Date palm is not a rare or endangered species.***
d	an important habitat for native fauna.	***No – the Canary Island Date Palm has no habitat value for local fauna.***

Section	Definition	Findings
2	A regulated tree should not be removed or damaged other than where it can be demonstrated that one or more of the following apply:	
a	the tree is diseased and its life expectancy is short; or	***No – the Canary Island Date Palm is not diseased or have a short life expectancy.***
b	the tree represents a material risk to public or private safety	***No – currently the tree does not represent a material risk to public or private safety.***
c	the tree is causing damage to a building	***No – the tree is not causing damage to a building.***
d	development that is reasonable and expected would not otherwise be possible	***Yes – I believe the Canary Island Date Palm will prevent reasonable development and landscaping due to the location of the subject tree.***
e	the work is required for the removal of dead wood, treatment of disease, or is in the general interests of the health of the tree.	***N/a***

9 RECOMMENDATIONS

9.1 Having consideration to the subject Canary Island Date Palm and the propsed development, I am recommending the Canary Island Date Palm is completely removed.

9.2 Council Approval from the City West Torrens needs to be granted prior to commencement of any works.

Mark Elliott
Consultant Arborist/Diploma Arboriculture

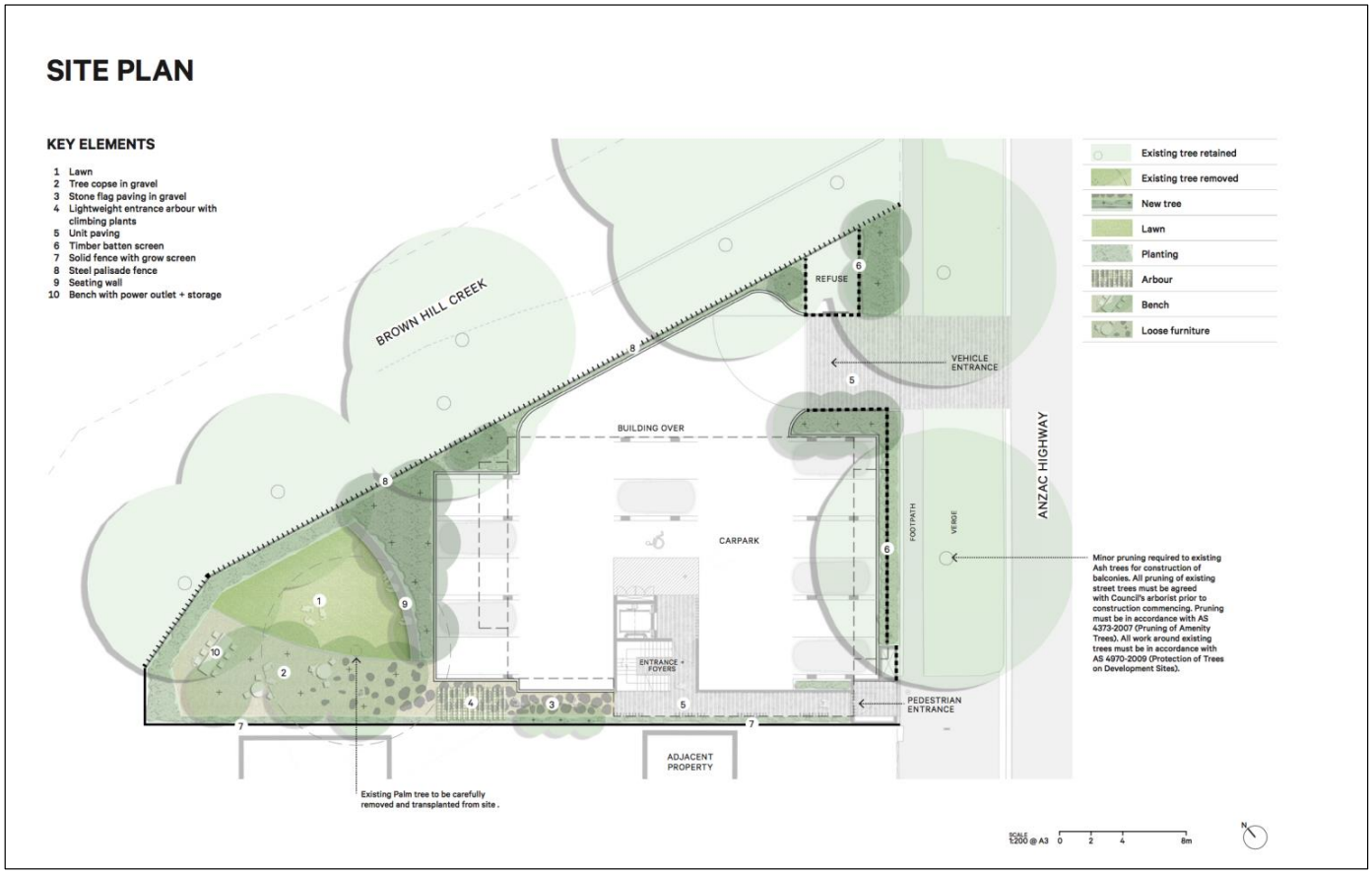
APPENDIX A: REFERENCES

The Development Act (1993) South Australian Legislation

The Development Regulations (1993) South Australian Legislation

City of West Torrens Development Plan Consolidated 12th July 2018

APPENDIX B: Site Plan



APPENDIX C: DISCLAIMER AND LIMITATIONS

This report only covers identifiable defects present at the time of inspection. The author accepts no responsibility or can be held liable for any structural defect or unforeseen event/situation that may occur after the time of inspection, unless clearly specified timescales are detailed within the report.

The author cannot guarantee trees contained within this report will be structurally sound under all circumstances, and cannot guarantee that the recommendations made will categorically result in the tree being made safe.

Unless specifically mentioned this report will only be concerned with above ground inspections, that will be undertaken visually from ground level. Trees are living organisms and as such cannot be classified as safe under any circumstances. The recommendations are made on the basis of what can be reasonably identified at the time of inspection therefore the author accepts no liability for any recommendations made.

Care has been taken to obtain all information from reliable sources. All data has been verified insofar as possible; however, the author can neither guarantee nor be responsible for the accuracy of information provided by others.

OFFICE FOR DESIGN + ARCHITECTURE SA

File No:
2014/11235/01

Ref No:
13458020

20 December 2018

Karl Woehle
Planning Officer
Department of Planning, Transport and Infrastructure
Level 5, 50 Flinders Street
Adelaide SA 5000

Karl.Woehle@sa.gov.au

For the attention of the State Commission Assessment Panel (SCAP)

81 Anzac Highway, Ashford

Further to the referral 211/M029/18 received 3 December 2018 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 am pleased to provide the following comments informed by the Design Review process for your consideration.

The proposal was presented at one Design Review panel, and one Desktop Review session, over which period the design response progressed. A pre-lodgement agreement was not reached in advance of lodgement.

I support the project team's aspiration to deliver a high quality residential development of the proposed scale in this location along with the emphasis given to the botanic setting of the site. I also acknowledge and welcome the amendments made to address some of the issues raised at the previous Desktop Review session, including reconfigured apartment layouts that provide access to natural light to some of the bathrooms. Acknowledging the constraints set by the triangular shaped site and position relative to Brownhill Creek, I maintain the view that a more generous street setback would reinforce the envisaged built form pattern of the locality, provide a more positive contribution to the public realm and minimise impacts to existing street tree canopies.

The subject site is located on the northern side of Anzac Highway between Syme Street and Farnham Road in the City of West Torrens. The site is almost triangular in shape and has a 33.5 metre frontage to Anzac Highway. The northern boundary adjoins a portion of Brown Hill Creek that comprises an open stormwater culvert, which is within land owned by the Council. Anzac Highway is a multiple lane arterial road of varying character that includes commercial buildings and multi-storey residential flat buildings, however the majority of the buildings in the immediate locality are set back single-storey detached dwellings. Along Anzac Highway towards the city, the properties are predominantly commercial and medical, including the five storey Ashford Hospital building. Towards South Road, a five storey residential apartment building is under construction at 99 Anzac Highway. The Development Plan envisages the uplift and increased density for the zone along

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OFFICE FOR DESIGN + ARCHITECTURE SA

File No:
2014/11235/01

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Anzac Highway, and the proposal has a potential to set a precedent for future developments of similar scale.

The site is located wholly within the Urban Corridor Zone, Boulevard Policy Area, where generally developments up to eight storeys (32.5 metres) are envisaged. However the subject site is located between Syme Street and South Road, where the maximum envisaged height is three storeys (12.5 metres). The scheme proposes a building height of five storeys (16.9 metres), excluding lift overrun. Acknowledging the departure from the envisaged maximum height for the area, I support the proposed height on balance, as it is consistent with the envisaged character of the wider locality along Anzac Highway.

The built form includes screened at grade car parking with four levels of apartments above. On levels one to three, the main building walls are set back by three metres from the front and side (south) boundaries. The top apartment floor is further set back with the intent to reduce its visual impact, which I support. The ground floor timber screening fronting Anzac Highway has been reduced in height from an initial 3.8 metres during the pre-lodgement process, to approximately 2.4 metres, incorporating an integrated metal mesh screen above and boundary line planter box. The timber screening further reduces in height along the Anzac Highway frontage to approximately 1.8 metres along the vehicle entrance and refuse enclosure. I acknowledge and support the project team's effort in strengthening the ground floor screening composition through increased articulation and incorporation of varying heights and materiality. However, I maintain the view that a more generous street setback would create additional opportunities for more meaningful landscaping and enhance the pedestrian experience at ground level.

The proposal includes projecting balconies on levels one to three to the front and rear of the main built form. I support the size and dimensions of the proposed balconies, as well as the inclusion of privacy screening and opaque panels to address adjacency issues between dwellings and amenity impacts from the adjacent arterial road. While I support this general approach to the built form composition, I recommend further review of the front setback of balcony projections with the view to ensure the protection of existing street tree canopies.

In principle, I advocate for below ground car parking or sleeving of car parking with active use spaces. However, I support the proposed ground floor arrangement on balance, including the screening of the exposed high level services by a metal mesh panelling. Acknowledging that the Development Plan seeks a minimum floor to ceiling height of 4.5 metres for the ground floor to allow for future adaption, I recognise the constraints set by the size and shape of this site and challenges in achieving a viable commercial tenancy. On balance, I support the proposed floor to ceiling height of 3.4 metres in this instance.

On the ground floor, the width of the recessed pedestrian entry has been increased from that originally proposed during the pre-lodgement process, and leads to the open central lift foyer and egress stair via the pedestrian path along the side (south) boundary. I support the proposed arrangement which in my view contributes to a stronger sense of address on Anzac Highway and improved amenity. I also support the extension of the pedestrian path which connects to a revised and expanded communal garden at the rear of the site. I am of the opinion that the communal garden creates a successful and usable community asset for future residents, and significantly enhances the landscape setting of the site.

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Above the ground floor, the expression of the building is characterised as a light coloured rectangular built form articulated by projecting elements, such as balconies and window reveals in a contrasting darker colour. The recessed top floor is also treated in a darker colour to be distinctive from the built form below and to reduce the visual impact. I support the general composition of built form elements and the proposed facade materiality, which comprises a pre-finished cladding system, as well as the projecting window reveals which provide both articulation and solar control.

On levels one to three, four two-bedroom apartments are proposed around a central communal circulation area. The top floor provides two two-bedroom apartments and a screened area for the consolidated services plant. In my opinion, the internal apartment layouts are convincing in terms of their size and functionality. I support the provision of integrated storage, along with natural light and ventilation to all habitable rooms. I also support the lift foyer arrangement, which provides a generous entry sequence for apartment residents, including the staggering of entry doors.

While I strongly support the provision of a consolidated plant enclosure to maintain balconies free of services equipment, I recommend further development of an acoustic treatment and screening system to the plant area, in order to ensure potential environmental, acoustic and service issues are minimised.

The proposal aims to achieve a seven-star dwelling average sustainability rating. I support this ambition and anticipate integration of the proposed sustainability strategies to reduce the development's environmental impact during the next phase of design development.

To ensure the most successful design outcome is achieved the State Commission Assessment Panel (SCAP) may like to consider particular aspects of the project, which would benefit from protection as part of the planning permission, such as:

- Further development of the acoustic treatment to the outdoor condensing unit plant enclosure on the fourth floor balcony.
- Detail regarding the management of any required pruning or tree damaging activities, with a view to protecting existing street tree canopies.
- A high quality of external materials supported by the provision of a materials and finishes sample board.

Yours sincerely

Kirsteen Mackay
South Australian Government Architect

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Government of South Australia

In reply please quote 2018/02001/01, Process ID: 552029
Enquiries to Marc Hryciuk
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Government of South Australia
Department of Planning, Transport and Infrastructure

DEVELOPMENT DIVISION
Transport Assessment and Policy Reform

GPO Box 1533
Adelaide SA 5001

ABN 92 366 288 135

22 January 2019

State Planning Commission
C/- Mr Karl Wohle
Department of Planning, Transport and Infrastructure
GPO Box 1815
ADELAIDE SA 5001

Dear Mr Wohle

SCHEDULE 8 - REFERRAL RESPONSE

Development No.	211/M029/18
Applicant	Awwad Super Fund Pty Ltd
Location	81 Anzac Highway, Ashford
Proposal	5 Storey Residential Flat Building

I refer to the above development application forwarded to the Commissioner of Highways (CoH) in accordance with Section 37 of the *Development Act 1993*. The proposed development involves development adjacent a main road as described above.

The following response is provided in accordance with Section 37(4)(b) of the *Development Act 1993* and Schedule 8 of the *Development Regulations 2008*.

CONSIDERATION

The subject site abuts the Anzac Highway which is identified as a Major Traffic Route, a Primary Freight Route, a Priority Public Transport Corridor, a High Activity Pedestrian Area and a Major Cycling Route under the Department of Planning, Transport and Infrastructure's (DPTI) *'A Functional Hierarchy for South Australia's Land Transport Network'*. At this location Anzac Highway is a gazetted route for 25-metre B-Double vehicles, carries approximately 46,000 vehicles per day (3.5% commercial vehicles) and has a posted speed limit of 60 km/h.

The subject application is for the construction of a 5 storey residential flat building with car parking and landscaping. The building will contain 14 dwellings with a single shared access to Anzac Highway. The access will be 6 metres wide at the Anzac Highway property boundary and extend into the site at this width as far as practicable to enable the simultaneous two-way movements of passenger vehicles. As the access arrangements are consistent with departmental policy they are supported.

It is noted that part of the waste collection arrangements for the site will require vehicles up to 7.4 metres in length to access the site. Whilst the department is supportive of on-site waste collection, these vehicles will need to utilise the full width of the access in order to enter and exit the site, thus potentially resulting in vehicular conflict adjacent to the access. In order to minimise impact on Anzac Highway traffic, it is recommended that all vehicles larger than a 6.4-metre Small Rigid Vehicle access the site outside of peak traffic times.

CONCLUSION

In-principle, no objection is raised to the proposed development subject to the following conditions.

ADVICE

The planning authority is advised to attach the following conditions to any approval:

1. The access to Anzac Highway shall be constructed in accordance with Tectvs Floor Plan, Project No. 27010, Dwg No. P02, Revision 1.1, dated 13 December 2018.

2. The access shall be a minimum of 6 metres in width at the Anzac Highway property boundary and be suitably flared to the kerbline to permit convenient ingress and egress movements.

3. The gate shall be setback a minimum of 6 metres from the Anzac Highway property boundary in order to ensure a vehicle can store completely on site prior to it being opened or closed.

4. The shared driveway and vehicle manoeuvring areas shall be kept clear of all obstructions including meters, letterboxes, fences and vegetation.

5. Any redundant crossovers shall be removed and reinstated to Council's kerb and gutter standards at the applicant's cost prior to habitation of the dwellings.

6. All vehicles shall enter and exit the site in a forward direction.

7. All off-street parking shall be designed in accordance with *AS/NZS 2890.1:2004*. Additionally, clear sightlines, as shown in Figure 3.3 'Minimum Sight Lines for Pedestrian Safety' in *AS/NZS 2890.1:2004*, shall be provided at the property line to ensure adequate visibility between vehicles leaving the site and pedestrians on the adjacent footpath.

8. Stormwater run-off shall be collected on-site and discharged without jeopardising the integrity and safety of the arterial road. Any alterations to the road drainage infrastructure required to facilitate this shall be at the applicant's cost.

Yours sincerely

MANAGER, TRANSPORT ASSESSMENT AND POLICY REFORM
for **COMMISSIONER OF HIGHWAYS**

A copy of the decision notification form should be forwarded to dpti.developmentapplications@sa.gov.au

Civic Centre
165 Sir Donald Bradman Drive
Hilton, SA 5033
Tel: 08 8416 6333
Email: development@wtcc.sa.gov.au
Web: westtorrens.sa.gov.au

City of West Torrens
Between the City and the Sea

16 January 2019

State Commission Assessment Panel
GPO Box 1815
ADELAIDE SA 5001

Attention - Karl Woehle
By email - Karl.Woehle@sa.gov.au

Dear Karl,

DEVELOPMENT APPLICATION:	211/1298/2018
APPLICANT:	AWWAD INVESTMENTS PTY LTD
SUBJECT LAND:	81 Anzac Highway, ASHFORD SA 5035
PROPOSAL:	SCAP - Sch 10 - SCAP No.211/M029/18 - Five- storey residential flat building comprising fourteen (14) dwellings, car parking, fencing and landscaping

Pursuant to Regulation 38 (2)(b) of the Development Regulations 2008, we advise that Council wishes to provide the following feedback and comments on the proposed development described above:

- Building height

  The subject site is located within a specific area that the Urban Corridor Zone, Policy Area 34 has called for a maximum of 3 storeys or 12.5m in height. This is significantly lower than the 8 storey, 32.5m maximum supported for the rest of the Policy Area. The area designated for 3 storey development is very specific and only applies to 18 properties located on the northern side of Anzac Highway between South Road and Syme Street.

  There is one other example of a 5 storey building, which is also located in the defined area and currently being constructed at 99 Anzac Highway. The other examples highlighted in the applicant's planning report are not within this defined area and are subject to different height provisions.

  Although reasoning for this height limit is not expressly described within the Zone or Policy Area, it is in place so as to provide a transition in built form between the Urban Corridor Zone and the Residential Zone, Ashford Character Policy Area 22. In the Ashford Character Policy Area the maximum supported building height is two storeys with strong emphasis on the second storey being located within the roof space.

The subject site is located 75m from the edge of the Ashford Character Policy Area which means that a 5 storey building will be conspicuous and draw a stark contrast between it and the lower scale and lower density development.

In addition to the sites proximity to the Ashford Character Policy Area, it is also adjacent the locally heritage listed Ashford House school, fence and two Jackson Figs. The single storey residence was built in 1882 and has been listed for the following reasons:

(a) It displays historical, economic or social themes that are of importance to the local area; and
(c) it has played an important part in the lives of local residents; and
(d) it displays aesthetic merit, design characteristics or construction techniques of significance to the local area; and
(e) it is associated with a notable local personality or event; and
(f) it is a notable landmark in the area.

It is considered that the maximum three storey building height outlined in the Development Plan takes these factors into consideration and is why it does not support up to 8 storeys as in other parts of the Policy Area.

- Dwelling mix

The Development Plan calls for proposals with more than 10 dwellings to have a mix in the number of bedrooms provided. The proposed development does not satisfy this provision as it is seeking to have exclusively 2 bedroom dwellings. As the proposed development is exceeding the maximum 3 storey height limit and is able to accommodate more dwellings, it is reasonable to expect that a mix of dwelling types is included to provide housing choice.

- Ground floor ceiling height

The Development Plan calls for the ground floor of buildings to have a floor to ceiling height of 4.5m to allow for adaptable reuse without the need for significant change to the building. The proposal does not satisfy this provision as it has a floor to ceiling height of only 3.4m. This significantly limits the adaptable reuse of the building and is another aspect which is not consistent with the relevant Development Plan provisions.

- Crime Prevention Through Environmental Design

The recessed pedestrian entry point and heavily screened front fence are considered to create pedestrian entrapment spots and movement predictors. The lack of visual permeability is of concern not only for safety, but also as it will create a segregated community.

It is acknowledged that screening is important to screen the car parking area at ground level, however the 2.4m high screening fence creates a considerable barrier and is considered to detrimentally impact upon the human scale of the project.

A more visually permeable ground floor interface between the public and private realm is strongly encouraged.

- Local heritage listed Ash tree pruning

  Council's arborist has considered the pruning of the Local Heritage listed Ash tree on the verge as acceptable as long as the work is undertaken by Council. Should the application gain a planning consent, please include a note outlining that all pruning of the street trees must be undertaken by Council only.

- Traffic and parking

  The proposal seeks to construct a five level residential flat building with ground level car parking on the subject site. The building comprises of 14 two-bedroom dwellings. The ground level car park would provide 14 parking spaces on-site, with all visitor parking to occur external to the site.

  Parking Assessment

  The Development Plan requires a parking provision of 1 resident space per two-bedroom dwelling and 0.25 visitor space per dwelling. Overall, the proposal would require 14 resident spaces and 4 visitor spaces (rounded up).

  It is noted that the CIRQA traffic report refers to an initial proposal for the site where 3 visitor parking spaces were proposed but were apparently requested to be removed by the Office for Design and Architecture SA. The reasons given were to maximise amenity and landscaping on the site. Council disagrees with this proposition, as discussed below.

  FIGURE 1 of the CIRQA traffic report shows the turn path diagram for the 7.4m long refuse truck that would service the site. From the turn path provided, it would appear that there is opportunity to provide 1 parallel parking space immediately adjacent to the refuse area within the 'parking bay' of the driveway and clear of the turn path requirement of the refuse truck. This parallel space should be designated for visitor parking.

  In addition, it is recommended that the rear row of 5 spaces be expanded to 6 spaces, which would necessitate a redesign of the column grid. The addition of 1 space to this row of car parking would, by my estimation, only add approximately 20m2 paved area to the overall car park (of approximately 550m² paved area). The gain of a e visitor parking space would, be possible with minimal impact on amenity and landscaping, as only 20m² of additional paved area would result.

  It is recommended that the above 2 visitor parking spaces be provided on-site in the manner described. This would assist in reducing the reliance on parking in Anzac Highway, which is a major arterial road.

  The Development Plan also requires bicycle parking to be provided at a rate of 1 space for every 4 dwellings for residents and 1 space for every 10 dwellings for visitors, or equivalent to 4 bicycle spaces for residents and 2 spaces for visitors.

It is noted that 4 visitor bicycle spaces would be provided underneath the stair area, adjacent to the pedestrian entry corridor. However, there is no discussion as to how the resident bicycle parking requirement is to be accommodated. There are also unused areas between the end space 14 and the southern boundary that could be utilised for resident bicycle parking. Clarification should be provided by the Applicant regarding the resident bicycle parking provision.

Parking Layout

The aisleway leading to the rear row of parking spaces has a layout that appears to be a 'parking bay' on the northern side. The single lane width (4.5m) proposed on the approach to the end row of parking spaces would be acceptable, given the low traffic movements expected. While it appears visually that a parallel parking bay is provided on the northern boundary, its main purpose is to provide access to the rear parking row and to allow refuse trucks to manoeuvre. In this regard, except for the visitor parking space recommended immediately adjacent to the refuse area, the rest of the 'parking bay' should have yellow line marking to prohibit parking, otherwise access to the rear parking row and for the refuse truck would be affected by parking. It is therefore recommended that a yellow line be marked to clearly prohibit parking at this location.

The parking row that faces Anzac Highway has a double column grid within the space length. The two end columns do not match up with the alignment of the two intermediate columns. The proposed location of the two end columns would not meet the door opening requirements in FIGURE 5.2 AS/NZS 2890.1-2004. That is, these columns would obstruct the opening of the front door of the vehicle. The end columns should be adjusted accordingly.

The rear parking row has the columns located approximately 400mm from the start of the space. This would not comply with FIGURE 5.1 of AS/NZS 2890.1-2004, which requires a minimum offset distance of 750mm. The columns should be adjusted accordingly to allow entry into the space to occur.

Refuse vehicle

It is noted that a smaller than normal refuse truck is proposed for this development. The nominated 7.4m long truck is necessary to allow the appropriate vehicle manoeuvres within the site.

It is Council's understanding that there are not many of these vehicles available and the ones that do exist are in high demand. SCAP should be satisfied that such a vehicle is readily available from private contractors to enable refuse collection to occur.

If SCAP were of a mind to consent to this proposal, a condition to restrict access to the vehicle type nominated for the refuse collection should be included.

- Waste management

The applicant has provided a waste management plan for the development prepared by Colby Industries.

The plan proposes the utilisation of a 'Hybrid' waste servicing arrangement where General Waste is collected from within the development site by private contractor engaged and managed by some manner of body corporate for the building, where Recycling and Food Organics are collected by the Council service provision with shared bins presented to the street. This arrangement is considered a reasonable having regard to the nature and scale of the development.

The location and scale of the proposed communal waste storage would appear to have the flexibility of accommodating the desired number of bins to service the site and manner of collection.

It is noted that the plan has also been based on any landscape maintenance generated waste being dealt with separately from the above described waste management practices.

It is noted that no apparent communal storage allowance has been made for other types of waste typically generated from residential developments of this nature, ie Hard Waste and Unique Disposal Wastes (Batteries, Hazardous, Lighting, Cartridges etc). It is always considered good practice to provide some allowance for such items.

- Development adjacent to a watercourse

  Offset from Adjacent Creek

  Council typically seeks that all structures associated with new development should be located a minimum of 10.0m from the centreline of an adjacent major physical creek or watercourse.

  The purpose of such a measure is to protect the structure from major erosion during higher flow events in major urban waterways, such as Brown Hill Creek.

  An engineering survey has been provided for the site with some spot levels located within the adjacent Brown Hill Creek corridor of land. However the survey fails to pick up or identify any of the existing shape features of the watercourse, hence it is not possible to make any accurate determination of the offset of the proposed development from the creek.

  The provided plans indicate a 'nominal' offset from the adjacent creek however there is no apparent information or justification within the development documentation in relation to how this was determined. It is also noted that a potential building column is location within this offset.

  It is noted that any cantilevered building elements encroach within the 10m offset zone.

  It appears that the proposal has elements several metres within the desired building offset.

It is recommended that updated survey information be requested to clearly delineate the location of features of the adjacent watercourse. Consideration should then be given to the provision of a 10m offset of any structural element of the building from the centreline of the watercourse.

Retaining within proximity of watercourse

Further to addressing the above, retaining of land may still be desired within proximity of the watercourse, but above the bank level of the watercourse.

Existing soil and ground conditions within proximity of watercourse are often less stable than that in a typical allotment. Land within proximity of watercourses can be subject to erosion either through progressive long term movement or as a result of a single major storm event causing large scale erosion or collapse of banks. Based on these considerations it must be ensured that land proposed to be utilised or relied upon in association with new development is suitably retained in relation to the proximity of this land to the watercourse.

Attachment 1.0 provided with this submission illustrates the scale of retaining structures likely to be required in relation to the proposed proximity of a development site to a watercourse. It is noted that this sketch is not a detailed design; however is based on the conservative principles of the construction of a conventional post and sleeper retaining structure.

The key element of this diagram is to seek clarification from the applicant in relation to the manner in which proximity of the development to a watercourse is ultimately to be addressed as part of the application.

Specifically in relation to this development, the location of parking and critical manoeuvring areas within close proximity to the watercourse boundary of the allotment will require this level of consideration of retaining and the critical function provided by these areas in relation to the operation of the site. Potentially further complicating this consideration, there appears to be no current notation of site levels for the development, hence the extent of any proposed filling adjacent the creek boundary is currently unknown (Noting that much of this area is currently around 400mm lower than the street footpath level).

It is recommended that in association with any planning approval for this development that a Reserved Matter similar to the following is included;

- Prior to the lodgement for Full Development Approval, detailed engineering plans and calculations for the retaining of land adjacent to the watercourse are to be provide and considered acceptable to the reasonable satisfaction of the City of West Torrens's Manager City Assets.

- Stormwater Management

Stormwater Harvest and Reuse

It is believed that residential flat buildings of this nature are not required under the BCA to have compulsory stormwater harvest and re-use tanks in the same manner as is required for individual new dwellings.

Having said this it is highlighted that developments of this nature are perfectly aligned to implement a communal stormwater capture and re-use system which can operate at a very high efficiency of stormwater re-use. Such a system would have the dual benefit of also providing substantial contribution towards the stormwater detention and water quality improvement requirements of the development.

Stormwater harvest and re-use is strongly encouraged for this development.

Stormwater Detention

In relation to the detention of stormwater runoff from the development, Council would be seeking for the rate of discharge of stormwater from the development site be restricted to a maximum rate equivalent to that of a site with a 0.25 runoff coefficient for the site critical 20 year ARI storm event (ie effectively mimicking a site with a 25% impervious cover and 75% pervious cover). Sufficient engineering information to demonstrate the practicality of achieving this is required to be provided and assessed prior to the issuing of any development approval for the application.

In this regard, it is apparent that no information, concept or demonstration of stormwater detention has been provided within the development. There is notation of an underground rainwater storage nominated on the plans, however no size, information or description as to what this would achieve.

It is recommended that the applicant be requested to provide revised design and supporting information demonstrating measures to address the above.

Stormwater Quality

Council typically requests stormwater quality measures for these types of development to address the removal of stormwater pollutants from the stormwater flow exiting the site. The following table outlines current recommended practice for the targeted improvement of stormwater quality, as outlined in the State Government's Water Sensitive Urban Design Policy - 2013.

The targets being;

Parameter	***Target***
Reduction Litter/Gross Pollutant	90%
Reduction in Average Annual Total Suspended Solids (TSS)	80% *1

Parameter	*Target*
Reduction in Average Annual Total Phosphorous (TP)	60% *1
Reduction in Average Annual Total Nitrogen (TN)	45% *1

*1 - Reduction as compared to an equivalent catchment with no water quality management controls.

Although these measures are often addressed through the installation of proprietary devices, Council encourages the use of Water Sensitive Urban Design measures to improve the quality of site discharge flows which may also provide other added benefits to the development, such as permeable pavers or raingardens.

It is recommended that the applicant be requested to provide revised design and supporting information demonstrating measure to address the above.

Stormwater Discharge Point

Although the development is located adjacent to a water course, Council would require for the stormwater discharge point to be directed to the adjacent street kerb and water table.

It is recommended that the applicant provide revised design information indicating stormwater discharge from the site being directed to Anzac Highway.

Finished Floor Level (FFL) Consideration

Council would typically require the ground floor FFL of new development to be suitably elevated in relation to the adjacent street levels.

Although an underlying detailed site survey has been provided for the site, no apparent nomination of FFLs for the development have been provided.

In relation to this specific development, there are no critical building elements on the ground floor area which would require protection, hence the provision of FFL for this development is less critical.

It is noted that Council would not support alteration of the public footpath level to accommodate pedestrian and driveway connections to the street and that works within the site should be designed to match these existing adjacent features.

- Road Verge Interface

Driveway Crossing Place

It is noted that the proposed driveway crossing place is effectively in the same location as was considered acceptable for a previous development proposal for the site.

The driveway appears to have an offset of approximately 2.5m from an existing street tree, which is supported by Council's Horticultural staff.

The crossing place has a minimum 6.0m width which satisfies standard Council and CPTI expectations for an arterial road connection. To preserve the desired offset to the street tree, it is recommended that the driveway design is only flared between the tree alignment and the road edge, using the DPTI standard 70 degree shaping.

It is recommended that the applicant provide revised designs demonstrating the improved driveway connection to the street.

Stormwater Connection

No stormwater connection information has been provided in relation to this development.

Given the critical desire for the stormwater to be connected to the street and the offsetting of the stormwater from the existing street trees by 2.5m, and the standard offset of the connection from the driveway by a desired 1.0m, it is desirable that this detail also be nominated on revised plans.

- Redundant Crossing Place

  Council would require for the existing crossing place to the site, to be made redundant by the proposed development to be reinstated as part of the proposed works.

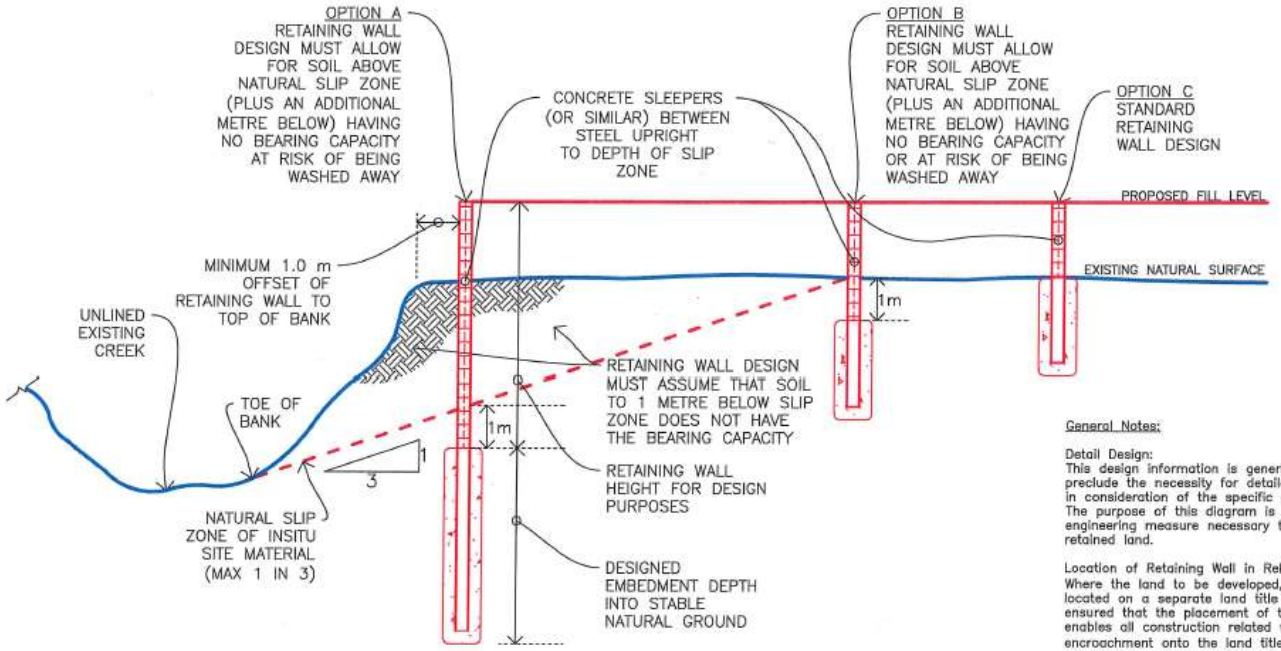
  No apparent nomination of this is included with the provided documentation.

  It is recommended that the applicant should be requested to provide revised designs nominating reinstatement of the redundant crossing place to the development site.

Please contact the undersigned on 8416 6209 if further information regarding this advice is required.

Yours faithfully

Jordan Leverington
Senior Development Officer - Planning
City Development



General Notes:

Detail Design:
This design information is generic in nature and does not preclude the necessity for detailed design of retaining structures in consideration of the specific conditions of each installation. The purpose of this diagram is to demonstrate the scale of engineering measure necessary to secure stable and usable retained land.

Location of Retaining Wall in Relation to Property Boundary:
Where the land to be developed, filled and/or stabilised is located on a separate land title from the creek, it must be ensured that the placement of the retaining wall structure enables all construction related works to be undertaken without encroachment onto the land title containing the creek (This is a minimum requirement, greater offset from creek may be required in complying with this diagram).

Type of Retaining Structure:
This arrangement demonstrates the requirements for stabilising land and protecting existing watercourses utilising a basic retaining wall concept. Other forms of creek bank stabilisation may be appropriate for utilisation and may reduce the offset between the creek and structure. Detailed engineering design of such structures would be required to demonstrate usable stable land for Development Application purposes.

City of West Torrens

BASIC RETAINING WALL LOCATION AND OFFSET TO UNLINED CREEK

DRAWING 'NOT TO SCALE'

8 JUNE 2016 – DWG 1516.003

APPLICATION ON NOTIFICATION – 81 Anzac Highway, Ashford

Applicant:	AWWAD Super Fund Pty Ltd
Development Number:	211/M029/18
Nature of Development:	Construction of a 5 level residential flat building comprising; ancillary car parking, landscaping, associated building work and removal of a significant tree
Development Type:	Merit
Subject Land:	81 Anzac Highway, Ashford
Development Plan:	West Torrens Development Plan [Consolidated 12 July 2018]
Zone / Policy Area:	Urban Corridor Zone, Boulevard Policy Area 34
Contact Officer:	Karl Woehle
Phone Number:	7109 7169
Consultation Start Date:	18 March 2019
Consultation Close Date:	29 March 2019
During the notification period, hard copies of the application documentation can be viewed at the Department of Planning, Transport and Infrastructure, Level 5, 50 Flinders St, Adelaide, during normal business hours. Application documentation may also be viewed during normal business hours at the local Council office (if identified on the public notice).	

Written representations must be received by the close date (indicated above) and can either be posted, hand-delivered or emailed to the State Commission Assessment Panel.

Any representations received after the close date will not be considered.

Postal Address:
The Secretary
State Commission Assessment Panel
GPO Box 1815
ADELAIDE SA 5001

Street Address:
Development Division
Department of Planning, Transport and Infrastructure
Level 5, 50 Flinders Street
ADELAIDE

Email Address: scapreps@sa.gov.au
Fax Number: (08) 8303 0753

South Australian
DEVELOPMENT ACT, 1993
REPRESENTATION ON APPLICATION – CATEGORY 2

Applicant:	AWWAD Super Fund Pty Ltd
Development Number:	211/M029/18
Nature of Development:	Construction of a 5 level residential flat building comprising; ancillary car parking, landscaping, associated building work and removal of a significant tree
Development Type:	Merit
Zone / Policy Area:	Urban Corridor Zone, Boulevard Policy Area 34
Subject Land:	81 Anzac Highway, Ashford
Contact Officer:	Karl Woehle
Phone Number:	7109 7169
Close Date:	29 March 2019

My Name: JOHN M HOOPER My phone number: 0417810138

Primary method(s) of contact: **Email:** jrhooper@bigpond.com

Postal Address: 83 ANZAC HIGHWAY ASHFORD **Postcode:** 5035

You may be contacted via your nominated PRIMARY METHOD(s) OF CONTACT if you indicate below that you wish to be heard by the State Commission Assessment Panel in support of your submission.

My interests are: *(please tick one)*

- ☑ owner of local property
- ☐ occupier of local property
- ☐ a representative of a company/other organisation affected by the proposal
- ☐ a private citizen

The address of the property affected is:

83 ANZAC HIGHWAY, ASHFORD **Postcode** 5035

My interests are: *(please tick one)*

- ☐ I support the development
- ☐ I support the development with some concerns
- ☑ I oppose the development

The specific aspects of the application to which I make comment on are: AS ATTACHED

I: *(please tick one)*

- ☑ wish to be heard in support of my submission
- ☐ do not wish to be heard in support of my submission *(Please tick one)*

By: *(please tick one)*

- ☑ appearing personally
- ☐ being represented by the following person *(Please tick one)*

Signature: J. M. Hooper

Date: 21-03-19

Return Address: The Secretary, State Commission Assessment Panel, GPO Box 1815, Adelaide, SA 5001 /or
Email: scapreps@sa.gov.au

J M & R E Hooper

83 Anzac Highway,

Ashford,

5035.

27/03/2019

State Commission Assessment Panel,

GPO Box 1815,

Adelaide SA, 5001

Attention Mr Karl Woehle

Dear Karl,

Development Application 211/M029/18

Further to our recent phone conversation I am providing a little background information and expressing a number of concerns with this proposed development.

I have also sought an opinion from one of my sons who has some expertise in this area; his report is attached.

As background I advise that my family has owned and lived on this site (83 Anzac Highway) for well over eighty years I have lived here for seventy-five of those years, my now adult sons were born and raised here, I now have grandsons come to visit here.

To the specific concerns;

1 Height;-

I note that this application is for a five story building, in spite of the fact that the zoning for developments in this specific area of Anzac Highway calls for a maximum of three stories, the purpose of this is to provide a transition between the Urban Corridor Zone and the Ashford Character Policy Area 22 and also takes into account the proximity to the heritage listed former home of one of the early settlers Dr Everard, known as “Ashford House”. A building of the magnitude proposed would stick out like a sore thumb in contrast to the surrounding residential properties.

This regulation is noted in the development application and largely dismissed as being of no consequence; this would be much like me driving my car in a 60kph zone and saying, ‘ I don’t like that regulation, there is not much traffic around, I am going to drive at 90kph.’

2 Privacy;-

There appear to be windows on the western side of the building with no mention as to whether these open or are frosted, there are also balconies and windows on the northern side. If these apertures are not suitably frosted and the balconies screened, this will result in complete destruction of the privacy that we have enjoyed as a family for the last eighty plus years.

3 Overshadowing ;-

This development will result in significant overshadowing of our property resulting in the need for greater use of artificial lighting internally, we have windows on our eastern walls which provide natural lighting.

In addition to this we have a 5kw PV Solar system installed on the roof which currently gives an output of 29 – 31 KWH per day, given the **actual, not theoretical** shadowing which I have observed at hourly intervals on the 17th of March, (Nowhere near the winter solstice) from a similar development at 99 Anzac Highway; photographs attached; I expect that this output will be significantly compromised, we also have solar hot water panels which will be affected to some degree.

4 Noise pollution;-

I note that the air conditioning plant is shown as being on the north western corner of the upper story not far from our living areas, if it were to be relocated to the eastern side, any noise nuisance to the neighbours on the eastern side should be screened out by the trees growing along the Brownhill Creek.

5 Car parking ;-

I note that there are only 14 car parks shown, in reality; this would end up being 13 since it is my understanding that one must be designated as a disabled park.

The Development Plan calls for 1.25 parks per dwelling, one per dwelling plus .25 visitor space; this proposal acknowledges this but wants to disregard it!

I note that the West Torrens Development Plan, table WeTo/6 for such developments calls for 2.25 parks per dwelling!!

Parking on Anzac Highway is not a practical solution, it is a “Clearway” for a significant part of the day; the side streets are too far away and for the most part already full.

6 A question for you all to ponder;-

In 100 years from now, how do you wish to be remembered?

As the Christopher Wrens’ of Adelaide? Or as the architects of a disaster, by allowing what was formerly known as ‘The Bay Road’ and renamed in 1923 to ‘Anzac Highway’ as a permanent memorial to the Anzacs, to become an absolute mess, similar to that which is rapidly evolving on Churchill Road. I fear that this has already started!

Kind regards,

John M Hooper.

Height of the Building

Query why 'there was not fundamental concern expressed in relation to building height' in the Pre Lodgement Assessment Process when this proposal clearly exceeds the 3 storey limitation set out in the Development Plan. Surely they are obligated to highlight this as an issue and advise against it – not support it.. The consultants questioning of the rationale for this limitation is not grounds for it to be ignored. This DP was presumably carefully considered at the time of implementation with sound reasoning for the 3 storey limit.

Further question why the South Australian Government Architect, Ms Mackay, as part of an ODASA review would similarly support a proposal that does not align with the Development Plan. Also unsure why such advice would be confidential.

Whilst noting the precedent at 99 Anzac Highway – which is questionable given the Development Plan – none of the other examples are in the vicinity. I expect these do not have the same height limitation. 99 Anzac Highway is also on a corner block so does not overlook a property to its immediate west and has its vehicle access on the side street (Waltham Street).

Shade diagrams shows significant shading during winter – when you want access to the sun to warm the house.

This building of this height will severely impact the enjoyment of your property, limit light and access to open sky, inhibit the operation of the solar panel system of the roof and eliminate any privacy you should reasonably expect to have in your own property. Plus as noted it categorically contradicts the DP.

Parking

14 parks for 14 dwellings – noting that one of the parks is allocated as a Disabled Park. No allowance has been made for visitors parking despite the requirement of 0.25 parks per dwelling. The suggestion that ample street parking is available does not take into account how busy this arterial road is nor the Clearways that operate in the mornings. The nearest side streets are 100m to the West and 105m to the east. Suggesting visitors park on the opposite side of the road will promote crossing this busy 6 lane road at a bend – not a safe movement. Again the report implies OSADA gave advice contravening the Development Plan for the location..

The traffic report suggests the proposal will only generate 10 trips in peak hours. This seems low - the development proposes 14 dwellings for a start – it would be reasonable to expect at least a quarter of these to own more than one vehicle, ignoring any visitors.

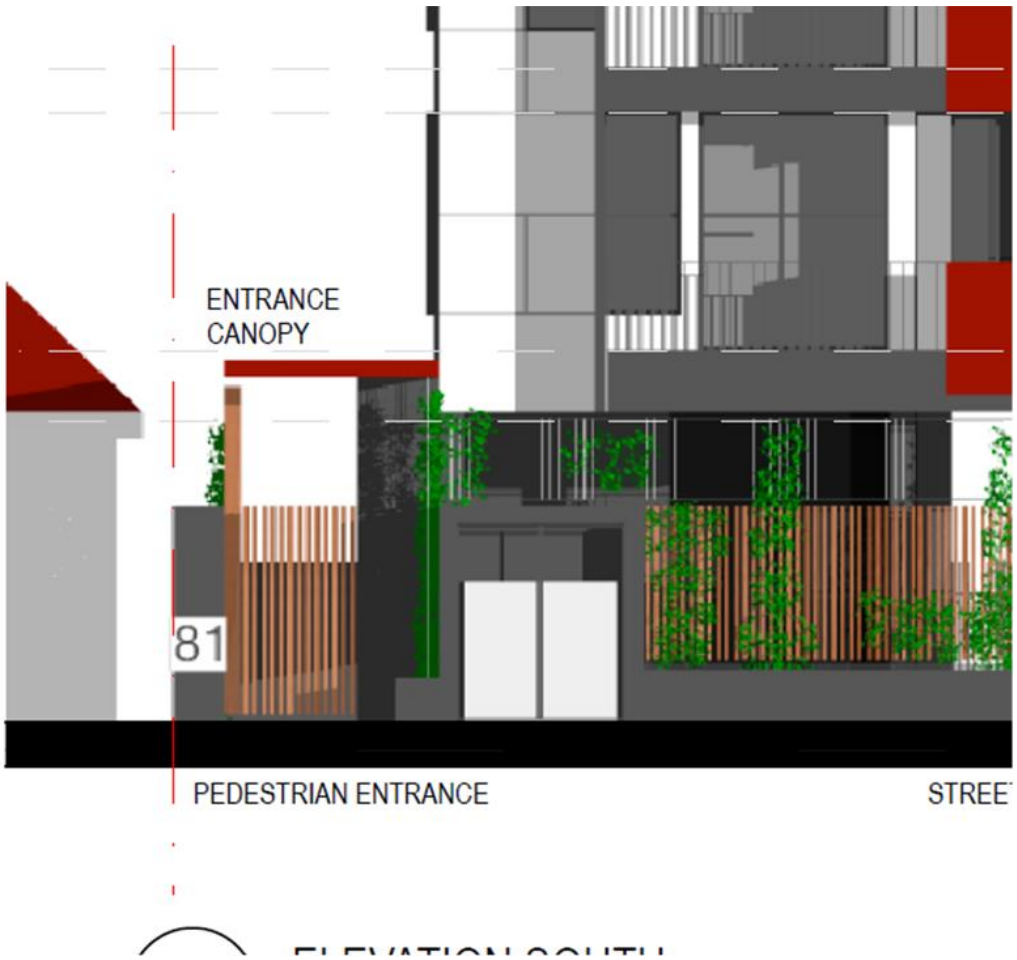
Question how the disabled park gets allocated in the land division of the property? Or how it gets allocated to a specific lot in the first place? Would seem it's bad luck if an actual disabled person actually needs that park.

Screening and fencing

The entrance way on the western side will create a major screening issue when exiting your property (No. 83). Further this alcove provides a worrying hiding spot – a strong safety concern.

The screening along Anzac Highway realistically means there is no set back at all - once screening plants grow.

Western side fence is described as 2.1m with grow screen. What does this mean? Does this mean a 2.1m high fence (already very high) with the potential to grow planting even higher? This would severely impact your access to light and enjoyment of the property. (see pic below)



Set back

Whilst the main building is set back 3.0m with the addition of balconies this is reduced to just 80cm. This again contravenes the Development Plan.

Question whether the covered entrance on the western side is essentially part of the building and therefore no side set back actually exists.

General

This proposal appears to disregard significant elements of the Development Plan for it's own ends. In particular the lack of visitor parking, effective 80cm front set back instead of the prescribed 3m and most significantly the proposed five storeys instead of the specified three. The reasoning for this is flimsy at best and effectively comes down to "why should we?". The report's conclusion that the proposal 'generally accords with the relevant provision' and have 'no serious planning impacts' is disingenuous at best. For someone living next door to the proposal the negative impacts will be significant.

The Development Plan, and all of its provisions, is in place to restrict exactly this sort of proposal.

17/3. 0901

17/3. 0902.

17/3. 10.04.

17/3 10.04.

17/5. 10.54

17/5 12.00.

South Australian
DEVELOPMENT ACT, 1993
REPRESENTATION ON APPLICATION – CATEGORY 2

Applicant:	AWWAD Super Fund Pty Ltd
Development Number:	211/M029/18
Nature of Development:	Construction of a 5 level residential flat building comprising; ancillary car parking, landscaping, associated building work and removal of a significant tree
Development Type:	Merit
Zone / Policy Area:	Urban Corridor Zone, Boulevard Policy Area 34
Subject Land:	81 Anzac Highway, Ashford
Contact Officer:	Karl Woehle
Phone Number:	7109 7169
Close Date:	29 March 2019

My Name: John Stuart Hardy My phone number: 82976562

Primary method(s) of contact: **Email:** jhardy958@hotmail.com

Postal Address: 79 Anzac Highway Ashford **Postcode:** 5035

You may be contacted via your nominated PRIMARY METHOD(s) OF CONTACT if you indicate below that you wish to be heard by the State Commission Assessment Panel in support of your submission.

My interests are: *(please tick one)*

- [x] owner of local property
- [ ] occupier of local property
- [ ] a representative of a company/other organisation affected by the proposal
- [ ] a private citizen

The address of the property affected is:

79 Anzac Highway Ashford **Postcode** 5035

My interests are: *(please tick one)*

- [ ] I support the development
- [ ] I support the development with some concerns
- [x] I oppose the development

The specific aspects of the application to which I make comment on are: Living next door to the development, a 5 storey building overlooking our property would significantly reduce our privacy and home value. We would accept a development of no more than 3 storeys similar to the new development on the other side of Anzac Highway

I: *(please tick one)*

- [x] wish to be heard in support of my submission
- [ ] do not wish to be heard in support of my submission *(Please tick one)*

By: *(please tick one)*

- [x] appearing personally
- [ ] being represented by the following person *(Please tick one)*

Signature: J. S. Hardy

Date: 24/3/2019

Return Address: The Secretary, State Commission Assessment Panel, GPO Box 1815, Adelaide, SA 5001 /or
Email: scapreps@sa.gov.au

South Australian
DEVELOPMENT ACT, 1993
REPRESENTATION ON APPLICATION – CATEGORY 2

Applicant:	AWWAD Super Fund Pty Ltd
Development Number:	211/M029/18
Nature of Development:	Construction of a 5 level residential flat building comprising; ancillary car parking, landscaping, associated building work and removal of a significant tree
Development Type:	Merit
Zone / Policy Area:	Urban Corridor Zone, Boulevard Policy Area 34
Subject Land:	81 Anzac Highway, Ashford
Contact Officer:	Karl Woehle
Phone Number:	7109 7169
Close Date:	29 March 2019

My Name: City of West Torrens c/o Hannah Bateman My phone number: 84166321

Primary method(s) of contact: **Email:** hbateman@wtcc.sa.gov.au

Postal Address: 165 Sir Donald Bradman Dr Hilton SA **Postcode:** 5033

You may be contacted via your nominated PRIMARY METHOD(s) OF CONTACT if you indicate below that you wish to be heard by the State Commission Assessment Panel in support of your submission.

My interests are: *(please tick one)*

- ☐ owner of local property
- ☐ occupier of local property
- ☑ a representative of a company/other organisation affected by the proposal
- ☐ a private citizen

The address of the property affected is: _____ **Postcode** _____

My interests are: *(please tick one)*

- ☐ I support the development
- ☐ I support the development with some concerns
- ☑ I oppose the development

The specific aspects of the application to which I make comment on are: See attached

I: *(please tick one)*

- ☐ wish to be heard in support of my submission
- ☑ do not wish to be heard in support of my submission *(Please tick one)*

By: *(please tick one)*

- ☐ appearing personally
- ☐ being represented by the following person *(Please tick one)*

Signature: _____

Date: 22/3/19

Return Address: The Secretary, State Commission Assessment Panel, GPO Box 1815, Adelaide, SA 5001 /or
Email: scapreps@sa.gov.au

Civic Centre
165 Sir Donald Bradman Drive
Hilton, SA 5033
Tel: 08 8416 6333
Email: development@wtcc.sa.gov.au
Web: westtorrens.sa.gov.au

City of **West Torrens**
Between the **City and the Sea**

22 March 2019

State Commission Assessment Panel
GPO Box 1815
ADELAIDE SA 5001

Attention - Karl Woehle
By email - Karl.Woehle@sa.gov.au

Dear Karl,

DEVELOPMENT APPLICATION:	211/1298/2018
APPLICANT:	AWWAD INVESTMENTS PTY LTD
SUBJECT LAND:	81 Anzac Highway, ASHFORD SA 5035
PROPOSAL:	SCAP - Sch 10 - SCAP No.211/M029/18 - Five- storey residential flat building comprising fourteen (14) dwellings, car parking, fencing and landscaping

Council acknowledges receipt of the Category 2 public notification for the above mentioned development. Pursuant to Regulation 35 of the Development Regulations 2008 and Section 38 of the Development Act 1993, Council wishes to provide the following feedback and comments on the proposed development described above:

- Building height

  The subject site is located within a specific area that the Urban Corridor Zone, Policy Area 34 has called for a maximum of 3 storeys or 12.5m in height. This is significantly lower than the 8 storey, 32.5m maximum supported for the rest of the Policy Area. The area designated for 3 storey development is very specific and only applies to 18 properties located on the northern side of Anzac Highway between South Road and Syme Street.

  There is one other example of a 5 storey building, which is also located in the defined area and currently being constructed at 99 Anzac Highway. The other examples highlighted in the applicant's planning report are not within this defined area and are subject to different height provisions.

  Although reasoning for this height limit is not expressly described within the Zone or Policy Area, it is in place so as to provide a transition in built form between the Urban Corridor Zone and the Residential Zone, Ashford Character Policy Area 22. In the Ashford Character Policy Area the maximum supported building height is two storeys with strong emphasis on the second storey being located within the roof space.

The subject site is located 75m from the edge of the Ashford Character Policy Area which means that a 5 storey building will be conspicuous and draw a stark contrast between it and the lower scale and lower density development.

In addition to the sites proximity to the Ashford Character Policy Area, it is also adjacent the locally heritage listed Ashford House school, fence and two Jackson Figs. The single storey residence was built in 1882 and has been listed for the following reasons:

(a) It displays historical, economic or social themes that are of importance to the local area; and
(c) it has played an important part in the lives of local residents; and
(d) it displays aesthetic merit, design characteristics or construction techniques of significance to the local area; and
(e) it is associated with a notable local personality or event; and
(f) it is a notable landmark in the area.

It is considered that the maximum three storey building height outlined in the Development Plan takes these factors into consideration and is why it does not support up to 8 storeys as in other parts of the Policy Area.

- Dwelling mix

The Development Plan calls for proposals with more than 10 dwellings to have a mix in the number of bedrooms provided. The proposed development does not satisfy this provision as it is seeking to have exclusively 2 bedroom dwellings. As the proposed development is exceeding the maximum 3 storey height limit and is able to accommodate more dwellings, it is reasonable to expect that a mix of dwelling types is included to provide housing choice.

- Ground floor ceiling height

The Development Plan calls for the ground floor of buildings to have a floor to ceiling height of 4.5m to allow for adaptable reuse without the need for significant change to the building. The proposal does not satisfy this provision as it has a floor to ceiling height of only 3.4m. This significantly limits the adaptable reuse of the building and is another aspect which is not consistent with the relevant Development Plan provisions.

- Crime Prevention Through Environmental Design

The recessed pedestrian entry point and heavily screened front fence are considered to create pedestrian entrapment spots and movement predictors. The lack of visual permeability is of concern not only for safety, but also as it will create a segregated community.

It is acknowledged that screening is important to screen the car parking area at ground level, however the 2.4m high screening fence creates a considerable barrier and is considered to detrimentally impact upon the human scale of the project.

A more visually permeable ground floor interface between the public and private realm is strongly encouraged.

- Local heritage listed Ash tree pruning

  Council's arborist has considered the pruning of the Local Heritage listed Ash tree on the verge as acceptable as long as the work is undertaken by Council. Should the application gain a planning consent, please include a note outlining that all pruning of the street trees must be undertaken by Council only.

- Traffic and parking

  The proposal seeks to construct a five level residential flat building with ground level car parking on the subject site. The building comprises of 14 two-bedroom dwellings. The ground level car park would provide 14 parking spaces on-site, with all visitor parking to occur external to the site.

  Parking Assessment

  The Development Plan requires a parking provision of 1 resident space per two-bedroom dwelling and 0.25 visitor space per dwelling. Overall, the proposal would require 14 resident spaces and 4 visitor spaces (rounded up).

  It is noted that the CIRQA traffic report refers to an initial proposal for the site where 3 visitor parking spaces were proposed but were apparently requested to be removed by the Office for Design and Architecture SA. The reasons given were to maximise amenity and landscaping on the site. Council disagrees with this proposition, as discussed below.

  FIGURE 1 of the CIRQA traffic report shows the turn path diagram for the 7.4m long refuse truck that would service the site. From the turn path provided, it would appear that there is opportunity to provide 1 parallel parking space immediately adjacent to the refuse area within the 'parking bay' of the driveway and clear of the turn path requirement of the refuse truck. This parallel space should be designated for visitor parking.

  In addition, it is recommended that the rear row of 5 spaces be expanded to 6 spaces, which would necessitate a redesign of the column grid. The addition of 1 space to this row of car parking would, by my estimation, only add approximately 20m2 paved area to the overall car park (of approximately 550m² paved area). The gain of a e visitor parking space would, be possible with minimal impact on amenity and landscaping, as only 20m² of additional paved area would result.

  It is recommended that the above 2 visitor parking spaces be provided on-site in the manner described. This would assist in reducing the reliance on parking in Anzac Highway, which is a major arterial road.

  The Development Plan also requires bicycle parking to be provided at a rate of 1 space for every 4 dwellings for residents and 1 space for every 10 dwellings for visitors, or equivalent to 4 bicycle spaces for residents and 2 spaces for visitors.

It is noted that 4 visitor bicycle spaces would be provided underneath the stair area, adjacent to the pedestrian entry corridor. However, there is no discussion as to how the resident bicycle parking requirement is to be accommodated. There are also unused areas between the end space 14 and the southern boundary that could be utilised for resident bicycle parking. Clarification should be provided by the Applicant regarding the resident bicycle parking provision.

Parking Layout

The aisleway leading to the rear row of parking spaces has a layout that appears to be a 'parking bay' on the northern side. The single lane width (4.5m) proposed on the approach to the end row of parking spaces would be acceptable, given the low traffic movements expected. While it appears visually that a parallel parking bay is provided on the northern boundary, its main purpose is to provide access to the rear parking row and to allow refuse trucks to manoeuvre. In this regard, except for the visitor parking space recommended immediately adjacent to the refuse area, the rest of the 'parking bay' should have yellow line marking to prohibit parking, otherwise access to the rear parking row and for the refuse truck would be affected by parking. It is therefore recommended that a yellow line be marked to clearly prohibit parking at this location.

The parking row that faces Anzac Highway has a double column grid within the space length. The two end columns do not match up with the alignment of the two intermediate columns. The proposed location of the two end columns would not meet the door opening requirements in FIGURE 5.2 AS/NZS 2890.1-2004. That is, these columns would obstruct the opening of the front door of the vehicle. The end columns should be adjusted accordingly.

The rear parking row has the columns located approximately 400mm from the start of the space. This would not comply with FIGURE 5.1 of AS/NZS 2890.1-2004, which requires a minimum offset distance of 750mm. The columns should be adjusted accordingly to allow entry into the space to occur.

Refuse vehicle

It is noted that a smaller than normal refuse truck is proposed for this development. The nominated 7.4m long truck is necessary to allow the appropriate vehicle manoeuvres within the site.

It is Council's understanding that there are not many of these vehicles available and the ones that do exist are in high demand. SCAP should be satisfied that such a vehicle is readily available from private contractors to enable refuse collection to occur.

If SCAP were of a mind to consent to this proposal, a condition to restrict access to the vehicle type nominated for the refuse collection should be included.

- Waste management

The applicant has provided a waste management plan for the development prepared by Colby Industries.

The plan proposes the utilisation of a 'Hybrid' waste servicing arrangement where General Waste is collected from within the development site by private contractor engaged and managed by some manner of body corporate for the building, where Recycling and Food Organics are collected by the Council service provision with shared bins presented to the street. This arrangement is considered a reasonable having regard to the nature and scale of the development.

The location and scale of the proposed communal waste storage would appear to have the flexibility of accommodating the desired number of bins to service the site and manner of collection.

It is noted that the plan has also been based on any landscape maintenance generated waste being dealt with separately from the above described waste management practices.

It is noted that no apparent communal storage allowance has been made for other types of waste typically generated from residential developments of this nature, ie Hard Waste and Unique Disposal Wastes (Batteries, Hazardous, Lighting, Cartridges etc). It is always considered good practice to provide some allowance for such items.

- Development adjacent to a watercourse

Offset from Adjacent Creek

Council typically seeks that all structures associated with new development should be located a minimum of 10.0m from the centreline of an adjacent major physical creek or watercourse.

The purpose of such a measure is to protect the structure from major erosion during higher flow events in major urban waterways, such as Brown Hill Creek.

An engineering survey has been provided for the site with some spot levels located within the adjacent Brown Hill Creek corridor of land. However the survey fails to pick up or identify any of the existing shape features of the watercourse, hence it is not possible to make any accurate determination of the offset of the proposed development from the creek.

The provided plans indicate a 'nominal' offset from the adjacent creek however there is no apparent information or justification within the development documentation in relation to how this was determined. It is also noted that a potential building column is location within this offset.

It is noted that any cantilevered building elements encroach within the 10m offset zone.

It appears that the proposal has elements several metres within the desired building offset.

It is recommended that updated survey information be requested to clearly delineate the location of features of the adjacent watercourse. Consideration should then be given to the provision of a 10m offset of any structural element of the building from the centreline of the watercourse.

Retaining within proximity of watercourse

Further to addressing the above, retaining of land may still be desired within proximity of the watercourse, but above the bank level of the watercourse.

Existing soil and ground conditions within proximity of watercourse are often less stable than that in a typical allotment. Land within proximity of watercourses can be subject to erosion either through progressive long term movement or as a result of a single major storm event causing large scale erosion or collapse of banks. Based on these considerations it must be ensured that land proposed to be utilised or relied upon in association with new development is suitably retained in relation to the proximity of this land to the watercourse.

Attachment 1.0 provided with this submission illustrates the scale of retaining structures likely to be required in relation to the proposed proximity of a development site to a watercourse. It is noted that this sketch is not a detailed design; however is based on the conservative principles of the construction of a conventional post and sleeper retaining structure.

The key element of this diagram is to seek clarification from the applicant in relation to the manner in which proximity of the development to a watercourse is ultimately to be addressed as part of the application.

Specifically in relation to this development, the location of parking and critical manoeuvring areas within close proximity to the watercourse boundary of the allotment will require this level of consideration of retaining and the critical function provided by these areas in relation to the operation of the site. Potentially further complicating this consideration, there appears to be no current notation of site levels for the development, hence the extent of any proposed filling adjacent the creek boundary is currently unknown (Noting that much of this area is currently around 400mm lower than the street footpath level).

It is recommended that in association with any planning approval for this development that a Reserved Matter similar to the following is included;

- Prior to the lodgement for Full Development Approval, detailed engineering plans and calculations for the retaining of land adjacent to the watercourse are to be provide and considered acceptable to the reasonable satisfaction of the City of West Torrens's Manager City Assets.

- Stormwater Management

Stormwater Harvest and Reuse

It is believed that residential flat buildings of this nature are not required under the BCA to have compulsory stormwater harvest and re-use tanks in the same manner as is required for individual new dwellings.

Having said this it is highlighted that developments of this nature are perfectly aligned to implement a communal stormwater capture and re-use system which can operate at a very high efficiency of stormwater re-use. Such a system would have the dual benefit of also providing substantial contribution towards the stormwater detention and water quality improvement requirements of the development.

Stormwater harvest and re-use is strongly encouraged for this development.

Stormwater Detention

In relation to the detention of stormwater runoff from the development, Council would be seeking for the rate of discharge of stormwater from the development site be restricted to a maximum rate equivalent to that of a site with a 0.25 runoff coefficient for the site critical 20 year ARI storm event (ie effectively mimicking a site with a 25% impervious cover and 75% pervious cover). Sufficient engineering information to demonstrate the practicality of achieving this is required to be provided and assessed prior to the issuing of any development approval for the application.

In this regard, it is apparent that no information, concept or demonstration of stormwater detention has been provided within the development. There is notation of an underground rainwater storage nominated on the plans, however no size, information or description as to what this would achieve.

It is recommended that the applicant be requested to provide revised design and supporting information demonstrating measures to address the above.

Stormwater Quality

Council typically requests stormwater quality measures for these types of development to address the removal of stormwater pollutants from the stormwater flow exiting the site. The following table outlines current recommended practice for the targeted improvement of stormwater quality, as outlined in the State Government's Water Sensitive Urban Design Policy - 2013.

The targets being;

Parameter	***Target***
Reduction Litter/Gross Pollutant	90%
Reduction in Average Annual Total Suspended Solids (TSS)	80% *1

Parameter	*Target*
Reduction in Average Annual Total Phosphorous (TP)	60% *1
Reduction in Average Annual Total Nitrogen (TN)	45% *1

*1 - Reduction as compared to an equivalent catchment with no water quality management controls.

Although these measures are often addressed through the installation of proprietary devices, Council encourages the use of Water Sensitive Urban Design measures to improve the quality of site discharge flows which may also provide other added benefits to the development, such as permeable pavers or raingardens.

It is recommended that the applicant be requested to provide revised design and supporting information demonstrating measure to address the above.

Stormwater Discharge Point

Although the development is located adjacent to a water course, Council would require for the stormwater discharge point to be directed to the adjacent street kerb and water table.

It is recommended that the applicant provide revised design information indicating stormwater discharge from the site being directed to Anzac Highway.

Finished Floor Level (FFL) Consideration

Council would typically require the ground floor FFL of new development to be suitably elevated in relation to the adjacent street levels.

Although an underlying detailed site survey has been provided for the site, no apparent nomination of FFLs for the development have been provided.

In relation to this specific development, there are no critical building elements on the ground floor area which would require protection, hence the provision of FFL for this development is less critical.

It is noted that Council would not support alteration of the public footpath level to accommodate pedestrian and driveway connections to the street and that works within the site should be designed to match these existing adjacent features.

- Road Verge Interface

Driveway Crossing Place

It is noted that the proposed driveway crossing place is effectively in the same location as was considered acceptable for a previous development proposal for the site.

The driveway appears to have an offset of approximately 2.5m from an existing street tree, which is supported by Council's Horticultural staff.

The crossing place has a minimum 6.0m width which satisfies standard Council and CPTI expectations for an arterial road connection. To preserve the desired offset to the street tree, it is recommended that the driveway design is only flared between the tree alignment and the road edge, using the DPTI standard 70 degree shaping.

It is recommended that the applicant provide revised designs demonstrating the improved driveway connection to the street.

Stormwater Connection

No stormwater connection information has been provided in relation to this development.

Given the critical desire for the stormwater to be connected to the street and the offsetting of the stormwater from the existing street trees by 2.5m, and the standard offset of the connection from the driveway by a desired 1.0m, it is desirable that this detail also be nominated on revised plans.

- Redundant Crossing Place

  Council would require for the existing crossing place to the site, to be made redundant by the proposed development to be reinstated as part of the proposed works.

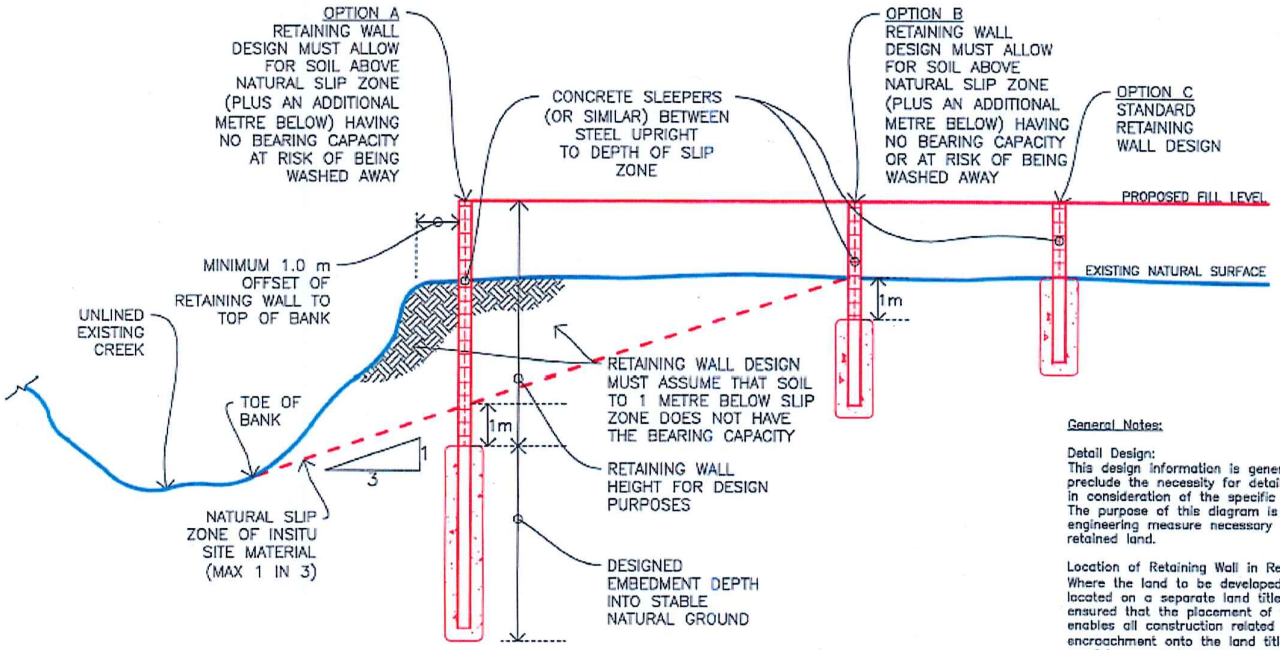
  No apparent nomination of this is included with the provided documentation.

  It is recommended that the applicant should be requested to provide revised designs nominating reinstatement of the redundant crossing place to the development site.

Please contact the undersigned on 8416 6209 if further information regarding this advice is required.

Yours faithfully

Hannah Bateman
Manager - City Development
City Development



General Notes:

Detail Design:
This design information is generic in nature and does not preclude the necessity for detailed design of retaining structures in consideration of the specific conditions of each installation. The purpose of this diagram is to demonstrate the scale of engineering measure necessary to secure stable and usable retained land.

Location of Retaining Wall in Relation to Property Boundary:
Where the land to be developed, filled and/or stabilised is located on a separate land title from the creek, it must be ensured that the placement of the retaining wall structure enables all construction related works to be undertaken without encroachment onto the land title containing the creek (This is a minimum requirement, greater offset from creek may be required in complying with this diagram).

Type of Retaining Structure:
This arrangement demonstrates the requirements for stabilising land and protecting existing watercourses utilising a basic retaining wall concept. Other forms of creek bank stabilisation may be appropriate for utilisation and may reduce the offset between the creek and structure. Detailed engineering design of such structures would be required to demonstrate usable stable land for Development Application purposes.

City of West Torrens

BASIC RETAINING WALL LOCATION AND OFFSET TO UNLINED CREEK

DRAWING 'NOT TO SCALE'

8 JUNE 2016 – DWG 1516.003

Ashford 1592 004

8 April 2019

Town Planning
Development Advice
Strategic Management

Mr Karl Woehle
Planning Officer – CBD & Inner Metro Team
Planning & Development
Department of Planning Transport & Infrastructure
GPO Box 1815
ADELAIDE SA 5001

Dear Karl,

DEVELOPMENT APPLICATION No. 211/M029/18

I understand that public consultation and statutory referral periods associated with this Development Application for a 5 level residential flat building at 81 Anzac Highway, Ashford have now concluded.

To assist in finalising your assessment of this development application and presentation to the State Commission Assessment Panel (the Panel) I provide the following for your consideration.

South Australian Government Architect

- acknowledges the departure from the envisaged maximum height for the area, supports is given to the proposed height on balance, as it is consistent with the envisaged character of the wider locality along Anzac Highway;

- while a more generous street set back is sought, there has been further work undertaken by the Applicant to provide for meaningful landscaping and enhancement of the pedestrian experience at ground level;

- the front set back of balcony projections have been reviewed and considered in context with the canopy of street trees in this location so as to ensure the long term health of these trees – minor pruning to be undertaken by council;

- support is given for the proposed ground floor car parking arrangement and screening solution, together with the ceiling height of 3.4 metres which is sufficient to allow for future adaptation;

- acknowledges the enhancement to the ground floor entrance for pedestrians so as to achieve a stronger sense of address and the provision of a communal garden to the rear so as to enhance the landscape setting of this site;

Phillip Brunning & Associates
ABN 40 118 903 021
26 Wakeham Street
Adelaide SA 5000
Telephone 08 8232 5686
Mobile 0407 019 748
phil@phillipbrunning.com

- support for the general composition of built form elements and the proposed facade materiality which comprises pre-finished cladding system as well as projecting window reveals which provide both articulation and solar control;

- apartment layouts are convincing in terms of size and functionality, support if given to the provision of integrated storage, along with natural light and ventilation to all habitable rooms;

- the outdoor condensing units plant enclosure at the fourth floor balcony will be provided with suitable acoustic treatment so as to meet the performance requirements of the EPA Noise Policy; and

- a sample board of high quality external materials and finishes will be provided for consideration at the Panel hearing, and may be conditioned in the usual manner on the Decision Notification Form.

Commissioner of Highways

- the Commissioner of Highways confirms no objection to this proposal subject to certain conditions being appended to the Decision Notification Form to which the Applicant has no objection;

- access arrangements are acceptable and will allow for simultaneous two way movement of passenger vehicles and access by waste collection vehicles (recommended use of 6.4 m small rigid vehicle outside of peak traffic times);

City of West Torrens

- as acknowledged by the Government Architect, the height of the proposed building is considered appropriate given its siting location and context having regard to surrounding development,;

- it would serve no practical planning purpose to reduce the height of the proposed building which will make a positive contribution to the streetscape character of Anzac Highway in this location;

- representatives of Council who participated in the pre-lodgement assessment process facilitated by the Department expressed no concern in relation to the height of the proposed building and its relationship to surrounding development;

- to the extent that dwelling mix is an appropriate town planning consideration, the Applicant respectfully asserts that the proposed arrangement of 2 bedroom dwellings responds to the specific preference of an indentified market segment;

- ceiling heights at ground level have been considered by the Government Architect (as outlined above). The provision of greater height clearance at ground level may not only detract from the design, but exacerbate height considerations;

- the proposal display admirable qualities and attributes in relation to Crime Prevention Through Environment Design including passive surveillance of ground level space around buildings from upper level windows and balconies;

- as noted above, minor pruning of the Ash trees within the adjacent Council road reserve will be undertaken (by Council) in order to achieve suitable clearance and ensure the ongoing health of these trees;

- expert advice has been provided by Mr Ben Wilson of CIRQA in relation to access and parking arrangements, together with the manner by which a waste collection vehicle may enter and leave the site safely and conveniently;

- adequate on site car parking is to be provided, as confirmed by Mr Wilson, acknowledging proximity of the site to the Adelaide CBD and nearby public transport opportunities (both bus and train);

- a conscious decision was made (as encouraged by the Government Architect) to rationalise on site car parking in favour of a communal garden area which would enhance the landscape amenity of the site and locality;

- adequate on site bike parking is to be provided as confirmed by Mr Wilson, and induces dedicated space at ground level and within apartments themselves with suitable lift access to facilitate such;

- the design and layout of parking and driveways on site suitably confirms to the relevant Australian Standards having regard to critical dimensions, proximity to structure and manoeuvring space;

- it would seem reasonable to deal with the reinstatement of the existing (soon to be redundant) driveway cross over to Anzac Highway via condition of approval on the Decision Notification Form;

- as confirmed by Magryn Engineering Consultants, sufficient set back is provided t Brown Hill Creek which is accommodated with a deep culvert, with adequate freeboard allowance to afford suitable flood protection in a major event;

- appropriate stormwater management (including detention, harvesting and reuse, quality and connection) is to be provided as part of the proposed development in line with the design provided by Magryn Engineering Consultants;

- Council expresses no objection to the manner in which waste is to be managed on site as document by Colby Industries. To the extent that may be necessary, the waste management plan may be referenced by condition of approval.

John Hooper, 83 Anzac Highway

- I reaffirm my opinion in relation to building height as expressed above;

- the scale and form of the proposed building would not in my view materially effect the setting or heritage value of the adjacent local heritage place ‘Ashford House’ with no expert advice to support a contrary view;

- Development Plan policy clearly provides for a more robust form of development in this locality such that the built form character will change over time as sites are progressively developed in a more intensive manner;

- the presence of a local heritage place should unreasonably retard or constrain the development of adjacent land so as to achieve the strategic planning target sand outcomes articulated by the Development Plan for this area;

- suitable measures have been adopted to ensure appropriate levels of privacy are maintained to adjoining residential properties (including that to the south) including the positioning and configuration of windows;

- to the extent that may be necessary, upper level windows within the western facade may be glazed with fixed obscure glass to height of 1.7 metres above finished floor level – this may be dealt with by condition;

- I refer to my response above in relation to car parking and access;

- a considered approach has been taken to landscaping and screening by both the project Architect, TECTVS and Landscape Architects, OXIGEN such that will enhance landscape setting while not prejudicing natural light to adjoining land;

- adjoining properties will continue to ensure suitable solar access during winter months in line with the objective measures set out within the Development Plan, i.e. Council wide PDC 11 and 12 under the heading 'Residential Development'.

- to the extent that that solar panels on the roof of the representors dwelling may be shadowed by the proposed building, such will be limited to a early to mid morning period during winter months;

- the proposed development is not expected to exceed the relevant noise performance criteria set out within he EPA Noise Policy, and in any event not higher than background noise experience on this arterial road corridor; and

- acknowledging that design quality is invariably subjective, I defer in this instance to the South Australian Government Architect, whom has provided qualified support to this development.

John Hardy, 79 Anzac Highway

- given the dense evergreen tree canopy within the Brownhill Creek reserve, the opportunity for direct line of sight from north facing upper level windows into the rear yard area of No.79 is significantly reduced;

- these windows relate to bedrooms which are typically occupied during the evening and present a far lesser potential for overlooking than a living area that has a primary aspect n this direction which this development does not;

- can I suggest that the threshold test for privacy is somewhat greater for development within the Urban Corridor Zone than in a conventional residential area given the inherent scale and arrangement of development envisaged;

- introducing solid screening to these windows is not thought necessary;

- it is also reasonable to expect that this site will also be redeveloped at some point in the future given the uplift afforded by the Development Plan and that a similar form of development may be envisaged on this site;

For these reasons and that previously expressed within my earlier report, I say that the proposal is an acceptable form of development that when assessed against the Development Plan as a whole, warrants consent.

Yours faithfully

PHILLIP BRUNNING & ASSOCIATES PTY LTD

PHILLIP BRUNNING RPIA
Registered Planner

Urban Corridor Zone

Refer to the *Map Reference Tables* for a list of the maps that relate to this zone.

OBJECTIVES

1 A mixed use zone accommodating a range of compatible non-residential and medium and high density residential land uses orientated towards a high frequency public transport corridor.

2 Integrated, mixed use, medium and high rise buildings with ground floor uses that create active and vibrant streets with residential development above.

3 A mix of land uses that enable people to work, shop and access a range of services close to home.

4 Adaptable and flexible building designs that can accommodate changes in land use and respond to changing economic and social conditions.

5 A built form that provides a transition down in scale and intensity at the zone boundary to maintain the amenity of residential properties located within adjoining zones.

6 A safe, comfortable and appealing street environment for pedestrians that is sheltered from weather extremes, is of a pedestrian scale and optimises views or any outlook onto spaces of interest.

7 Noise and air quality impacts mitigated through appropriate building design and orientation.

8 To identify and remediate contaminated land appropriate for its intended use.

9 Development that contributes to the desired character of the zone.

DESIRED CHARACTER

This zone will contain an innovative mix of medium density (45-70 dwellings per hectare) and high density (70-200 dwellings per hectare) residential development, together with community and employment land uses, along the Port Road, Anzac Highway, Richmond Road and Henley Beach Road corridors. The combination of land uses will vary within these corridors. Some locations will contain a genuine land use mix with ground floor shops, restaurants and offices, and upper level residential, while other areas will give primacy to residential development. Other parts of the zone will have a strong employment focus.

The function of main roads in the zone, particularly Port Road, Richmond Road and Anzac Highway, as major transport corridors will be protected by providing access to allotments from secondary road frontages and rear access ways as much as possible. Parking areas will be consolidated, shared (where possible) and screened from the street or public spaces. Allotments with car parking fronting Port Road, Anzac Highway, Richmond Road and Henley Beach Road will be redeveloped with built form closer to the road and reconfigured car parking areas.

As one of the key zones in the City of West Torrens where there will be transformation in built form, new buildings will be recognised for their design excellence. These buildings will establish an interesting pedestrian environment and human-scale at ground level through careful building articulation and fenestration, verandas, balconies, canopies and landscaping. In general, the greatest height, mass and intensity of development will be focussed at the main road frontage. Buildings of 3 or more storeys will be the predominant built form. It is for these reasons that dwellings other than detached dwellings will be the predominant form of residential development.

Overlooking, overshadowing and noise impacts will be moderated through careful design. Impacts on adjoining zones where development is lower in scale and intensity will be minimised through transition of building heights and setbacks, judicious design and location of windows and balconies, and the use of landscaping. The transition of building heights and setbacks, and judicious design is especially important adjacent Character Policy Areas, including those Character Policy Areas at Glandore and Ashford. The use of blank walls in these transitional areas, especially at the rear and side of allotments, will be avoided. Plant and service equipment will be enclosed and screened from view from the street and neighbouring allotments.

Where buildings are set back from main roads, landscaping will contribute to a pleasant pedestrian environment and provide an attractive transition between the public and private realm. Large scale development in the zone will facilitate the establishment of areas of communal and public open space, and create links with existing movement patterns and destinations in the zone. Front fencing in the zone will be kept low and/or visually permeable.

Some parts of the zone, including allotments in Thebarton and Keswick, are potentially contaminated because of previous and current industrial activities. In these circumstances, development is expected to occur on a precautionary basis if site contamination investigations identify potential site contamination, particularly where it involves sensitive uses such residential development.

The Thebarton brewery has potential to cause nuisance to future users and residents within this zone through noise and odour. To mitigate potential adverse impacts, residential development north of Smith Street that is likely to be sensitive to brewery operations should generally be avoided unless interface mitigation measures have been implemented (or will be implemented within an acceptable period) such that the anticipated impacts are within acceptable limits.

Noise and air amenity with the zone is not expected to be equivalent to that expected from living in a purely residential zone.

PRINCIPLES OF DEVELOPMENT CONTROL

Land Use

1 The following types of development, or combination thereof, are envisaged in the zone:

- affordable housing
- aged persons accommodation
- community centre
- consulting room
- dwelling
- educational establishment
- entertainment venue
- licensed premises
- office
- pre-school
- primary school
- residential flat building
- retirement village
- shop or group of shops
- supported accommodation
- tourist accommodation.

2 Development listed as non-complying is generally inappropriate.

3 Residential development on land within the zone north of Smith Street should be avoided unless interface measures for noise and odour have been implemented (or will be implemented within an acceptable period) at the source such that the anticipated impacts are within acceptable limits.

Form and Character

4 Development should be consistent with the desired character for the zone.

5 Residential development (other than residential development in mixed use buildings on allotments less than 5000 square metres), should achieve a minimum net residential allotment density in accordance with the following:

Policy Area	Minimum net residential site density
Boulevard Policy Area 34	100 dwellings per hectare net
High Street Policy Area 35	70 dwellings per hectare net
Transit Living Policy Area 36	45 dwellings per hectare net
Business Policy Area 37	No minimum

6 Vehicle parking should be located to the rear of development or not be visible from public land along the primary road frontage.

Design and Appearance

7 Buildings should maintain a pedestrian scale at street level, and should:

(a) include a clearly defined podium, or street wall with a parapet, and a maximum building height of 2 storeys from natural ground level

(b) have levels above the defined podium or street wall setback a minimum of 2 metres from that wall.

8 Buildings on allotments with a frontage greater than 10 metres should be well articulated through variations in forms, materials, openings and colours.

9 Buildings should be designed to:

(a) enable suitable sunlight access to public open space

(b) overlook or orientate towards public open space and defined pedestrian and cycle routes.

10 To maintain sight lines between buildings and the street, and to improve safety through passive surveillance, solid fencing should not be constructed between the front building line and the primary or secondary street.

11 Development should minimise the number of access points onto an arterial road, by providing vehicle access:

(a) from side streets or rear access ways

(b) via co-ordinated through-property access rights of way or common rear vehicle parking areas.

12 Vehicle access points on side streets and rear access ways should be located and designed to:

(a) minimise the impacts of headlight glare and noise on nearby residents

(b) avoid excessive traffic flows into residential streets.

Building Envelope

Building Height

13 Except where airport building height restrictions prevail, ~~or~~ the interface height provisions require a lesser height, building heights (excluding any rooftop mechanical plant or equipment) should be consistent with the following parameters:

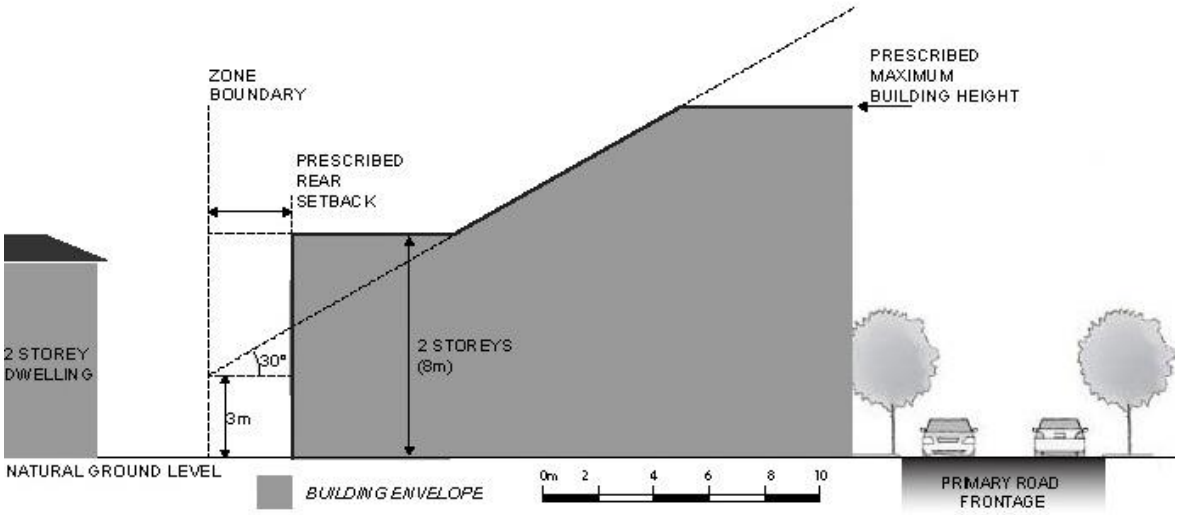
Policy area	Maximum building height (above natural ground height)
Boulevard Policy Area 34	Allotments abutting **Residential Character Glandore Policy Area 24**, and allotments between Syme Street and South Road: 3 storeys and 12.5 metres All other allotments: 8 storeys and up to 32.5 metres
High Street Policy Area 35	Allotments west of Marion Road: 3 storeys and up to 12.5 metres Allotments between South Road and Marion Road: 4 storeys and up to 16.5 metres All allotments east of South Road: 6 storeys and up to 24.5 metres
Transit Living Policy Area 36	Allotments adjoining Henley Beach Road west of Marion Road: 3 storeys and up to 12.5 metres Allotments adjoining Henley Beach Road east of Marion Road: 4 storeys and up to 16.5 metres All other allotments: 6 storeys and up to 24.5 metres
Business Policy Area 37	6 storeys and up to 24.5 metres

14 Building(s) on land that is directly adjacent to or facing the Adelaide Parklands should be a minimum height of 4 storeys.

Interface Height Provisions

15 Any portion of a development above two storeys (8 metres) in height should be constructed within a building envelope provided by a 30 degree plane measured from a point 3 metres above natural ground level at the zone boundary (except where this boundary is a primary road frontage), as illustrated in Figure 1, unless it is demonstrated that the proposed development minimises interface impacts including from building massing, overshadowing and overlooking with adjoining residential development:

Figure 1



16 To minimise overshadowing of sensitive development outside of the zone, buildings should ensure that:

(a) north-facing windows to habitable rooms of existing dwellings in adjacent zones receive at least 3 hours of direct sunlight over a portion of their surface between 9.00 am and 3.00 pm on 21 June

(b) ground level open space of existing residential buildings in adjacent zones receive direct sunlight for a minimum of 2 hours between 9.00 am and 3.00 pm on 21 June to at least the smaller of the following:

(i) half of the existing ground level open space

(ii) 35 square metres of the existing ground level open space (with at least one of the area's dimensions measuring no less than 2.5 metres)

(c) sunlight to solar panels should be maintained for a minimum of 2 consecutive hours between 9.00 am and 3.00 pm on 22 June.

Setbacks from Road Frontages

17 Buildings (excluding verandahs, porticos and the like) should be set back from the primary road frontage in accordance with the following parameters:

Policy area	Minimum setback from the primary road frontage where it is Port Road, Anzac Highway, Richmond Road or Henley Beach Road	Minimum setback from the primary road frontage in all other cases
Boulevard Policy Area 34	No minimum at Port Road 3 metres at Anzac Highway	2 metres
High Street Policy Area 35	No minimum	2 metres
Transit Living Policy Area 36	3 metres	3 metres
Business Policy Area 37	3 metres	3 metres

18 Buildings (excluding verandahs, porticos and the like) should be set back from the secondary road frontage or a vehicle access way in accordance with the following parameters:

Designated Area	Minimum setback from secondary road	Minimum setback from a rear access way
Boulevard Policy Area 34	No minimum	No minimum where the access way is 6.5 metres wide or more OR Where the access way is less than 6.5 metres in width, the distance equal to the additional width required to make the access way 6.5 metres or more, to provide adequate manoeuvrability for vehicles
High Street Policy Area 35	No minimum	No minimum where the access way is 6.5 metres wide or more OR Where the access way is less than 6.5 metres in width, the distance equal to the additional width required to make the access way 6.5 metres or more, to provide adequate manoeuvrability for vehicles

Designated Area	Minimum setback from secondary road	Minimum setback from a rear access way
Transit Living Policy Area 36	2 metres	No minimum where the access way is 6.5 metres wide or more OR Where the access way is less than 6.5 metres in width, the distance equal to the additional width required to make the access way 6.5 metres or more, to provide adequate manoeuvrability for vehicles
Business Policy Area 37	2 metres	No minimum where the access way is 6.5 metres wide or more OR Where the access way is less than 6.5 metres in width, the distance equal to the additional width required to make the access way 6.5 metres or more, to provide adequate manoeuvrability for vehicles

Other Setbacks

19 Buildings (excluding verandahs, porticos and the like) should be set back in accordance with the following parameters:

Designated area	Minimum setback from rear allotment boundary	Minimum setback from side boundaries (where not on a street boundary)
Boulevard Policy Area 34	3 metres where the subject land directly abuts an allotment of a different zone No minimum in all other cases	For allotments with a frontage width of 20 metres or less: no minimum up to a height of 2 storeys and 3 metres above this height. For allotments with a frontage width of more than 20 metres: 3 metres.
High Street Policy Area 35	3 metres where the subject land directly abuts an allotment of a different zone No minimum in all other cases	No minimum
Transit Living Policy Area 36	3 metres where the subject land directly abuts an allotment of a different zone No minimum in all other cases	For allotments with a frontage width of 20 metres or less: no minimum up to a height of 2 storeys and 3 metres above this height For allotments with a frontage width of more than 20 metres: 3 metres
Business Policy Area 37	3 metres where the subject land directly abuts an allotment of a residential zone No minimum in all other cases	For allotments with a frontage width of 20 metres or less: no minimum up to a height of 2 storeys and 3 metres above this height For allotments with a frontage width of more than 20 metres: 3 metres

Vehicle Parking

20 Development should provide off-street vehicle parking and specifically marked accessible car parking places to meet anticipated demand in accordance with *Table WeTo/6 - Off Street Vehicle Parking Requirements for Designated Areas*.

21 Loading areas and designated parking spaces for service vehicles should:

(a) be provided within the boundary of the allotment

(b) not be located where there is parking provided for any other purpose.

22 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

(c) incorporate facade treatments along major street frontages that are sufficiently enclosed and detailed to complement neighbouring buildings consistent with the desired character of the locality.

23 In mixed use buildings, the provision of vehicle parking may be reduced in number and shared where the operating hours of commercial activities complement the residential use of the allotment.

Land Division

24 Land division in the zone is appropriate provided new allotments are of a size and configuration to ensure the objectives of the zone can be achieved.

Boulevard Policy Area 34

Refer to the *Map Reference Tables* for a list of the maps that relate to this policy area.

OBJECTIVES

1 Medium and high rise development framing the street, including mixed use buildings that contain shops, offices and commercial development at lower floors with residential land uses above.

2 A uniform streetscape edge established through a largely consistent front setback and tall, articulated building façades.

3 Development that does not compromise the transport functions of the road corridor.

4 Development that contributes to the desired character of the policy area.

DESIRED CHARACTER

The policy area will contain a mix of land uses that complement the function of Port Road as a strategic transport route linking central Adelaide with the north western suburbs, and Anzac Highway linking central Adelaide with Glenelg.

The redevelopment of existing commercial and industrial allotments into medium-to-high scale, mixed-use development will occur. Where development has a mix of land uses, non-residential activities such as shops, offices and consulting rooms will be located on lower levels with residential land uses above. In order to achieve the desired transformation of the policy area, dwellings other than detached dwellings will be the predominant form of residential development.

A mix of complementary land uses will assist in extending the usage of the policy area beyond normal working hours to enhance its vibrancy and safety.

Development will take place at medium and high densities, at a scale that is proportionate to the width of Port Road and Anzac Highway respectively. To achieve this, development will take place on large, often amalgamated allotments. Vehicle access points will be located off side streets and new rear laneways where possible, so that vehicle flows, safety and efficient pedestrian movement along Port Road and Anzac Highway are maintained.

Pedestrian areas will be enhanced to maximise safety and strong links will be made between development and tram stops along Port Road, and Bonython Park.

While the use and address of buildings will be designed to be easily interpreted when driving in a vehicle, the footpath will be sheltered with awnings, verandas and similar structures.

Buildings of up to eight storeys will have a strong presence to Port Road and Anzac Highway. At lower levels, buildings will have a human scale through the use of design elements such as balconies, verandas and canopies. Development on corner allotments will enhance the gateway function of such corners by providing strong, built-form edges combined with careful detailing at a pedestrian scale to both street frontages.

Podium elements, where higher floors of the building are set back further than lower level floors, may be used to improve air quality (through greater air circulation), as well as enhancing solar access, privacy and outlook for both the residents of the building and neighbours.

Buildings along Port Road will have zero setback from the front boundary in order to establish a strong and imposing presence to the road, while short front setbacks along Anzac Highway will allow for some landscaping to contribute to a more open landscaped character.

On-site vehicle parking will not be visible from Port Road and Anzac Highway, by locating parking areas behind building façades and shielding under croft parking areas with landscaping and articulated screens.

PRINCIPLES OF DEVELOPMENT CONTROL

Land use

1 Development should predominantly comprise mixed use buildings, with non-residential development at the ground and first floor and residential development above, and wholly residential buildings.

2 Residential Development should create a medium-to-high density urban environment incorproating residential flat buildings and dwellings in mixed-use buildings, and not lower density residential development such as detached dwellings.

Form and Character

3 Development should be consistent with the desired character for the policy area.

4 Shops or groups of shops contained in a single building should have a gross leasable area of less than 2000 square metres.

5 The ground floor of buildings should be built to dimensions including a minimum floor to ceiling height of 4.5 metres to allow for adaptation to a range of land uses including retail, office and residential without the need for significant change to the building.

6 A minimum of 50 per cent of the ground floor primary frontage of buildings should be visually permeable, transparent or clear glazed to promote active street frontages and maximise passive surveillance.

PROCEDURAL MATTERS

Complying Development

Complying developments are prescribed in Schedule 4 of the *Development Regulations 2008.*

In addition, the following forms of development (except where the development is non-complying) are complying:

1 Subject to the conditions contained in *Table WeTo/1 - Conditions for Complying Development* and *Table WeTo/6 - Off-street Vehicle Parking Requirements for Designated Areas:*

(a) change in the use of land, from residential to office on the ground or first floor of a building

(b) change in the use of land from residential to shop less than 250 square metres on the ground floor of a building.

2 A change of use to a shop, office, consulting room or any combination of these uses where all of the following are achieved:

(a) the area to be occupied by the proposed development is located in an existing building and is currently used as a shop, office, consulting room or any combination of these uses

(b) the development is located inside any of the following area(s):

- **High Street Policy Area 35**

(c) the building is not a State heritage place

(d) it will not involve any alterations or additions to the external appearance of a local heritage place as viewed from a public road or public space

(e) if the proposed change of use is for a shop that primarily involves the handling and sale of foodstuffs, it achieves either (i) or (ii):

(i) all of the following:

(A) areas used for the storage and collection of refuse are sited at least 10 metres from any **Residential Zone** boundary or a dwelling (other than a dwelling directly associated with the proposed shop)

(B) if the shop involves the heating and cooking of foodstuffs in a commercial kitchen and is within 30 metres of any **Residential Zone** boundary or a dwelling (other than a dwelling directly associated with the proposed shop), an exhaust duct and stack (chimney) exists or is capable of being installed for discharging exhaust emissions

(ii) the development is the same or substantially the same as a development, which has previously been granted development approval under the *Development Act 1993* or any subsequent Act and Regulations, and the development is to be undertaken and operated in accordance with the conditions attached to the previously approved development

(f) if the change in use is for a shop with a gross leasable floor area greater than 250 square metres and has direct frontage to an arterial road, it achieves either (i) or (ii):

(i) the primary vehicle access (being the access where the majority of vehicles access / egress the site of the proposed development) is from a road that is not an arterial road

(ii) the development is located on a site that operates as an integrated complex containing two or more tenancies (and which may comprise more than one building) where facilities for off-street vehicle parking, vehicle loading and unloading, and the storage and collection of refuse are shared

(g) off-street vehicular parking is provided in accordance with the rate(s) specified in *Table WeTo/2 - Off Street Vehicle Parking Requirements* or the desired minimum rate in *Table WeTo/6 - Off-street Vehicle Parking Requirements for Designated Areas* (whichever table applies) to the nearest whole number, except in any one or more of the following circumstances:

(i) the building is a local heritage place

(ii) the development is the same or substantially the same as a development, which has previously been granted development approval under the *Development Act 1993* or any subsequent Act and Regulations, and the number and location of parking spaces is the same or substantially the same as that which was previously approved

(iii) the development is located on a site that operates as an integrated complex containing two or more tenancies (and which may comprise more than one building) where facilities for off-street vehicle parking, vehicle loading and unloading, and the storage and collection of refuse are shared.

Non-complying Development

Development (including building work, a change in the use of land or division of an allotment) involving any of the following is non-complying:

Form of development	Exceptions
Detached dwelling on sites fronting Port Road	Except where 4 or more storeys in height.

Form of development	Exceptions
Industry	Except light industry or service industry located within the **Business Policy Area 37**.
Fuel depot	
Group dwelling on sites fronting Port Road	Except where 4 or more storeys in height.
Petrol filling station	
Public service depot	
Road transport terminal	
Semi-detached dwelling on sites fronting Port Road	Except where 4 or more storeys in height.
Service trade premises	
Store	Except where located within the **Business Policy Area 37**.
Transport depot	
Waste reception storage treatment and disposal	

Public Notification

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 classified as non-complying), are designated:

Category 1	Category 2
Advertisement	All forms of development not listed as Category 1
Aged persons accommodation	Any development listed as Category 1 and located on adjacent land to a **Residential Zone** or **Historic Conservation Area** that: (a) is 3 or more storeys, or 11.5 metres or more, in height (b) exceeds the 'Building Envelope - Interface Height Provisions'.
All forms of development that are ancillary and in association with residential development	
Consulting room	
Dwelling	
Educational establishment	
Light industry within the **Business Policy Area 37**	
Office	
Pre-school	
Primary school	
Residential flat building	
Retirement village	
Supported accommodation	
Shop or group of shops located in the **High Street Policy Area 35**	
Shop or group of shops with a gross leasable area of 500 square metres or less located within the **Business Policy Area 37** or **Transit Living Policy Area 36**	
Shop or group of shops with a gross leasable area of 2000 square metres or less located within the **Boulevard Policy Area 34**	
Tourist accommodation	
Warehouse within the **Business Policy Area 37**	

Crime Prevention

OBJECTIVES

1 A safe, secure, crime resistant environment where land uses are integrated and designed to facilitate community surveillance.

PRINCIPLES OF DEVELOPMENT CONTROL

1 Development should be designed to maximise surveillance of public spaces through the incorporation of clear lines of sight, appropriate lighting and the use of visible permeable barriers wherever practicable.

2 Buildings should be designed to overlook public and communal streets and public open space to allow casual surveillance.

3 Development should provide a robust environment that is resistant to vandalism and graffiti.

4 Development should provide lighting in frequently used public spaces including those:

(a) along dedicated cyclist and pedestrian pathways, laneways and access routes

(b) around public facilities such as toilets, telephones, bus stops, seating, litter bins, automatic teller machines, taxi ranks and car parks.

5 Development, including car park facilities should incorporate signage and lighting that indicate the entrances and pathways to, from and within sites.

6 Landscaping should be used to assist in discouraging crime by:

(a) screen planting areas susceptible to vandalism

(b) planting trees or ground covers, rather than shrubs, alongside footpaths

(c) planting vegetation other than ground covers a minimum distance of two metres from footpaths to reduce concealment opportunities.

7 Site planning, buildings, fences, landscaping and other features should clearly differentiate public, communal and private areas.

8 Buildings should be designed to minimise and discourage access between roofs, balconies and windows of adjoining dwellings.

9 Public toilets should be located, sited and designed:

(a) to promote the visibility of people entering and exiting the facility (eg by avoiding recessed entrances and dense shrubbery that obstructs passive surveillance)

(b) near public and community transport links and pedestrian and cyclist networks to maximise visibility.

10 Development should avoid pedestrian entrapment spots and movement predictors (eg routes or paths that are predictable or unchangeable and offer no choice to pedestrians).

Design and Appearance

OBJECTIVES

1 Development of a high design standard and appearance that responds to and reinforces positive aspects of the local environment and built form.

2 Roads, open spaces, paths, buildings and land uses laid out and linked so that they are easy to understand and navigate.

PRINCIPLES OF DEVELOPMENT CONTROL

1 Buildings should reflect the desired character of the locality while incorporating contemporary designs that have regard to the following:

(a) building height, mass and proportion

(b) external materials, patterns, colours and decorative elements

(c) roof form and pitch

(d) façade articulation and detailing

(e) verandas, eaves, parapets and window screens.

2 The external walls and roofs of buildings should not incorporate highly reflective materials which will result in glare to neighbouring properties or drivers.

3 Where a building is sited on or close to a side boundary, the side boundary wall should be sited and limited in length and height to minimise:

(a) the visual impact of the building as viewed from adjoining properties

(b) overshadowing of adjoining properties and allow adequate sun light to neighbouring buildings.

4 Structures located on the roofs of buildings to house plant and equipment should be screened from view and should form an integral part of the building design in relation to external finishes, shaping and colours.

5 Balconies should:

(a) be integrated with the overall form and detail of the building

(b) include balustrade detailing that enables line of sight to the street

(c) be recessed where wind would otherwise make the space unusable

(d) be self-draining and plumbed to minimise runoff.

6 Transportable buildings and buildings which are elevated on stumps, posts, piers, columns or the like, should have their suspended footings enclosed around the perimeter of the building, and the use of verandas, pergolas and other suitable architectural detailing to give the appearance of a permanent structure.

Development Adjacent Heritage Places

7 The design of multi-storey buildings should not detract from the form and materials of adjacent State and local heritage places listed in *Table WeTo/5 – State Heritage Places* *or in* *Table WeTo/4 – Local Heritage Places*.

8 Development on land adjacent to a State or local heritage place, as listed in *Table WeTo/5 – State Heritage Places* *or in* *Table WeTo/4 – Local Heritage Places*, should be sited and designed to reinforce the historic character of the place and maintain its visual prominence.

Overshadowing

9 The design and location of buildings should enable direct winter sunlight into adjacent dwellings and private open space and minimise the overshadowing of:

(a) windows of main internal living areas

(b) ground-level private open space

(c) upper-level private balconies that provide the primary open space area for a dwelling

(d) solar collectors (such as solar hot water systems and photovoltaic cells).

Visual Privacy

10 Development should minimise direct overlooking of the habitable rooms and private open spaces of dwellings through measures such as:

(a) appropriate site layout and building orientation

(b) off-setting the location of balconies and windows of habitable rooms with those of other buildings so that views are oblique rather than direct to avoid direct line of sight

(c) building setbacks from boundaries (including building boundary to boundary where appropriate) that interrupt views or that provide a spatial separation between balconies or windows of habitable rooms

(d) screening devices (including fencing, obscure glazing, screens, external ventilation blinds, window hoods and shutters) that are integrated into the building design and have minimal negative effect on residents' or neighbours' amenity.

11 Permanently fixed external screening devices should be designed and coloured to complement the associated building's external materials and finishes.

Relationship to the Street and Public Realm

12 Buildings (other than ancillary buildings, group dwellings or buildings on allotments with a battle axe configuration) should be designed so that the main façade faces the primary street frontage of the land on which they are situated.

13 Buildings, landscaping, paving and signage should have a co-ordinated appearance that maintains and enhances the visual attractiveness of the locality.

14 Buildings should be designed and sited to avoid extensive areas of uninterrupted walling facing areas exposed to public view.

15 Building design should emphasise pedestrian entry points to provide perceptible and direct access from public street frontages and vehicle parking areas.

16 In mixed use and medium and high density residential areas, development facing the street should be designed to provide interesting and pedestrian friendly street frontages by:

(a) including features such as frequent doors and display windows, retail shopfronts and/or outdoor eating or dining areas

(b) minimising the frontage for fire escapes, service doors, plant and equipment hatches

(c) avoiding undercroft, semi-basement or ground floor vehicle parking that is visible from the primary street frontage

(d) using colour, vertical and horizontal elements, roof overhangs and other design techniques to provide visual interest and reduce massing

(e) including awnings, eaves, verandahs or similar, to the street where setbacks and ground floor uses allow.

17 Where zero or minor setbacks are desirable, development should incorporate shelter over footpaths to enhance the quality of the pedestrian environment.

18 Multi level vehicle parking areas within buildings should be designed, sited and screened from public view by an appropriate combination of built form, landscaping and/or visual art while still allowing for natural ventilation within these structures.

Outdoor Storage and Service Areas

19 Outdoor storage, loading and service areas should be:

(a) screened from public view by a combination of built form, solid fencing and/or landscaping

(b) conveniently located and designed to enable the manoeuvring of service and delivery vehicles

(c) sited away from sensitive land uses.

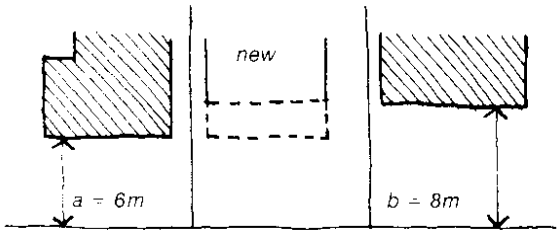
Building Setbacks from Road Boundaries

20 Except in areas where a new character is desired, the setback of buildings from public roads should:

(a) be similar to, or compatible with, setbacks of buildings on adjoining land and other buildings in the locality

(b) contribute positively to the function, appearance and/or desired character of the locality.

21 Except where specified in a particular zone, policy area or precinct, the main face of a building should be set back from the primary road frontage in accordance with the following table:

Setback difference between buildings on adjacent allotments	Setback of new building
Up to 2 metres	The same setback as one of the adjacent buildings, as illustrated below:  *When b - a≤ 2, setback of new dwelling = a or b*
Greater than 2 metres	At least the average setback of the adjacent buildings

22 Except in areas where a new character is desired or where specified in a zone, policy area or precinct, the setback of development from a secondary street frontage should reflect the setbacks of the adjoining buildings and other buildings in the locality.

23 All setbacks from the road frontage should be additional to the road widening setback established under the *Metropolitan Adelaide Road Widening Plan Act 1972*.

Building Setback from River Torrens

24 Buildings and structures should be set back a minimum of 8 metres from the boundary of the **Open Space Zone** plus an additional 1 metre for every metre of vertical wall height above 5 metres.

25 Development should not impair, disfigure, interfere with or detrimentally affect the amenity, aesthetic appearance or scenic beauty of:

(a) the River Torrens

(b) land within 60 metres of either side of the River Torrens

(c) the landscape visible from the River Torrens.

Energy Efficiency

OBJECTIVES

1 Development designed and sited to conserve energy.

2 Development that provides for on-site power generation including photovoltaic cells and wind power.

PRINCIPLES OF DEVELOPMENT CONTROL

1 Development should provide for efficient solar access to buildings and open space all year around.

2 Buildings should be sited and designed:

(a) to ensure adequate natural light and winter sunlight is available to the main activity areas of adjacent buildings

(b) so that open spaces associated with the main activity areas face north for exposure to winter sun.

On-site Energy Generation

3 Development should facilitate the efficient use of photovoltaic cells and solar hot water systems by:

(a) taking into account overshadowing from neighbouring buildings

(b) designing roof orientation and pitches to maximise exposure to direct sunlight.

4 Public infrastructure and lighting, should be designed to generate and use renewable energy.

Hazards

OBJECTIVES

1 Maintenance of the natural environment and systems by limiting development in areas susceptible to natural hazard risk.

2 Development located away from areas that are vulnerable to, and cannot be adequately and effectively protected from the risk of natural hazards.

3 Critical community facilities such as hospitals, emergency control centres, major service infrastructure facilities, and emergency service facilities located where they are not exposed to natural hazard risks.

4 Development located and designed to minimise the risks to safety and property from flooding.

5 Development located to minimise the threat and impact of bushfires on life and property.

6 Expansion of existing non-rural uses directed away from areas of high bushfire risk.

7 The environmental values and ecological health of receiving waterways and marine environments protected from the release of acid water resulting from the disturbance of acid sulphate soils.

8 Protection of human health and the environment wherever site contamination has been identified or is suspected to have occurred.

9 Appropriate assessment and remediation of site contamination to ensure land is suitable for the proposed use and provides a safe and healthy living and working environment.

10 Minimisation of harm to life, property and the environment through appropriate location of development and appropriate storage, containment and handling of hazardous materials.

PRINCIPLES OF DEVELOPMENT CONTROL

1 Development should be excluded from areas that are vulnerable to, and cannot be adequately and effectively protected from, the risk of hazards.

2 Development located on land subject to hazards as shown on the *Overlay Maps - Development Constraints* should not occur unless it is sited, designed and undertaken with appropriate precautions being taken against the relevant hazards.

3 There should not be any significant interference with natural processes in order to reduce the exposure of development to the risk of natural hazards.

Flooding

4 Development should not occur on land where the risk of flooding is likely to be harmful to safety or damage property.

5 Development should not be undertaken in areas liable to inundation by tidal, drainage or flood waters unless the development can achieve all of the following:

(a) it is developed with a public stormwater system capable of catering for a 1-in-100 year average return interval flood event

(b) buildings are designed and constructed to prevent the entry of floodwaters in a 1-in-100 year average return interval flood event.

6 Development, including earthworks associated with development, should not do any of the following:

(a) impede the flow of floodwaters through the land or other surrounding land

(b) increase the potential hazard risk to public safety of persons during a flood event

(c) aggravate the potential for erosion or siltation or lead to the destruction of vegetation during a flood

(d) cause any adverse effect on the floodway function

(e) increase the risk of flooding of other land

(f) obstruct a watercourse.

7 Ground floor levels of all development on land subject to a 1-in-100 year average return interval flood event as shown on *Overlay Maps - Development Constraints* should be located above a design flood level which:

(a) provides an acceptable level of risk to persons and property

(b) minimises the impact of floodwaters onto adjoining properties

(c) ensures development will not adversely affect the level of floodwaters on adjoining properties.

Landscaping, Fences and Walls

OBJECTIVES

1 The amenity of land and development enhanced with appropriate planting and other landscaping works, using locally indigenous plant species where possible.

2 Functional fences and walls that enhance the attractiveness of development.

PRINCIPLES OF DEVELOPMENT CONTROL

1 Development should incorporate open space and landscaping and minimise hard paved surfaces in order to:

(a) complement built form and reduce the visual impact of larger buildings (eg taller and broader plantings against taller and bulkier building components)

(b) enhance the appearance of road frontages

(c) screen service yards, loading areas and outdoor storage areas

(d) minimise maintenance and watering requirements

(e) enhance and define outdoor spaces, including car parking areas

(f) maximise shade and shelter

(g) assist in climate control within and around buildings

(h) minimise heat absorption and reflection

(i) maintain privacy

(j) maximise stormwater reuse

(k) complement existing vegetation, including native vegetation

(l) contribute to the viability of ecosystems and species

(m) promote water and biodiversity conservation.

2 Landscaping should:

(a) include the planting of drought tolerant species, including locally indigenous species where appropriate

(b) be oriented towards the street frontage

(c) result in the appropriate clearance from powerlines and other infrastructure being maintained.

3 Landscaping should not:

(a) unreasonably restrict solar access to adjoining development

(b) cause damage to buildings, paths and other landscaping from root invasion, soil disturbance or plant overcrowding

(c) introduce pest plants

(d) increase the risk of bushfire

(e) remove opportunities for passive surveillance

(f) increase leaf fall in watercourses

(g) increase the risk of weed invasion

(h) obscure driver sight lines

(i) create a hazard for train or tram drivers by obscuring sight lines at crossovers.

4 A minimum of 10 per cent of a development site should be landscaped. The development site refers to the land which incorporates a development and all the features and facilities associated with that development, such as outbuildings, driveways, parking areas, landscaped areas, service yards and fences. Where a number of buildings or dwellings have shared use of such features and facilities, the development site incorporates all such buildings or dwellings and their shared features and facilities.

5 A landscape area of at least 3 metres in width should be provided between non-residential development and the boundary of a residential zone.

6 Fences and walls, including retaining walls, should:

(a) not result in damage to neighbouring trees

(b) be compatible with the associated development and with existing predominant, attractive fences and walls in the locality

(c) enable some visibility of buildings from and to the street to enhance safety and allow casual surveillance

(d) incorporate articulation or other detailing where there is a large expanse of wall facing the street

(e) assist in highlighting building entrances

(f) be sited and limited in height, to ensure adequate sight lines for motorists and pedestrians especially on corner sites

(g) in the case of side and rear boundaries, be of sufficient height to maintain privacy and/or security without adversely affecting the visual amenity or access to sunlight of adjoining land

(h) be constructed of non-flammable materials.

Medium and High Rise Development (3 or More Storeys)

OBJECTIVES

1 Medium and high rise development that provides housing choice and employment opportunities.

2 Residential development that provides a high standard of amenity and adaptability for a variety of accommodation and living needs.

3 Development that is contextual and responds to its surroundings, having regard to adjacent built form and character of the locality and the Desired Character for the Zone and Policy Area.

4 Development that integrates built form within high quality landscapes to optimize amenity, security and personal safety for occupants and visitors.

5 Development that enhances the public environment, provides activity and interest at street level and a high quality experience for residents, workers and visitors by:

(a) enlivening building edges

(b) creating attractive, welcoming, safe and vibrant spaces

(c) improving public safety through passive surveillance

(d) creating interesting and lively pedestrian environments

(e) integrating public art into the development where it fronts the street and public spaces

(f) incorporating generous areas of high quality fit for purpose landscaping, green walls and roofs.

6 Commercial, office and retail development that is designed to create a strong visual connection to the public realm and that contributes to the vitality of the locality.

7 Buildings designed and sited to be energy and water efficient.

PRINCIPLES OF DEVELOPMENT CONTROL

Design and Appearance

Note: Some of the following Principles of Development Control (PDC) prescribe a measurable design solution as one way of achieving the intent of the PDC. Where this solution is met, it should be taken as meeting the intent of the principle. Alternative design solutions may also achieve the intent of the PDC and, when proposed should be assessed on their merits.

Design and Appearance

1 Buildings should be designed to respond to key features of the prevailing local context within the same zone as the development. This may be achieved through design features such as vertical rhythm, proportions, composition, material use, parapet or balcony height, and use of solid and glass.

2 In repetitive building types, such as row housing, the appearance of building facades should provide some variation, but maintain an overall coherent expression such as by using a family of materials, repeated patterns, facade spacings and the like.

3 Windows and doors, awnings, eaves, verandas or other similar elements should be used to provide variation of light and shadow and contribute to a sense of depth in the building façade.

4 Buildings should:

(a) achieve a comfortable human scale at ground level through the use of elements such as variation in materials and form, building projections and elements that provide shelter (for example awnings, verandas, and tree canopies)

(b) be designed to reduce visual mass by breaking up the building façade into distinct elements

(c) ensure walls on the boundary that are visible from public land include visually interesting treatments to break up large blank facades.

5 Buildings should reinforce corners through changes in setback, materials or colour, roof form or height.

6 Materials and finishes should be selected to be durable and age well to minimise ongoing maintenance requirements. This may be achieved through the use of materials such as masonry, natural stone and prefinished materials that minimise staining, discolouring or deterioration.

7 Balconies should be integrated into the overall architectural form and detail of the development and should:

(a) utilise sun screens, pergolas, louvres, green facades and openable walls to control sunlight and wind

(b) be designed and positioned to respond to daylight, wind, and acoustic conditions to maximise comfort and provide visual privacy

(c) allow views and casual surveillance of the street while providing for safety and visual privacy of nearby living spaces and private outdoor areas

(d) be of sufficient size, particularly depth, to accommodate outdoor seating.

Street Interface

8 Development facing the street should be designed to provide attractive, high quality and pedestrian friendly street frontage(s) by:

(a) incorporating active uses such as shops or offices, prominent entry areas for multi-storey buildings (where it is a common entry), habitable rooms of dwellings, and areas of communal public realm with public art or the like where consistent with the Zone and/or Policy Area provisions;

(b) providing a well landscaped area that contains a deep soil zone space for a medium to large tree in front of the building (except in a High Street Policy Area or other similar location where a continuous ground floor façade aligned with the front property boundary is desired).

One way of achieving this is to provide a 4 metre x 4 metre deep soil zone area in front of the building

(c) designing building façades that are well articulated by creating contrasts between solid elements (such as walls) and voids (for example windows, doors and balcony openings);

(d) positioning services, plant and mechanical equipment (such as substations, transformers, pumprooms and hydrant boosters, car park ventilation) in discreet locations, screened or integrated with the façade;

(e) ensuring ground, undercroft, semi-basement and above ground parking does not detract from the streetscape;

(f) minimising the number and width of driveways and entrances to car parking areas to reduce the visual dominance of vehicle access points and impacts on street trees and pedestrian areas.

9 Common areas and entry points of the ground floor level of buildings should be designed to enable surveillance from public land to the inside of the building at night.

10 Entrances to multi-storey buildings should:

(a) be oriented towards the street

(b) be visible and clearly identifiable from the street, and in instances where there are no active or occupied ground floor uses, be designed as a prominent, accentuated and welcoming feature

(c) provide shelter, a sense of personal address and transitional space around the entry

(d) provide separate access for residential and non-residential land uses

(e) be located as close as practicable to the lift and/or lobby access

(f) avoid the creation of potential areas of entrapment.

11 To contribute to direct pedestrian access and street level activation, the finished ground level of buildings should be no more than 1.2 metres above the level of the footpath, except for common entrances to apartment buildings which should be at ground level or universally accessible.

12 Dwellings located on the ground floor with street frontage should have individual direct pedestrian street access.

13 The visual privacy of ground floor dwellings within multi-storey buildings should be protected through the use of design features such as orientation, elevation of ground floors above street level, setbacks from street and the location of verandas, windows, porticos or the like.

One way of achieving this is for ground floor level dwellings in multi-storey developments to be raised by up to 1.2 metres (provided access is not compromised where relevant).

Building Separation and Outlook

14 Residential buildings (or the residential floors of mixed use buildings) should have habitable rooms, windows and balconies designed and positioned with adequate separation and screening from one another to provide visual and acoustic privacy and allow for natural ventilation and the infiltration of daylight into interior and outdoor spaces.

One way of achieving this is to ensure any habitable room windows and/or balconies are separated by at least 6 metres from one another where there is a direct 'line of sight' between them and be at least 3 metres from a side or rear property boundary. Where a lesser separation is proposed, alternative design solutions may be applied (such as changes to orientation, staggering of windows or the provision of screens or blade walls, or locating facing balconies on alternating floors as part of double floor apartments), provided a similar level of occupant visual and acoustic privacy, as well as light access, can be demonstrated.

15 Living rooms should have a satisfactory short range visual outlook to public, communal or private open space.

Dwelling Configuration

16 Buildings comprising more than 10 dwellings should provide a variety of dwelling sizes and a range in the number of bedrooms per dwelling.

17 Dwellings located on the ground floor with street frontage should have habitable rooms with windows overlooking the street or public realm.

18 Dwellings with 3 or more bedrooms, should, where possible, have the windows of habitable rooms overlooking internal courtyard space or other public space.

Adaptability

19 Multi-storey buildings should include a variety of internal designs that will facilitate adaptive reuse, including the conversion of ground floor residential to future commercial use (i.e. by including floor to ceiling heights suitable for commercial use).

Environmental

20 Multi-storey buildings should:

(a) minimise detrimental micro-climatic and solar access impacts on adjacent land or buildings, including effects of patterns of wind, temperature, daylight, sunlight, glare and shadow

(b) incorporate roof designs that enable the provision of photovoltaic cells and other features that enhance sustainability (including landscaping).

21 Green roofs (which can be a substitute for private or communal open space provided they can be accessed by occupants of the building) are encouraged for all new residential commercial or mixed use buildings.

22 Development of 5 or more storeys, or 21 metres or more in building height (excluding the rooftop location of mechanical plant and equipment), should be designed to minimise the risk of wind tunnelling effects on adjacent streets by adopting one or more of the following:

(a) a podium at the base of a tall tower and aligned with the street to deflect wind away from the street

(b) substantial verandas around a building to deflect downward travelling wind flows over pedestrian areas

(c) the placement of buildings and use of setbacks to deflect the wind at ground level.

23 Deep soil zones should be provided to retain existing vegetation or provide areas that can accommodate new deep root vegetation, including tall trees with large canopies.

One way of achieving this is in accordance with the following table:

Site area	Minimum deep soil area	Minimum dimension	Tree/ deep soil zones
<300m^2	10m^2	1.5 metres	1 small tree / 10m^2 deep soil
300-1500m^2	7% site area	3 metres	1 medium tree / 30m^2 deep soil
>1500m^2	7% site area	6 metres	1 large or medium tree / 60m^2 deep soil

Site area	Minimum deep soil area	Minimum dimension	Tree/ deep soil zones
Tree size and site area definitions			
Small tree	< 6 metres mature height and < less than 4 metres canopy spread		
Medium tree	6-12 metres mature height and 4-8 metres canopy spread		
Large tree	12 metres mature height and > 8 metres canopy spread		
Site area	The total area for development site, not average area per dwelling		

24 Deep soil zones should be provided with access to natural light to assist in maintaining vegetation health.

Site Facilities and Storage

25 Dwellings should provide a covered storage area of not less than 8 cubic metres in one or more of the following areas:

(a) in the dwelling (but not including a habitable room)

(b) in a garage, carport, outbuilding or an on-site communal facility and be conveniently located and screened from view from streets and neighbouring properties.

26 Development should provide a dedicated area for the on-site collection and sorting of recyclable materials and refuse, green organic waste and wash-bay facilities for the ongoing maintenance of bins. This area should be screened from view from public areas so as to not to detract from the visual appearance of the ground floor.

27 Where the number of bins to be collected kerbside is 10 or more at any one time, provision should be made for on-site collection.

28 The size of lifts, lobbies and corridors should be sufficient to accommodate movement of bicycles, strollers, mobility aids and visitor waiting areas.

Zone Interface

29 Unless separated by a public road or reserve, development site(s) adjacent to any zone that has a primary purpose of accommodating low rise (1-2 storey) residential activity should incorporate deep soil zones along the common boundary to enable medium to large trees to be retained or established to assist in screening new buildings of 3 or more storeys in height.

One way of achieving this is for development comprising building elements of three or more storeys in height to be setback at least 6 metres from a zone boundary, and incorporate a deep soil zone area capable of accommodating medium to large trees with a canopy spread of not more than 8 metres when fully mature.

Natural Resources

OBJECTIVES

1 Retention, protection and restoration of the natural resources and environment.

2 Protection of the quality and quantity of South Australia's surface waters, including inland, marine and estuarine and undergroundwaters.

3 The ecologically sustainable use of natural resources including water resources, including marine waters groundwater, surface water and watercourses.

4 Natural hydrological systems and environmental flows reinstated, and maintained and enhanced.

5 Development consistent with the principles of water sensitive design.

6 Development sited and designed to:

(a) protect natural ecological systems

(b) achieve the sustainable use of water

(c) protect water quality, including receiving waters

(d) reduce runoff and peak flows and prevent the risk of downstream flooding

(e) minimise demand on reticulated water supplies

(f) maximise the harvest and use of stormwater

(g) protect stormwater from pollution sources.

7 Storage and use of stormwater which avoids adverse impact on public health and safety.

8 Native flora, fauna and ecosystems protected, retained, conserved and restored.

9 Restoration, expansion and linking of existing native vegetation to facilitate habitat corridors for ease of movement of fauna.

10 Minimal disturbance and modification of the natural landform.

11 Protection of the physical, chemical and biological quality of soil resources.

12 Protection of areas prone to erosion or other land degradation processes from inappropriate development.

13 Protection of the scenic qualities of natural and rural landscapes.

PRINCIPLES OF DEVELOPMENT CONTROL

1 Development should be undertaken with minimum impact on the natural environment, including air and water quality, land, soil, biodiversity, and scenically attractive areas.

2 Development should ensure that South Australia's natural assets, such as biodiversity, water and soil, are protected and enhanced.

3 Development should not significantly obstruct or adversely affect sensitive ecological areas such as creeks, wetlands, estuaries and significant seagrass and mangrove communities.

4 Development should be appropriate to land capability and the protection and conservation of water resources and biodiversity.

Water Sensitive Design

5 Development should be designed to maximise conservation, minimise consumption and encourage re-use of water resources.

6 Development should not take place if it results in unsustainable use of surface or undergroundwater resources.

7 Development should be sited and designed to:

(a) capture and re-use stormwater, where practical

(b) minimise surface water runoff

(c) prevent soil erosion and water pollution

(d) protect and enhance natural water flows

(e) protect water quality by providing adequate separation distances from watercourses and other water bodies

(f) not contribute to an increase in salinity levels

(g) avoid the water logging of soil or the release of toxic elements

(h) maintain natural hydrological systems and not adversely affect:

(i) the quantity and quality of groundwater

(ii) the depth and directional flow of groundwater

(iii) the quality and function of natural springs.

8 Water discharged from a development site should:

(a) be of a physical, chemical and biological condition equivalent to or better than its pre-developed state

(b) not exceed the rate of discharge from the site as it existed in pre-development conditions.

9 Development should have adequate provision to control any stormwater over-flow runoff from the site and should be sited and designed to improve the quality of stormwater and minimise pollutant transfer to receiving waters.

10 Development should include stormwater management systems to mitigate peak flows and manage the rate and duration of stormwater discharges from the site to ensure the carrying capacities of downstream systems are not overloaded.

11 Development should include stormwater management systems to minimise the discharge of sediment, suspended solids, organic matter, nutrients, bacteria, litter and other contaminants to the stormwater system.

12 Stormwater management systems should preserve natural drainage systems, including the associated environmental flows.

13 Stormwater management systems should:

(a) maximise the potential for stormwater harvesting and reuse, either on-site or as close as practicable to the source

(b) utilise, but not be limited to, one or more of the following harvesting methods:

(i) the collection of roof water in tanks

(ii) the discharge to open space, landscaping or garden areas, including strips adjacent to car parks

(iii) the incorporation of detention and retention facilities

(iv) aquifer recharge.

14 Where it is not practicable to detain or dispose of stormwater on site, only clean stormwater runoff should enter the public stormwater drainage system.

15 Artificial wetland systems, including detention and retention basins, should be sited and designed to:

(a) ensure public health and safety is protected

(b) minimise potential public health risks arising from the breeding of mosquitoes.

16 On site detention and retention of stormwater should be sited away from areas where site contamination has occurred.

Water Catchment Areas

17 Development should ensure watercourses and their beds, banks, wetlands and floodplains are not damaged or modified and are retained in their natural state, except where modification is required for essential access or maintenance purposes.

18 Development adjacent to Patawalonga Creek should enhance the character and appearance of the area and retain the creek as a water resource and stormwater channel.

19 No development should occur where its proximity to a swamp or wetland will damage or interfere with the hydrology or water regime of the swamp or wetland.

20 A wetland or low-lying area providing habitat for native flora and fauna should not be drained, except temporarily for essential management purposes to enhance environmental values.

21 Along watercourses, areas of remnant native vegetation, or areas prone to erosion, that are capable of natural regeneration should be fenced off to limit stock access.

22 Development such as cropping, intensive animal keeping, residential, tourism, industry and horticulture, that increases the amount of surface runoff should include a strip of land at least 20 metres wide measured from the top of existing banks on each side of a watercourse that is:

(a) fenced to exclude livestock

(b) kept free of development, including structures, formal roadways or access ways for machinery or any other activity causing soil compaction or significant modification of the natural surface of the land

(c) revegetated with locally indigenous vegetation comprising trees, shrubs and other groundcover plants to filter runoff so as to reduce the impacts on native aquatic ecosystems and to minimise soil loss eroding into the watercourse.

23 Development resulting in the depositing of an object or solid material in a watercourse or floodplain or the removal of bank and bed material should not:

(a) adversely affect the migration of aquatic biota

(b) adversely affect the natural flow regime

(c) cause or contribute to water pollution

(d) result in watercourse or bank erosion

(e) adversely affect native vegetation upstream or downstream that is growing in or adjacent to a watercourse.

24 The location and construction of dams, water tanks and diversion drains should:

(a) occur off watercourse

(b) not take place in ecologically sensitive areas or on erosion-prone sites

(c) provide for low flow by-pass mechanisms to allow for migration of aquatic biota

(d) not negatively affect downstream users

(e) minimise in-stream or riparian vegetation loss

(f) incorporate features to improve water quality (eg wetlands and floodplain ecological communities)

(g) protect ecosystems dependent on water resources.

25 Irrigated horticulture and pasture should not increase groundwater-induced salinity.

26 Development should comply with the current *Environment Protection (Water Quality) Policy*.

Regulated Trees

OBJECTIVES

1 The conservation of regulated trees that provide important aesthetic and/or environmental benefit.

2 Development in balance with preserving regulated trees that demonstrate one or more of the following attributes:

(a) significantly contributes to the character or visual amenity of the locality

(b) indigenous to the locality

(c) a rare or endangered species

(d) an important habitat for native fauna.

PRINCIPLES OF DEVELOPMENT CONTROL

1 Development should have minimum adverse effects on regulated trees.

2 A regulated tree should not be removed or damaged other than where it can be demonstrated that one or more of the following apply:

(a) the tree is diseased and its life expectancy is short

(b) the tree represents a material risk to public or private safety

(c) the tree is causing damage to a building

(d) development that is reasonable and expected would not otherwise be possible

(e) the work is required for the removal of dead wood, treatment of disease, or is in the general interests of the health of the tree.

3 Tree damaging activity other than removal should seek to maintain the health, aesthetic appearance and structural integrity of the tree.

Residential Development

OBJECTIVES

1 Safe, convenient, pleasant and healthy-living environments that meet the full range of needs and preferences of the community.

2 An increased mix in the range and number of dwelling types available within urban boundaries to cater for changing demographics, particularly smaller household sizes and supported accommodation.

3 Medium and high density residential development in areas close to activity centres, public and community transport and public open spaces.

4 The revitalisation of residential areas to support the viability of community services and infrastructure.

5 Affordable housing, student housing and housing for aged persons provided in appropriate locations.

Design and Appearance

6 Building appearance should be compatible with the desired character statement of the relevant zone, policy area or precinct, in terms of built form elements such as:

(a) building height

(b) building mass and proportion

(c) external materials, patterns, textures, colours and decorative elements

(d) ground floor height above natural ground level

(e) roof form and pitch

(f) facade articulation and detailing and window and door proportions

(g) verandas, eaves and parapets

(h) driveway crossovers, fence style and alignment.

7 Residential development should avoid undue repetition of style and external appearance.

8 Residential development should be designed to ensure living rooms have an external outlook.

9 Entries to dwellings or foyer areas should be clearly visible from the street, or access ways that they face to enable visitors to easily identify individual dwellings.

10 Residential development should provide a high quality living environment by ensuring the following minimum internal floor areas (including internal storage areas but not including balconies and car parking):

(a) studio (where there is no separate bedroom): 37 square metres

(b) 1 bedroom dwelling/apartment: 50 square metres

(c) 2 bedroom dwelling/apartment: 75 square metres

(d) 3+ bedroom dwelling/apartment: 100 square metres.

Overshadowing

11 The design and location of buildings should ensure that direct winter sunlight is available to adjacent dwellings, with particular consideration given to:

(a) windows of habitable rooms, particularly living areas

(b) ground-level private open space

(c) upper-level private balconies that provide the primary open space area for any dwelling

(d) access to solar energy.

12 Development should ensure that north-facing windows to habitable rooms of existing dwelling(s) on the same allotment, and on adjacent allotments, receive at least 3 hours of direct sunlight over a portion of their surface between 9.00 am and 5.00 pm on the 21 June.

13 Dwellings located above ground level should provide private open space in accordance with the following table:

Dwelling type	Minimum area of private open space
Studio (where there is no separate bedroom)	No minimum requirement
1 bedroom dwelling	8 square metres
2 bedroom dwelling	11 square metres
3+ bedroom dwelling	15 square metres

14 Private open space located above ground level should have a minimum dimension of 2 metres and be directly accessible from a habitable room.

15 Private open space may be substituted for the equivalent area of communal open space where:

(a) at least 50 per cent of the communal open space is visually screened from public areas of the development

(b) ground floor communal space is overlooked by habitable rooms to facilitate passive surveillance

(c) it contains landscaping and facilities that are functional, attractive and encourage recreational use.

Communal Open Space

16 Communal open space should be shared by more than one dwelling, not be publicly accessible and exclude:

(a) private open space

(b) public rights of way

(c) private streets

(d) parking areas and driveways

(e) service and storage areas

(f) narrow or inaccessible strips of land.

17 Communal open space should only be located on elevated gardens or roof tops where the area and overall design is useful for the recreation and amenity needs of residents and where it is designed to:

(a) address acoustic, safety, security and wind effects

(b) minimise overlooking into habitable room windows or onto the useable private open space of other dwellings

(c) facilitate landscaping and food production

(d) be integrated into the overall façade and composition of buildings.

Visual Privacy

18 Except for buildings of 3 or more storeys, upper level windows, balconies, terraces and decks that overlook habitable room windows or private open space of dwellings should maximise visual privacy through the use of measures such as sill heights of not less than 1.7 metres or permanent screens having a height of 1.7 metresabove finished floor level.

Noise

19 Noise generated by fixed noise sources such as air conditioning units and pool pumps should be located, designed and attenuated to avoid nuisance to adjoining landowners and occupiers.

20 External noise and artificial light intrusion into bedrooms should be minimised by separating or shielding these rooms from:

(a) active communal recreation areas, parking areas and vehicle access ways

(b) service equipment areas and fixed noise sources on the same or adjacent sites.

Site Facilities and Storage

21 Site facilities for group dwellings, multiple dwellings and residential flat buildings should include:

(a) mail box facilities sited close to the major pedestrian entrance to the site

(b) bicycle parking for residents and visitors (for developments containing more than 6 dwellings)

(c) household waste and recyclable material storage areas away from dwellings.

22 A dwelling should incorporate a minimum storage area of 8 cubic metres for goods and chattels, other than food and clothing, within at least one of the following:

(a) a non habitable room of the dwelling

(b) a garage, carport or outbuilding

(c) an on-site communal facility.

Transportation and Access

OBJECTIVES

1 A comprehensive, integrated, affordable and efficient air, rail, sea, road, cycle and pedestrian transport system that will:

(a) provide equitable access to a range of public, community and private transport services for all people

(b) ensure a high level of safety

(c) effectively support the economic development of the State

(d) have minimal negative environmental and social impacts

(e) maintain options for the introduction of suitable new transport technologies.

2 Development that:

(a) provides safe and efficient movement for all transport modes

(b) ensures access for vehicles including emergency services, public infrastructure maintenance and commercial vehicles

(c) provides off-street parking

(d) is appropriately located so that it supports and makes best use of existing transport facilities and networks

(e) provides convenient and safe access to public transport stops.

3 A road hierarchy that promotes safe and efficient transportation in an integrated manner throughout the State.

4 Provision of safe, pleasant, accessible, integrated and permeable pedestrian and cycling networks that are connected to the public transport network.

5 Safe and convenient freight movement throughout the State.

PRINCIPLES OF DEVELOPMENT CONTROL

Land Use

1 Land uses arranged to support the efficient provision of sustainable transport networks and encourage their use.

Movement Systems

2 Development should be integrated with existing transport networks, particularly major rail, road and public transport corridors as shown on *Location Maps* and *Overlay Maps – Transport*, and designed to minimise its potential impact on the functional performance of the transport network.

3 Driveway crossovers affecting pedestrian footpaths should maintain the level and surface colour of the footpath.

4 Driveway crossovers should be separated and the number minimised to optimise the provision of on-street visitor parking (where on-street parking is appropriate).

5 Development should provide for the on-site loading, unloading and turning of all traffic, including any waste collection vehicles, likely to be generated.

6 On-site secure bicycle parking facilities should be:

(a) located in a prominent place

(b) located at ground floor level

(c) located undercover

(d) located where surveillance is possible

(e) well lit and well signed

(f) close to well used entrances

(g) accessible by cycling along a safe, well lit route.

7 Pedestrian and cycling facilities and networks should be designed and provided in accordance with relevant provisions of the *Australian Standards and Austroads Guides*.

Access

8 Development should have direct access from an all weather public road.

9 Development should be provided with safe and convenient access which:

(a) avoids unreasonable interference with the flow of traffic on adjoining roads

(b) provides appropriate separation distances from existing roads or level crossings

(c) accommodates the type and volume of traffic likely to be generated by the development or land use and minimises induced traffic through over-provision

(d) is sited and designed to minimise any adverse impacts on the occupants of and visitors to neighbouring properties.

10 Structures such as canopies and balconies that encroach onto the footpath of an arterial road should not cause visual or physical obstruction to:

(a) signalised intersections

(b) heavy vehicles

(c) street lighting

(d) overhead electricity lines

(e) street trees

(f) bus stops.

11 Driveways, access tracks and parking areas should be designed and constructed to:

(a) follow the natural contours of the land

(b) minimise excavation and/or fill

(c) minimise the potential for erosion from runoff

(d) avoid the removal of existing vegetation

(e) be consistent with *Australian Standard AS 2890 Parking facilities*.

Vehicle Parking

12 Development should provide off-street vehicle parking and specifically marked disabled car parking places to meet anticipated demand in accordance with *Table WeTo/2 - Off Street Vehicle Parking Requirements*.

13 Development should be consistent with *Australian Standard AS 2890 Parking facilities*.

14 Vehicle parking areas should be sited and designed to:

(a) facilitate safe and convenient pedestrian linkages to the development and areas of significant activity or interest in the vicinity of the development

(b) include safe pedestrian and bicycle linkages that complement the overall pedestrian and cycling network

(c) facilitate safe and convenient traffic circulation

(d) result in minimal conflict between customer and service vehicles

(e) avoid the necessity to use public roads when moving from one part of a parking area to another

(f) minimise the number of vehicle access points onto public roads

(g) avoid the need for vehicles to reverse onto public roads

(h) where practical, provide the opportunity for shared use of car parking and integration of car parking areas with adjoining development to reduce the total extent of vehicle parking areas and the requirement for multiple access points

(i) not dominate the character and appearance of a site when viewed from public roads and spaces

(j) provide landscaping that will shade and enhance the appearance of the vehicle parking areas

(k) include infrastructure such as underground cabling and connections to power infrastructure that will enable the recharging of electric vehicles.

15 Vehicle parking areas should be designed to reduce opportunities for crime by:

(a) maximising the potential for passive surveillance by ensuring they can be overlooked from nearby buildings and roads

(b) incorporating walls and landscaping that do not obscure vehicles or provide potential hiding places

(c) being appropriately lit

(d) having clearly visible walkways.

16 To assist with stormwater detention and reduce heat loads in summer, outdoor vehicle parking areas should include landscaping.

17 Vehicle parking areas should be line-marked to delineate parking bays, movement aisles and direction of traffic flow.

Undercroft and Below Ground Garaging and Parking of Vehicles

18 Undercroft and below ground garaging of vehicles should only occur where envisaged in the relevant zone or policy area or precinct and ensure:

(a) the overall height and bulk of the undercroft structure does not adversely impact on streetscape character of the locality or the amenity of adjacent properties

(b) vehicles can safely enter and exit from the site without compromising pedestrian or cyclist safety or causing conflict with other vehicles

(c) driveway gradients provide for safe and functional entry and exit

(d) driveways and adjacent walls, fencing and landscaping are designed to provide adequate sightlines from vehicles to pedestrians using the adjacent footpath

(e) openings to undercroft areas are integrated with the main building so as to minimise visual impact

(f) landscaping, mounding and/or fencing is incorporated to improve its presentation to the street and to adjacent properties

(g) the overall streetscape character of the locality is not adversely impaired (e.g. visual impact, building bulk, front setbacks relative to adjacent development)

(h) the height of the car park ceiling does not exceed 1 metre above the finished ground level.

19 In the case of undercroft and below ground car parks where cars are visible from public areas, adequate screening and landscaping should be provided.

Waste

OBJECTIVES

1 Development that, in order of priority, avoids the production of waste, minimises the production of waste, reuses waste, recycles waste for reuse, treats waste and disposes of waste in an environmentally sound manner.

2 Development that includes the treatment and management of solid and liquid waste to prevent undesired impacts on the environment including, soil, plant and animal biodiversity, human health and the amenity of the locality.

PRINCIPLES OF DEVELOPMENT CONTROL

1 Development should be sited and designed to prevent or minimise the generation of waste (including wastewater) by applying the following waste management hierarchy in the order of priority as shown below:

(a) avoiding the production of waste

(b) minimising waste production

(c) reusing waste

(d) recycling waste

(e) recovering part of the waste for re-use

(f) treating waste to reduce the potentially degrading impacts

(g) disposing of waste in an environmentally sound manner.

2 The storage, treatment and disposal of waste materials from any development should be achieved without risk to health or impairment of the environment.

3 Development should avoid as far as practical, the discharge or deposit of waste (including wastewater) onto land or into any waters (including processes such as seepage, infiltration or carriage by wind, rain, sea spray, stormwater or by the rising of the water table).

4 Untreated waste should not be discharged to the environment, and in particular to any water body.

5 Development should include appropriately sized area to facilitate the storage of receptacles that will enable the efficient recycling of waste.

6 Development that involves the production and/or collection of waste and/or recyclable material should include designated collection and storage area(s) that are:

(a) screened and separated from adjoining areas

(b) located to avoid impacting on adjoining sensitive environments or land uses

(c) designed to ensure that wastes do not contaminate stormwater or enter the stormwater collection system

(d) located on an impervious sealed area graded to a collection point in order to minimise the movement of any solids or contamination of water

(e) protected from wind and stormwater and sealed to prevent leakage and minimise the emission of odours

(f) stored in such a manner that ensures that all waste is contained within the boundaries of the site until disposed of in an appropriate manner.

Table 3: Residential development, in the form of residential flat buildings and residential development in multi-storey buildings

Location of development	Rate for each dwelling based on number of bedrooms per dwelling	Plus number of required visitor parking spaces
Boulevard Policy Area 34 within the **Urban Corridor Zone**	0.25 per studio (no separate bedroom) 0.75 per 1 bedroom dwelling 1 per 2 bedroom dwelling 1.25 per 3 + bedroom dwelling	0.25 per dwelling
High Street Policy Area 35 within the **Urban Corridor Zone**	0.25 per studio (no separate bedroom) 0.75 per 1 bedroom dwelling 1 per 2 bedroom dwelling 1.25 per 3 + bedroom dwelling	0.25 per dwelling

Table WeTo/7 - Off-street Bicycle Parking Requirements for Urban Corridor Zone

The following bicycle parking requirements apply to development specifically in the **Urban Corridor Zone**.

1 In residential and mixed use development, the provision of bicycle parking may be reduced in number and shared where the operating hours of commercial activities complement the residential use of the site.

2 Residential and mixed use development, in the form of multi-storey buildings, should provide bicycle parking in accordance with the following rates:

Form of development	Employee/resident (bicycle parking spaces)	Visitor/shopper (bicycle parking spaces)
Residential component of multi-storey building/residential flat building	1 for every 4 dwellings	1 for every 10 dwellings
Office	1 for every 200 square metres of gross leasable floor area	2 plus 1 per 1000 square metres of gross leasable floor area
Shop	1 for every 300 square metres of gross leasable floor area	1 for every 600 square metres of gross leasable floor area
Tourist accommodation	1 for every 20 employees	2 for the first 40 rooms plus 1 for every additional 40 rooms