



Metro Central Joint Development Assessment Panel Agenda

Meeting Date and Time: 17 May 2018; 10am
Meeting Number: MCJDAP/298
Meeting Venue: City of Canning
1317 Albany Highway
Cannington

Attendance

DAP Members

Ms Sheryl Chaffer (A/Presiding Member)
Mr Christopher Antill (A/Deputy Presiding Member)
Mr Michael Hardy (Specialist Member)

Item 8.1

Cr Renee McLennan (Local Government Member, Town of Bassendean)
Cr Jai Wilson (Local Government Member, Town of Bassendean)

Item 8.2

Cr Sara Saberi (Local Government Member, City of Canning)
Cr Jesse Jacobs (Local Government Member, City of Canning)

Officers in attendance

Item 8.1

Mr Christian Buttle (Town of Bassendean)

Item 8.2

Ms Nasrin Dehghani (City of Canning)
Mr Indi Gunathilaka (City of Canning)

Minute Secretary

Ms Barbara Rankin (City of Canning)

Applicants and Submitters

Item 8.1

Mr Nik Hidding (Peter Webb & Associates)
Mr Guy Grant (Montague Grant Architects)

Item 8.2

Mr Hide Shigeyoshi (Dynamic Planning)
Mr Leo Chong (Rechitects Architecture & Design)

Members of the Public / Media

Nil



1. Declaration of Opening

The A/Presiding Member declares the meeting open and acknowledges the past and present traditional owners and custodians of the land on which the meeting is being held.

2. Apologies

Mr Charles Johnson (Presiding Member)

3. Members on Leave of Absence

Panel member, Mr Charles Johnson has been granted leave of absence by the Director General for the period of 7 May 2018 to 30 May 2018 inclusive.

4. Noting of Minutes

Signed minutes of previous meetings are available on the [DAP website](#).

5. Declarations of Due Consideration

Any member who is not familiar with the substance of any report or other information provided for consideration at the DAP meeting must declare that fact before the meeting considers the matter.

6. Disclosure of Interests

Nil

7. Deputations and Presentations

- 7.1** Mr Nik Hidding (Peter Webb & Associates) presenting in support of the application at Item 8.1. The presentation will address the recommended conditions of approval.
- 7.2** Mr Guy Grant (Montague Grant Architects) presenting in support of the application at Item 8.1. The presentation will provide a response to the design issues including addressing some of the recommended design changes.
- 7.3** Mr Hide Shigeyoshi (Dynamic Planning & Developments) and Mr Leo Chong (Rechitects Architecture & Design) presenting in support of the application at Item 8.2. The presentation will request the modification of some of the recommended conditions.



8. Form 1 - Responsible Authority Reports – DAP Applications

- 8.1** Property Location: Lot 54 (Nos. 25-27) Hamilton Street;
 Lot 84 (No. 68) Old Perth Road; and
 Lot 85 (No. 70) Old Perth Road, Bassendean
 Development Description: Mixed Development Comprising Additions and
 Alterations to Nursing Home, Shops and 18
 Multiple Dwellings
 Applicant: Peter Webb & Associates
 Owner: T & T Management Services Pty Ltd
 Responsible authority: Town of Bassendean
 DAP File No: DAP/18/01379
- 8.2** Property Location: 14 Cecil Avenue, Cannington (Lot 301 on
 P70653)
 Development Description: Nine storey mixed development comprising 53
 multiple dwellings, two restaurant/cafes and
 four offices
 Applicant: Dynamic Planning and Developments Pty Ltd
 Owner: Abundance Australia Investment Pty Ltd
 Responsible authority: City of Canning
 DAP File No: DAP/18/01356

9. Form 2 – Responsible Authority Reports - Amending or cancelling DAP development approval

Nil

10. Appeals to the State Administrative Tribunal

The following State Administrative Tribunal Application has been finalised:

- City of South Perth - Lot 10 (19) Pether Road, Strata Lot 2 of Lot 340 (17) Pether Road, Lots 342 (53) Bickley Crescent, 11 (51A) Bickley Crescent, 12 (51) Bickley Crescent, Strata Lot 1 of Lot 340 (49) Bickley Crescent, Manning - 82 Aged and Dependent Dwellings with Ancillary Cafe and Community Room (Southcare)

11. General Business / Meeting Closure

In accordance with Section 7.3 of the DAP Standing Orders 2017 only the A/Presiding Member may publicly comment on the operations or determinations of a DAP and other DAP members should not be approached to make comment.



Form 1 - Responsible Authority Report

(Regulation 12)

Property Location:	Lot 54 (Nos. 25-27) Hamilton Street; Lot 84 (No. 68) Old Perth Road; and Lot 85 (No. 70) Old Perth Road, Bassendean
Development Description:	Mixed Development Comprising Additions and Alterations to Nursing Home, Shops and 18 Multiple Dwellings
DAP Name:	Metro Central Joint Development Assessment Panel
Applicant:	Peter Webb & Associates
Owner:	T & T Management Services Pty Ltd
Value of Development:	\$13 million
LG Reference:	2018-026
Responsible Authority:	Town of Bassendean
Authorising Officer:	Christian Buttle, Senior Planning Officer
DAP File No:	DAP/18/01379
Report Due Date:	Friday, 4 May 2018
Application Received Date:	16 February 2018
Application Process Days:	77 days
Attachment(s):	<p>1. Planning Report titled: Application for Planning Approval - Proposed Aged Care Facility, Multiple Dwellings & Shops - Prepared by Peter Webb and Associates</p> <p>Annexures to Planning Report comprising:</p> <ul style="list-style-type: none">(a) Annexure 1 – WAPC Amalgamation Approval.(b) Annexure 2 – Certificates of Title x 3.(c) Annexure 3 – Annotated Site Photographs.(d) Annexure 4 – Design Drawings comprising:<ul style="list-style-type: none">• EX1 – Existing Site Plan;• Schedule of Finishes 8 Dec 2017;• SK1 – Proposed Site Plan;

	<ul style="list-style-type: none"> • SK2 – Lower Ground Floor Plan; • SK3 – Upper Ground Floor Plan; • SK4 – First Floor Plan; • SK5 – Second Floor Plan; • SK6 – Third Floor Plan; • SK7 – Elevations; • SK8 – Elevations; • SK9 – Sections; • SK10 – Shadow Plan; • Perspective 1 – Old Perth Rd; and • Perspective 2 – From Hamilton St / Old Perth Rd corner. <p>(e) Annexure 5 – Landscape Plan.</p> <p>(f) Annexure 6 – Correspondence comprising:</p> <p>(i) 22 Oct 2014 from Peter Webb & Associates to Town of Bassendean; and</p> <p>(ii) 13 Nov 2014 reply from Town of Bassendean to Peter Webb & Associates.</p> <p>(g) Annexure 7 – Local Planning Policy No. 1 Compliance Report.</p> <p>(h) Annexure 8 – Waste Management Plan.</p> <p>(i) Annexure 9 – Traffic Impact Statement.</p> <p>(j) Annexure 10 – Contaminated Site Audit.</p> <p>(k) Annexure 11 – Stormwater Drainage Management Plan.</p> <p>2. Aerial Photo / Location Plan</p>
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Officer Recommendation:

That the Metro Central JDAP resolves to:

1. **Accept** that the DAP Application reference DAP/18/01379 is appropriate for consideration as a 'P' and 'D' land use ('P' for Nursing Home component) and compatible with the objectives of the zoning table in accordance with the Town of Bassendean Local Planning Scheme No. 10.
2. **Approve** DAP Application reference DAP/1801379 and accompanying plans dated 31 October 2017:

Drg No. EX1 Issue DA (site analysis plan)
Drg No. SK1 Issue B (site plan)
Drg No. SK2 Issue C (lower ground floor plan)
Drg No. SK3 Issue B (upper ground floor plan)

Drg No. SK4 Issue A (first floor plan)
Drg No. SK5 Issue A (second floor plan)
Drg No. SK6 Issue A (third floor plan)
Drg No. SK7 Issue A (elevations)
Drg No. SK8 Issue A (elevations)
Drg No. SK9 Issue A (sections)
Drg No. SK10 Issue A (shadow plan)
in accordance with Clause 68 of the *Planning and Development (Local Planning Schemes) Regulations 2015* and the provisions of the Town of Bassendean Local Planning Scheme No. 10, subject to the following conditions as follows:

Conditions

1. This decision constitutes development approval only and is valid for a period of two years from the date of approval. If the subject development is not substantially commenced within the two year period, the approval shall lapse and be of no further effect.
2. Prior to the issue of a Building Permit for this development, Lots 54, 84 & 85 shall be amalgamated into a single lot on a Certificate of Title or the owner shall enter into a legal agreement with the Town prepared by the Town's Solicitors at the owner's cost requiring amalgamation to be completed within twelve months of the issue of a building permit, or the completion of the development, whichever occurs earlier.
3. Solid walls or fences that are situated between the street alignment and the building line not exceeding 800mm in height above natural ground level.
4. External finishes according with those identified on the 'Schedule of Finishes' prepared by Montague Grant Architects and dated 8 December 2017 unless otherwise approved.
5. The blank section of wall associated with the fire pump room and transformer compound on the Old Perth Road frontage of the development shall be modified by replacing the solid balustrade to the balcony of the lounge above (which forms a continuation of the wall to the pump room and transformer) with clear glass balustrade and:
 - (a) Replacing the transformer and pump room with shop fronts to match the remainder of the design of the ground floor of the Old Perth Road frontage of the development, including awnings above; or
 - (b) Applying a piece of public art to this location to the satisfaction of the Town, and in accordance with the provisions contained within Local Planning Policy No. 1 Town Centre Strategy and Guidelines and Local Planning Policy No. 15 – Percent for Art Policy.
6. Solid balustrading to balconies shall be replaced with clear glass balustrading to the extent required that when viewed from the street balconies to the development are predominantly open to the satisfaction of the Town.

7. All multiple dwellings being provided with balconies incorporating a minimum usable area of 10 sq.metres within minimum dimensions of 2.4 metres. (see advice note).
8. An updated landscaping plan being provided prior to or with the application for a Building Permit for the Town's approval which provides full detail of the scope of works to be undertaken in both the private realm and the public realm adjoining the development site and which updates the plan submitted in conjunction with the application for development approval by:
 - (a) providing accurate details with respect to the Hamilton Street road reserve;
 - (b) providing details of proposed landscape treatment to the Hamilton Street road reserve; and
 - (c) incorporating street tree planting within the Hamilton Street road reserve in accordance with the Town's Street Tree Master Plan.
9. Street trees shall be a minimum height of 2m at the time of planting and shall be spaced generally at 7m centres.
10. The site shall be landscaped in accordance with the approved landscaping plan and shall be maintained thereafter.
11. Existing street trees within the street verge adjacent to the development site being protected with barricades during construction in accordance with the Town's Policy for street tree protection.
12. The submission of a detailed lighting plan is to be provided showing all security and safety lighting throughout all public and interior circulation areas, along with external lighting to the Old Perth Road and Hamilton Street frontages of the development site for the approval of the Town, prior to the issue of a building permit. Display lighting to commercial premises on both the Old Perth Road and Hamilton Street frontages shall be time-switched to remain on every evening until at least 15 minutes after the last train has left Bassendean Train Station.
13. The redundant crossover on the Old Perth Road frontage of the site and the second redundant crossover at the Hamilton Street / Old Perth Road intersection shall each be removed and the verge / footpath shall be reinstated to the satisfaction of the Town.
14. Works proposed within the road reserve around the perimeter of the site (such as footpath forward of the shop tenancies) shall be the subject of a separate plan to be submitted for the Town's approval in advance of any such works being undertaken.
15. The on site car parking spaces and access ways being constructed and maintained thereafter to the Town's specifications and those contained within AS2890.1 – Part 1: Off-street parking and Part 6: Off-street parking for people with disabilities. Drawings submitted for a Building Permit shall incorporate the following design changes:

- (a) The length of the accessible car bay and the adjoining visitor car bay shall each be increased to 5.4m minimum without compromising the prescribed aisle width behind these bays. The column to the rear of the visitor bay shall be positioned in accordance with Figure 5.2 of AS2890.1; and
 - (b) The width of the aisle between shared use car parking bays 19 and 20 shall be increased to a minimum of 6.1 metres, clear of the columns.
- 16. A longitudinal section of the vehicle access driveway to the lower ground floor car park shall be provided to the satisfaction of the Town prior to or in conjunction with the application for a Building Permit which demonstrates that the ramp to the car park has been designed in accordance with the provisions contained within CI 2.5.3 of AS2890.1 (Circulation roadway and ramp grades).
- 17. Car parking on any subsequent strata plan shall be allocated in accordance with the approved drawings and the following requirements:
 - (a) Each multiple dwelling shall be allocated 1 car parking bay;
 - (b) Nursing Home being allocated 20 car parking bays;
 - (c) 60 sq.m shop tenancies being allocated 2 car parking bays and the 99 sq.m shop tenancy being allocated 3 car parking bays; and
 - (d) 6 visitor car parking bays and the accessible car parking bay all being retained for the shared use of visitors to all components of the development.
- 18. Visitor parking spaces being clearly marked for "Visitors Only" and used only as such.
- 19. Prior to the submission of an application for a building permit, details of the security intercom system are to be provided to demonstrate that visitors can make contact with all components of the development in order to gain access to the visitor parking bays. The security intercom system is required to be installed and operational in accordance with the approved details prior to the occupation of the development on the subject lot and maintained thereafter.
- 20. A minimum of 12 bicycle parking spaces shall be provided within the secure car park and a minimum of 4 bicycle parking spaces shall be provided for visitors, external to the building. All bicycle parking spaces shall be constructed in accordance with the provisions of AS 2890.3 (as amended). Details of the location and design of the required bicycle parking spaces shall be submitted prior to or in conjunction with the application for a Building Permit.
- 21. The development shall be designed to accommodate storage of stormwater on site to a minimum of a 1:20 year storm event with any proposal to connect to the Town's drainage infrastructure network to accept stormwater associated with an event beyond 1:20 years incorporating a restricted outlet flow. (see footnote)

22. The provision of an externally accessed storage unit of not less than 4 sq.metres internal area for each dwelling. All stores to have minimum internal dimensions of 1.5m minimum with the exception of stores 10-14 which are approved with lesser internal dimensions subject to:
 - (a) These stores being allocated to the same dwelling as the car parking bay to which they are predominantly located in front of; and
 - (b) The door to these stores being removed and replaced with a roller door which incorporates a width that matches the car bay width forward of each respective store.
23. A pedestrian path (separate from car parking bays) being provided to stores 6-9.
24. External fixtures, including but not restricted to air-conditioning units, satellite dishes and non-standard television aerials, but excluding solar collectors, are to be located such that they are not visible from the street. Prior to the issue of a building permit, details being submitted of all proposed ventilation systems, including the location of plant equipment, vents and air conditioning units for the Town's approval. All equipment must be adequately screened to the satisfaction of the Town.
25. External clothes drying is prohibited where visible from the street.
26. Each dwelling shall be provided with a mechanical clothes dryer.
27. An updated Waste Management Plan (WMP) is to be submitted for the Town's approval prior to or in conjunction with the application for a Building Permit. The WMP shall address matters including, but not necessarily limited to, the following:
 - (a) Consistency with respect to the identified number of bins that will be needed to service the proposed development;
 - (b) The need for an updated WMP to be prepared in the event of future change of use to any of the shop tenancies where any proposed new use would generate additional waste beyond that which the plan has been designed for;
 - (c) The number of bins that are anticipated to require kerbside collection from the development other than the nursing home;
 - (d) The placement of bins only on the Hamilton Street verge area of the development site with no bins being placed on the Old Perth Road frontage while awaiting collection;
 - (e) The number of bins that will be provided to the multiple dwellings and to the shops;
 - (f) Details of advice to be provided to owners and occupiers regarding the WMP; and
 - (g) Details of how the WMP will continue to be applied in perpetuity across the life of the development, including the WMP being incorporated into the strata by-laws for the proposed development.

28. The bin storage areas on site are:
- (a) To be surrounded by a 1.8 metre high minimum wall with a self-closing gates (where outside a building) or doors (where inside a building);
 - (b) To be provided with 75mm min thickness concrete floors grading to a 100mm industrial floor waste, with a hose cock to enable both the bins and bin storage area to be washed out; and
 - (c) To be provided with internal walls that are cement rendered (solid and impervious) to enable easy cleaning.
29. Bins shall be stored only in an approved, designated location, and shall not be stored within any of the approved car parking bays or associated access aisles.
30. Visually impermeable roller shutters (external and internal), doors, grilles and security bars shall not be installed on any part of the frontage of the development facing Old Perth Road or Hamilton Street.
31. Prior to commencement of development, investigation for soil and groundwater contamination is to be carried out to determine if remediation is required.

If required, remediation, including validation of remediation, of any contamination identified shall be completed prior to completion of construction works to the satisfaction of the Town of Bassendean on advice from the Department of Water and Environmental Regulation, to ensure that the site is suitable for the proposed use.

Investigations and remediation are to be carried out in compliance with the Contaminated Sites Act 2003 and current Department of Water and Environmental Regulation contaminated sites guidelines.

32. An acid sulphate soils self-assessment form and, if required as a result of the self-assessment, an acid sulphate soils report and an acid sulphate soils management plan shall be submitted to and approved by the Department of Water and Environmental Regulation before any subdivision works or development are commenced. Where an acid sulphate soils management plan is required to be submitted, all subdivision works shall be carried out in accordance with the approved management plan.
33. Prior to the issue of a building permit the applicant shall lodge a Construction Management Plan to the satisfaction of the Town of Bassendean that provides details of the following:
- (a) Estimated timeline and phasing of construction;
 - (b) Dust control measures;
 - (c) Noise control measures;
 - (d) Access points for heavy vehicles during demolition and construction; and
 - (e) 24 hours contact details of staff available to deal with either an emergency situation or to respond to complaints.

34. The incorporation of public art into the proposed development or a cash-in-lieu payment of one percent of the construction cost of the proposed development in accordance with the Town's adopted Local Planning Policy No. 15 "Percent for Art Policy". Detailed arrangements and agreement with respect to art to be provided on site or alternatively payment of the required fee shall be made prior to or in conjunction with the application for a Building Permit.
35. Prior to the issue of a Building Permit, the applicant shall pay to the Town of Bassendean the 2% contribution of the building construction costs as prescribed under LPP No. 1 - Town Centre Area Strategy and Guidelines for Bassendean. The 2% contribution is inclusive of the 1% public art contribution required in accordance with the previous condition.
36. Prior to the issue of a building permit, a development bond for the sum of \$9,000 being lodged with the Town to ensure the satisfactory completion of all works associated with landscaping, car parking, access ways, screen walls, and other associated works.
37. The building hereby approved shall not be occupied until all of the conditions of development approval have been complied with to the satisfaction of the Town, unless the applicant has entered into an agreement with the Town to comply with those conditions within a specified period.

Advice Notes

1. The issue of a Building Permit is required prior to the commencement of any construction works on site.
2. The street number being prominently displayed at the front of the development.
3. Individual unit numbers being prominently displayed at the pedestrian entrance to each individual dwelling.
4. Balconies shall be modified generally in accordance with the design modifications advocated within this report.
5. Dial Before You Dig:
Underground assets may exist in the area that is subject to your application. In the interests of health and safety and in order to protect damage to third party assets please telephone 1100 before excavating or erecting structures. If alterations are required to the configuration, size, form or design of the development upon contacting the Dial Before You Dig service, an amendment to the development consent (or a new development application) may be necessary. Individuals owe asset owners a duty of care that must be observed when working in the vicinity of plant or assets. It is the individual's responsibility to anticipate and request the nominal location of plant or assets on the relevant property via Dial Before You Dig "1100" number in advance of any construction activities.

6. Telecommunications Act 1997 (Commonwealth)

The **nbn**TM network is Australia's new landline phone and internet network. It's designed to provide all Australians with access to fast and reliable phone and internet services, no matter where you live.

nbn (the company) was established in 2009 to design, build and operate Australia's new broadband network. They are responsible for providing wholesale services to phone companies and internet service providers who offer **nbn**TM plans for homes and businesses.

Each building unit or lot in a new real estate development needs to be serviced by "fibre-ready facilities" under the Telecommunications Act. For new homes, nbn enables developers to connect to the **nbn**TM network upfront in the new build process – but the developer needs to apply via www.nbn.com.au/newdevelopments. **nbn** asks that you apply at least 3 months before civils commence. If you do not have these facilities in place, there may be a delay with your titles process.

Telstra and **nbn** (and its authorised contractors) are the only companies that are permitted to conduct works on network and assets.

Any person interfering with a facility or installation owned by Telstra or **nbn** is committing an offence under the Criminal Code Act 1995 (Cth) and is liable for prosecution. Furthermore, damage to telecommunication infrastructure may result in interruption to the provision of essential services and significant costs. If you are aware of any works or proposed works which may affect or impact on assets in any way, please contact Telstra's Network Integrity Team on 1800 810 443 or **nbn** on relocationworks@nbnco.com.au.

7. If the development approval lapses, no development shall be carried out without further approval having first been sought and obtained.
8. Any adjustment to the design that replaces the transformer and pump room with shop fronts to match the remainder of the Old Perth Road frontage will also need to take account of the need to have regard to impacts on the layout of the car park and associated impact on the required number of car parking bays to be provided for the development.
9. If the applicant is aggrieved by this decision there is a right of review under Part 14 of the Planning and Development Act 2005. An application for review must be lodged within 28 days of the determination.
10. Separate approval must be obtained from the Town's Asset Services Department for the proposed crossover.
11. Separate approval must be obtained from the Town's Asset Services Department for any proposed connection to the Town's drainage infrastructure network.

12. A separate application and approval is required for any signage proposed for the development.
13. The applicant must liaise with Main Roads Western Australia with respect to arrangements to be implemented for the required relocation of the electronic 40kph school zone sign.
14. Department of Water and Environmental Regulation related advice:

In accordance with regulation 31(1) of the Contaminated Sites Regulations 2006, a Mandatory Auditor's Report, prepared by an accredited contaminated sites auditor, will need to be submitted to the Department of Water and Environmental Regulation as evidence of compliance with the condition relating to site contamination. A current list of accredited auditors is available from www.dwer.wa.gov.au."

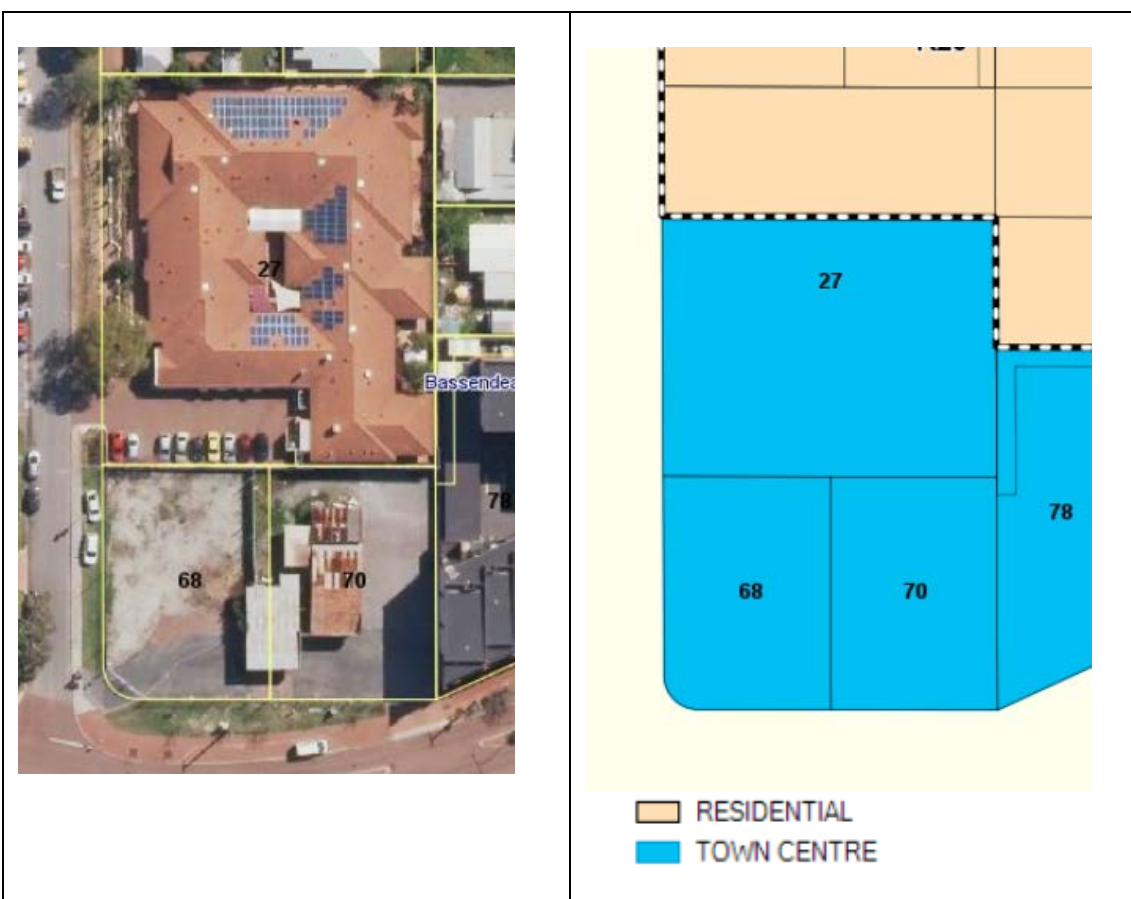
An "acid sulphate soils self-assessment form" can be downloaded from the Western Australian Planning Commission's website at: www.planning.wa.gov.au.

The "acid sulphate soils self-assessment form" makes reference to the Department of Environment and Conservation's "Identification and Investigation of Acid Sulphate Soils" guideline. This guideline can be obtained from the Department of Water and Environmental Regulation website at: www.dwer.wa.gov.au."

Details: outline of development application

Zoning within MRS:	The entirety of the development site is zoned Urban under the Metropolitan Region Scheme.
Zoning within LPS10	The majority of the site is zoned Town Centre by the Town of Bassendean Local Planning Scheme No. 10 (LPS10). A portion of the site upon which the existing Nursing Home is situated is zoned Residential with an R20 density code under LPS10. (See extract of Zoning Map and Aerial Photo, below)
Insert Use Class:	Shop (P) use within the Town Centre Zone; Multiple Dwelling (D) use within the Town Centre Zone; and Nursing Home (use not listed)
Insert Strategy Policy:	Town of Bassendean Local Planning Policy No. 1 - Town Centre Strategy and Guidelines
Insert Development Scheme:	Town of Bassendean Local Planning Scheme No. 10 (District Zoning Scheme).

Insert Lot Size:	Lot 54 (Nos. 25-27) Hamilton Street: 3,101 sq.m; Lot 84 (No. 68) Old Perth Rd: 922 sq.m; Lot 85 (No. 70) Old Perth Rd: 924 sq.m <hr/> TOTAL COMBINED AREA = 4,947 sq.m <hr/>
Insert Existing Land Use:	Lot 54 (Nos. 25-27) Hamilton Street – Nursing Home Lots 84 and 85 (Nos. 68-70) Old Perth Road – Currently unused. Most recently used for the purpose of Motor Vehicle Sales.



The application proposes:

- Retention of the existing Nursing Home on Lot 54 (Nos. 25-27) Hamilton Street;
- Internal modifications and additions to the Nursing Home and integration of this facility into the new development;

- Removal of the former Service Station / Car Yard development on Lots 84 and 85 (Nos. 68-70) Old Perth Road and development of this land in the following manner:
 - (a) Lower Ground Floor – Three shop tenancies along with 52 car parking bays, store rooms and service infrastructure (bin storage area / fire pump room / transformer compound);
 - (b) Upper Ground Floor – Aged Care Facility which integrates with the existing Nursing Home;
 - (c) First Floor – Aged Care Facility which integrates with the existing Nursing Home;
 - (d) Second Floor – 9 Multiple Dwellings; and
 - (e) Third Floor – 9 Multiple Dwellings.

The following table identifies the zoning of the site and associated land use permissibility:

Zoning	Proposed Land Use	Land Use Permissibility
Town Centre (Majority of Development Site)	• Shops	• 'P' (permitted)
	• Multiple Dwellings	• 'D' (not permitted unless discretion is exercised to grant approval)
	• Nursing Home	• Use Not Listed (see further comments after table)
Residential (Small portion of development site)	The part of the Nursing Home which is situated on the land that is zoned Residential is to remain unchanged from that which currently exists.	

Use Not Listed

CI 3.4.2 of LPS10 states that:

“If a person proposes to carry out on land any use that is not specifically mentioned in the Zoning Table and cannot reasonably be determined as falling within the type, class or genus of activity of any other use category the local government may:

- a) Determine that the use is consistent with the objectives of the particular zone and is therefore permitted;*
- b) Determine that the use may be consistent with the objectives of the particular zone and thereafter follow the advertising procedures of clause 67 of the deemed provisions in considering an application for development approval; or*
- c) Determine that the use is not consistent with the objectives of the particular zone and is therefore not permitted.”*

Clause 3.2.3 of LPS10 sets down the objectives of the Town Centre Zone.

“The objectives of the Town Centre Zone are:

- a) To promote, facilitate and strengthen the town centre zone as the principal focus of the district in terms of shopping, professional, administrative, cultural, entertainment and other business activities;*
- b) To recognise the unique and specific function of each precinct within the town centre in terms of:*
 - (i) Traditional main street pedestrian based commercial retail, west of Wilson Street;*
 - (ii) Civic, drive-by commercial and town centre living uses between Wilson and Whitfield Street; and*
 - (iii) Car based retail in the Bassendean Village Shopping Centre;*
- c) To accommodate a diversity of commercial, cultural and residential facilities;*
- d) To encourage the integration of existing and proposed facilities within the zone so as to promote ease of pedestrian movement and the sharing of infrastructure, as well as to retain the opportunity for any future expansion of the area;*
- e) To achieve safety and efficiency in traffic circulation;*
- f) To ensure that buildings, ancillary structures and advertising are of high quality and achieve an architectural theme contributing to the uniqueness of the townscape;*
- g) To provide sheltered places for pedestrians and shade to car parking areas;*
- h) To preclude the storage of bulky and unsightly goods from public view;*
- i) To provide landscaping appropriate to the scale of development; and*
- j) To ensure that development conforms with the Local Planning Strategy and the principles of any Local Planning Policy adopted by the Council.”*

The proposed Nursing Home land use is consistent with the objectives set down for the Town Centre Zone.

Background:

The Town's records for the development of Lot 54 (Nos. 25-27) Hamilton Street show the following applications:

- 1971 – 39 Bed 'C' class hospital;
- 1975 – Application for minor additions and alterations;
- 1994 – Outbuilding;
- 2002 – Additions and Alterations to Nursing Home (which increased the number of beds on site to 44);
- 2005 – Patio; and
- 2016 – Solar Panels.

The existing Nursing Home is intended to be retained, modified, extended and incorporated into the new development.

Noting that the former car yard site is to be completely redeveloped, the development history of this site will not be discussed in detail. The site was originally developed as a service station circa 1930 and was used as a car sales yard for approximately 30 years until around late 2015 / early 2016. The site has been unoccupied since this time.

The proposal mixed use development is generally consistent with the vision set down for the Old Perth Rd precinct within the Town of Bassendean Local Planning Policy No. 1 – Town Centre Strategy and Guidelines. It is reflective of other mixed use developments that have occurred within the Town Centre within the last 5 years including:

- 78-80 Old Perth Rd (directly adjoining the development site) – Three (and part four) storey development comprising ground floor commercial tenancies and 34 multiple dwellings;
- 85 Old Perth Rd (diagonally opposite the development site) – Five storey development comprising ground floor commercial tenancies and 40 multiple dwellings; and
- 93 Old Perth Rd (approx. 120m from development site) – Four storey development comprising ground floor commercial tenancies and 25 multiple dwellings.

A large portion of the development site is already used for nursing home purposes and a separate nursing home exists directly opposite the proposed development.

Legislation & policy:Local Government Legislation and Policy

- (a) Town of Bassendean Local Planning Scheme No. 10, including:
- Clause 3.2.3 – Objectives of Town Centre Zone;
 - Clause 4.5 – Variations to Site and Development Standards and Requirements;
 - Clause 4.7.2 – Car parking;
 - Clause 4.10 – General Development Requirements – Town Centre Zone

LPS10 is accessible via the following link:

<http://www.bassendean.wa.gov.au/documents/town-planning-local-planning-scheme-10-gazetted>

- (b) Local Planning Policy:
- Local Planning Policy No. 1 – Town Centre Strategy and Guidelines;
 - Local Planning Policy No. 8 – Parking Specifications;
 - Local Planning Policy 10 – Window Security for Non-Residential Property Facades;
 - Local Planning Policy No. 14 – On-site Stormwater Retention Policy;
 - Local Planning Policy No. 15 – Percent for Art Policy; and
 - Local Planning Policy No. 18 – Landscaping with Local Plants.

Relevant Local Planning Policies are accessible via the following link:
<http://www.bassendean.wa.gov.au/documents/town-planning-local-planning-scheme-10-policies>

(c) Town of Bassendean Strategic Community Plan

The following components of the Town's adopted Strategic Community Plan 2017-2027 are of relevance when considering the application for development approval:

Strategic Priority 3: Built Environment

Objective 3.1: Plan for an increased population and changing demographics	Strategy 3.1.1 Facilitate diverse housing and facility choices.
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Strategic Priority 4: Economic

Objective 4.1: Build Economic Capacity	Strategy 4.1.1 Encourage and attract new investment and increase capacity for local employment.
	Strategy 4.1.2 Plan for and build capacity for commercial and industrial.
Objective 4.2: Facilitate local business retention and growth	Strategy 4.2.2 Continue the activation of Bassendean's Town Centre.

State Government Policies

The following state government policies are of relevance when considering the application for development approval:

- (a) Perth and Peel @ 3.5 million (Bassendean is an identified District Centre)
- (b) State Planning Policy 3.1 – Residential Design Codes of Western Australia; and
- (c) State Planning Policy 4.2 – Activity Centres for Perth and Peel.

Local Policies

The main policy against which the application for development approval must be assessed is the Town's adopted Local Planning Policy No. 1 – Town Centre Strategy and Guidelines.

Consultation:

Public Consultation

The application was advertised by mail to the properties highlighted in red on the following aerial photo extract.



Consultation was not applicable for the property on the opposite side of Hamilton St cnr Old Perth Rd as this site (which is also developed with a nursing home) is held in the same ownership as the development site.

A total of seven (7) public submissions were received in response to the advertising of the application with the matters raised in the submissions, along with an officer response, summarised in the following table:

Comments in support of application		Officer's Comments
1.	Nursing Home land use is appropriate for the site.	Supported. The proposed development incorporates (in part) an extension to an existing nursing home. A separate nursing home also exists on the opposite corner of Hamilton Street and Old Perth Road.
2.	Height of building is acceptable and in keeping with streetscape noting height of building at 85 Old Perth Rd.	Supported. The Town's adopted LPP1 – Town Centre Strategy and Guidelines contemplates building heights of between 3 and 5 stories.

3.	No objection if a car parking shortfall is proposed.	Conditionally Supported. See more detailed comments in planning assessment section of report.
4.	Proposed development will benefit the immediate area greatly.	Conditionally Supported. General development concept supported. Various detailed matters requiring further adjustment / refinement as discussed in more detail throughout the report.
Comments objecting to the application (or components of the application)		Officer's Comments
1.	In accordance with CI 8.3 and 8.5 of LPP1, the blank wall that is more than 2m wide to the eastern end of the ground floor should be removed and replaced with shop frontages.	Noted. The submitters' comment is acknowledged and accurately reflects the provisions contained within LPP1. This component of the design is the subject of more detailed discussion and consideration within the planning assessment section of the report under Design element 6.2.4 – Building Appearance.
2.	In accordance with CI 8.7 of LPP1, an awning should be provided along the length of the Old Perth Rd frontage and also along Hamilton St.	Not supported. An awning is provided along the length of the commercial frontages on the Old Perth Road frontage of the development. This awning also wraps around the Hamilton Street frontage of the ground floor shop 3 and an awning is also provided above the entrance to the lobby immediately adjacent to shop 3. Provision of an awning along the full length of the Hamilton Street frontage of the development is not warranted for the following reasons: (a) The ground floor of the development is set back around 2.4 metres from the Hamilton Street property boundary; (b) The Hamilton Street footpath is positioned immediately adjacent to the kerb and not the property boundary (the footpath is around 3.6m from the property boundary); and (c) Noting the combined 6m separation between the building alignment and footpath alignment described in points (a) and (b) above, an

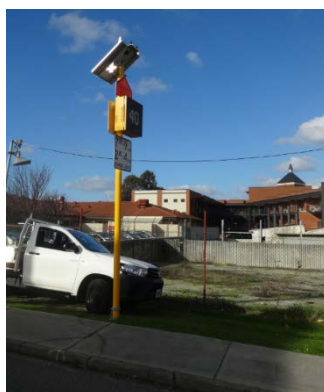
		awning on this side of the building will serve little practical purpose.
3.	<p>Privacy / Overlooking – windows from the development look directly into our courtyard.</p> <p>(3 separate submissions)</p>	<p>Not supported.</p> <p>This component of the design is the subject of more detailed discussion and consideration within the planning assessment section of the report under Design element 6.4.1 – Visual Privacy.</p>
4.	<p>Reduced Sunlight and Ventilation increasing dampness.</p> <p>West side of the 'Whitfield' development is the only open side of this development which provides a breezeway and view.</p> <p>(5 separate submissions)</p>	<p>Not Supported.</p> <p>While it is acknowledged that the proposed development, if approved, would cast afternoon shadow toward the 'Whitfield' development, the proposal is fully compliant with overshadowing provisions contained within both the R-Codes and the Town's LPP1 – Town Centre Strategy and Guidelines.</p>
5.	<p>Increased noise, traffic and pollution from staff, residents and visitors.</p> <p>(2 separate submissions)</p>	<p>Not supported.</p> <p>The land uses proposed are consistent with those already established within the Town Centre and the intensity of development is commensurate with that expected within the Town Centre.</p>
6.	<p>The Whitfield development is mostly 3 stories and would be dwarfed / towered over by a 5 storey building adjacent.</p> <p>(4 separate submissions)</p>	<p>Not supported.</p> <p>The building height contemplated is accommodated by the Town's adopted LPP1 – Town Centre Strategy and Guidelines, which sets down parameters for development of this kind.</p>
7.	<p>Proximity of development – potential fire hazard if too close.</p> <p>(2 separate submissions)</p>	<p>Not supported.</p> <p>This is a matter that will be appropriately addressed in conjunction with the application for a building permit for the proposed development.</p>
8.	<p>A drainage problem already exists with the nursing home which will be exacerbated by the excavation required for the car park.</p>	<p>Not supported.</p> <p>This is a matter for which information has been provided in support of the application for development approval, and for which more detailed information will also need to be provided in support of the application for a building permit.</p>

		Drainage associated with any completed development needs to be appropriately contained on site / disposed of, and if this is not occurring, there are compliance actions that can be undertaken to address any areas of non-compliance.
9.	Adverse impact on property values. (4 separate submissions)	Not supported. The impact (if any) on the value of other properties is unknown and is not a valid planning consideration.
10.	A smaller development closer in character to the existing nursing home buildings would be supported. (2 separate submissions)	Noted. Comments regarding building height are addressed above.

Consultation with other Agencies or Consultants

Main Roads Western Australia (MRWA)

The proposed development was referred to MRWA as the proposed new crossover which serves the main car park for the development conflicts with the location of the recently installed electronic 40kph school zone sign that is shown in the photo below.



The proposed development would require the sign to be located approximately 2m toward Old Perth Rd (south). MRWA have advised that the proposed re-location can be accommodated, and the applicant will need to liaise directly with this agency with respect to required works

Department of Water and Environmental Regulation (DWER)

The proposed development was referred to DWER as lots 84-85 (Nos. 68-70) Old Perth Rd were each reported as suspected contaminated sites under the Contaminated Sites Act 2003 in February 2014, noting the former use of these lots as a service station / mechanical repair station.

DWER advise that the proposed development involves a change of land use from a potentially contaminating activity to a sensitive land use and therefore, DWER would typically recommend that a condition be placed on any approval granted for the development requiring the assessment and, if required, management of contamination to ensure that the site is suitable for the proposed development.

DWER also note that the application documentation includes a letter dated 11 Jan 2016 from an accredited contaminated sites auditor (Vanessa Bryant of Senversa) which demonstrates that appropriate action has commenced in relation to the site. (Also see Annexure 10 – Contaminated Site Audit (Senversa) to Applicant's planning report)

To ensure that identified contamination is appropriately managed or remediated prior to development, DWER have recommended that the following contamination condition and advice note be included in any approval granted for development of the site:

“Condition X

- a) Prior to commencement of development, investigation for soil and groundwater contamination is to be carried out to determine if remediation is required.*
- b) If required, remediation, including validation of remediation, of any contamination identified shall be completed prior to completion of construction works to the satisfaction of the Western Australian Planning Commission on advice from the Department of Water and Environmental Regulation, to ensure that the site is suitable for the proposed use.*

Investigations and remediation are to be carried out in compliance with the Contaminated Sites Act 2003 and current Department of Water and Environmental Regulation contaminated sites guidelines. (Department of Water and Environmental Regulation)

Advice

In relation to Condition [X] and in accordance with regulation 31(1) of the Contaminated Sites Regulations 2006, a Mandatory Auditor's Report, prepared by an accredited contaminated sites auditor, will need to be submitted to the Department of Water and Environmental Regulation as evidence of compliance with Condition [X]. A current list of accredited auditors is available from www.dwer.wa.gov.au.”

DWER go on to state that the site is identified as having a moderate to low risk of acid sulfate soils occurring within 3m of natural ground level, but a high to moderate risk beyond 3m beneath natural ground level, and that a similar development adjacent to the proposed development required active management of acid sulfate soils. DWER advise that it is also likely that acid sulfate soil disturbance will occur through soil excavation and dewatering activities in conjunction with the proposed development. On this basis, they also recommend that the following acid sulfate soil condition and advice note be applied in the event that the proposed development is approved:

“Condition X

- a) An acid sulphate soils self-assessment form and, if required as a result of the self-assessment, an acid sulphate soils report and an acid sulphate soils management plan shall be submitted to and approved by the Department of Water and Environmental Regulation before any subdivision works or*

development are commenced. Where an acid sulphate soils management plan is required to be submitted, all subdivision works shall be carried out in accordance with the approved management plan. (Department of Environment and Conservation)

Advice

Condition [X] makes reference to an “acid sulphate soils self-assessment form”. This form can be downloaded from the Western Australian Planning Commission’s website at: www.planning.wa.gov.au.

The “acid sulphate soils self-assessment form” makes reference to the Department of Environment and Conservation’s “Identification and Investigation of Acid Sulphate Soils” guideline. This guideline can be obtained from the Department of Water and Environmental Regulation website at: www.dwer.wa.gov.au.”

External Design Review

The Town took the opportunity to seek independent design review input following an earlier attempt to submit an application for the proposed development (this earlier application was not formalised).

This design review took the form of planning staff from the Town discussing the plans with an Architect from Hames Sharley, the consultants who had been responsible for preparation of LPP1 – Town Centre Strategy and Guidelines.

Comments resulting from this initial design review which were conveyed to the applicant are provided below:

Comments Resulting from Architectural Review including consideration of Bulk and Scale (recession plane for solar access for street) along with Cross Ventilation and Solar Access for development itself

- Open up the ground level courtyard to more sun (increase size), noting:
 - (a) the limited solar access that is afforded to this space; and
 - (b) the scale of built form surrounding this space.(i.e. four storeys of built form around a small courtyard)
- Consider opportunities to bring at least the nursing home levels of the building out to the Old Perth Road and Hamilton Street property boundaries to assist in this respect (opportunity exists for these levels of the building being brought out to street boundaries);
- Landscaping detail shown on drawings for central courtyards are highly misrepresentative of landscape treatment that could actually be achieved within this space (drawings show 7m high trees on top of concrete slab to car park below with planters incorporating 400mm soil depth);
- Activate the area in front of the blank wall on the Hamilton Street side of the building which sits between shop 3 and the car park entry (i.e. consider incorporating a break out space for nursing home patients and their families into the design on the outside of the building into the design of the project);
- Blank wall to transformer and fire pump room on Old Perth Road frontage of the development only acceptable if a suitable public art concept can be formulated for consideration in conjunction with the application for development approval;

- Increase size of entry foyer to development and consider relocation to corner of building or Old Perth Road frontage;
- Provide weather protection to entry foyer (none shown on perspectives);
- Consider direct link between entry foyer and adjoining commercial tenancy, especially if it is contemplated that it may be a café;
- Consider balconies surrounding lounges on OPR / Hamilton St corner;
- Reconsider the impact of the modifications to the existing entry to the existing section of nursing home facing Hamilton Street. The revised entry arrangement is considered to be inferior to that which currently exists. An entry of an equivalent standard to that which currently exists should be maintained as the existing section of nursing home will operate independently from the new section of development;
- Open up corridors throughout the proposed development to the outside through the introduction of windows and 'view corridors' within the building. Proposed development is very internalised and internal amenity for nursing home in particular but also apartment occupiers could be improved greatly by internal design adjustments to provide a relationship between the inside spaces and the outside. At the moment, the view down corridors is commonly to exit doors or blank walls. See markings on attached plans for a diagrammatic explanation in this respect;
- Integration of two buildings and carrying over architectural language from existing structure into new building. Perspectives show a very different built form between what is proposed and what is existing. Consider introducing some sections of pitched roof over some of the lower sections of the proposed building to tie in with the pitched roof form of the existing building (and the pitched roof which is proposed over the uppermost level of the proposed building);
- Crime Prevention Through Environmental Design (CPTED) – be mindful of the emergency exit next to the fire pump room – don't create a space which is enclosed on both sides (as shown on the perspectives). Make sure that the right hand side of this area is not enclosed and is stepped back to tie in with the same design approach that has been utilised with the adjoining 'Whitfield' development (see attached photo)

Building Bulk

No concerns held with building bulk, provided that shadowing does not extend beyond kerb line on opposite side of Old Perth Road. Indeed, it was suggested that it may be possible to bring some sections of the building closer to street boundaries.

Cross Ventilation / Solar Access

If there is a desire to push forward with the design concept as presented (what I will call the donut design for ease of reference) in lieu of a design incorporating a single building layer along street boundaries along with fully enclosed circulation spaces for the apartments, which are both notionally at odds with the design approach advocated within the Town Centre Policy and Strategy should only be supported where there is refinement to the design concept to provide:

- Increased size central courtyard;
- Improved cross-ventilation within individual units; and
- Refinement to design to allow optimised solar access to living areas.

Within Part 6 of their written planning report ('Response to Pre-Application Issues'), the applicant has provided comment in relation to how the plans that are now the subject of formal consideration were modified in relation to the pre-application discussions.

The main changes that have resulted from the drawings that are now the subject of consideration to those which were first provided to the Town are summarised as follows:

- Ground level courtyard increased in size from approximately 8m x 12.5m (96 sq.m) to 11.5m x 14.5m (167 sq.m);
- Slight increase in extent of active frontage to Hamilton St frontage;
- Re-location of vehicle access to car park from Old Perth Rd frontage to Hamilton St frontage;
- Introduction of balconies to the nursing home component of the development at the Hamilton St / Old Perth Rd corner of the development;
- Introduction of sections of 'mid-level' pitched roof on the additions in an attempt to provide greater connectivity in design between existing building and proposed works; and
- Significant design re-configuration to Multiple Dwellings in order to provide enhanced solar access to living areas and opportunities for cross-ventilation along with provision of vented sky lights to all multiple dwellings on the third floor.

In general, the design changes are seen to have positively improved the design from that which was first presented to the Town.

Planning assessment:

A summary of the planning assessment is provided below:

Design Element	Residential Design Codes	Town Centre Strategy	Compliance / Officer Comments
6.1.1 Building Size	Maximum permissible plot ratio of 2.0.	<p>Clause 7.5 – Building Envelope:</p> <p>An agreed envelope of footprint and height will define new development on each lot. There is no plot ratio limit in the Town Centre.</p> <p>A minimum height of 3 storeys or 10 metres is set for buildings in the Town Centre.</p>	<p>Complies.</p> <p>No plot ratio limit prescribed.</p>

Design Element	Residential Design Codes	Town Centre Strategy	Compliance / Officer Comments
6.1.2 Building height	Top of external wall = 18m. Top of pitched roof = 21m.	Clause 7.5 – Building Envelope: A min height of 3 storeys and a max height of 5 storeys.	Complies. A maximum building height of 5 storeys is proposed.
Design Element	Residential Design Codes	Town Centre Strategy	Compliance / Officer Comments
6.1.3 Street setback	Min primary street setback 2 m. Minimum secondary street setback 2 m.	Clause 7.5 – Building Envelope: Development should generally have nil setback to front and side boundaries. Residential entry foyers at ground level can have a nil setback.	Complies. Nil setback generally to ground floor commercial development on Old Perth Road frontage of development site. 2.4m setback generally to ground floor on Hamilton Street frontage of development site.
Design Element	Residential Design Codes	Town Centre Strategy	Compliance / Officer Comments
6.1.4 Lot boundary setbacks	Table 5 = prescribed side setback of 4m.	Clause 7.5 – Building Envelope: Development should generally have nil set back to front and side boundaries. Rear setbacks should be provided suitable to accommodate parking and avoid overshadowing of neighbouring buildings. Rear setbacks from residential adjoining should provide privacy and comply with R Code requirements.	Does Not Comply with Deemed-to-Comply provisions of the R-Codes. Consideration against Design principles required. See detailed comments, below.

Provisions within LPP1 take precedence over those specified within Table 5 of the R-Codes. However, acceptability of side setbacks proposed alongside the 'Whitfield' development at Nos. 78-80 Old Perth Rd are largely to be determined having regard to visual privacy considerations. As such, see further comment in part 6.4.2 – Visual Privacy, later within the report.			
Design Element	Residential Design Codes	Town Centre Strategy	Compliance / Officer Comments
6.1.5 Open space	No requirements specified.	No requirements specified.	Complies.
Design Element	Residential Design Codes	Town Centre Strategy	Compliance / Officer Comments
6.2.1 Street surveillance	<p>Street elevation addresses street and clearly defined entry.</p> <p>Building has habitable room windows or balconies facing street.</p> <p>Basement parking structures no more than 1m above ground level.</p>	<p>Clause 8.7 – Awnings, canopies and balconies:</p> <p>Other elements such as balconies and terraces provide spaces for people to be part of the street environment and contribute to passive surveillance as 'eyes on the street'.</p> <ul style="list-style-type: none"> Balconies and terraces are encouraged on street facades in residential and mixed use buildings; and Balconies should have predominantly open balustrades, while considering the need for screening of washing and air conditioner units and solar screens. 	<p>Does not comply with LPP1 requirements.</p> <p>Consideration against the provisions of CI 6.3 – Variation Discretion of LPP1 required in relation to balcony design.</p>
The proposal demonstrates compliance with R-Code provisions as both the Hamilton Street and Old Perth Road frontages of the building address the street with facades parallel to the street and clearly defined entry points which are visible and accessed from the street.			

The building has both habitable room windows and balconies which face each of the street frontages although the balustrading to the balconies is more solid than open which conflicts with the requirements contained within LPP1 and which calls for “predominantly open balustrades”.

This matter could be addressed by way of condition of approval, if the development were to be approved.

Design Element	Residential Design Codes	Town Centre Strategy	Compliance / Officer Comments
6.2.2 Street walls and fences	Front walls and fences within the front setback are visually permeable above 1.2m	Clause 9.5 – Safety and Security: Solid fencing / screening above 0.8m high is discouraged on street frontages.	Does not comply with provisions of LPP1 – Town Centre Strategy and Guidelines. Consideration against the provisions of CI 6.3 – Variation Discretion of LPP1 required in relation to wall/fence heights within the Hamilton St street setback area. Hamilton Street frontage of site contains two sections of solid brick wall/fence (one adjacent to car park entry and one adjacent to main lobby) which each exceed 0.8m in height above natural ground level. No solid fencing on Old Perth Road frontage of site.

The solid wall/fence alongside the main entry to the car park reaches approximately 1.65m in height above natural ground level.

The solid wall/fence alongside the main entry lobby reaches approximately 1.05m in height above natural ground level.

There is nothing preventing the height of these sections of solid wall/fence being lowered to meet provisions contained within LPP1, and lowering height would have beneficial outcomes from a crime prevention through environmental design (CPTED) perspective.

This matter could be addressed by way of condition of approval, if the development were to be approved.

Design Element	Residential Design Codes	Town Centre Strategy	Compliance / Officer Comments
6.2.3 Sight lines	Walls, fences and other structures truncated within a 1.5m x 1.5m truncation area adjacent to intersection of driveway and street alignment.	No specific provisions.	Complies.
Design Element	Residential Design Codes	Town Centre Strategy	Compliance / Officer Comments
6.2.4 Building appearance	Buildings that comply with the provisions of a special control area.	Part 8, including: <ul style="list-style-type: none"> • 8.2 – Building character; • 8.3 – Facades; • 8.4 – Roofs; • 8.5 – Old Perth Road frontage; • 8.6 – Building Entry; • 8.7 – Awnings, canopies & balconies; • 8.8 – Materials and colour; • 8.9 – Signage and public art; and • 8.10 – Plant and equipment. See more detailed comments on policy requirements, below.	Does not comply with provisions of LPP1 – Town Centre Strategy and Guidelines. Consideration against the provisions of CI 6.3 – Variation Discretion of LPP1 required in relation to various components of design as discussed below.
LPP1 – Town Centre Strategy and Guidelines sets down detailed design requirements for new development as summarised below: <u>8.2 - Building Character:</u> <ul style="list-style-type: none"> • Buildings should reflect contemporary lifestyle, function and materials and not mimic historic styles; and • Buildings should have a proportion and scale appropriate to their location and respecting neighbouring buildings. 			

8.3 – Facades:

- Ground floor facades should be distinctive from upper levels;
- Circulation spaces such as stairs and foyers should be positioned and glazed to add activity that is visible from the street; and
- Glazing of facades is encouraged to provide visibility between inside and outside the building.

8.4 – Roofs:

- Pitched roofs should respect and be consistent in pitch with roofs in close proximity.

8.5 – Old Perth Road frontage:

- Non-residential and mixed use buildings shall have nil setbacks to Old Perth Road frontage;
- Glazed shopfronts are required in retail and commercial buildings. Old Perth Road facades should have a minimum of 80% clear glazed area at ground level;
- Blank walls longer than 2.0 metres at street level are not permitted;
- Upper levels of buildings fronting Old Perth Road should include functional size balconies; and
- All frontages on Old Perth Road should be well illuminated.

8.6 – Building Entry:

- The primary building entrance should be clearly identifiable and visible from the primary street; and
- Pedestrian shelter, signage and lighting should be provided at primary entrances.

8.7 – Awnings, Canopies and Balconies:

- Residential and mixed use buildings shall have pedestrian shelter such as awnings or canopies over entrances;
- Balconies and terraces are encouraged on street facades in residential and mixed use buildings; and
- Balconies should have predominantly open balustrades, while considering the need for screening of washing and air conditioner units and solar screens.

8.8 – Materials and Colour:

- Respond to neighbouring buildings with complimentary colours and materials; and
- A limited palette of external colours and building materials should be used to ensure building harmony.

8.9 – Signage and Public Art:

- Refer to public art policy and master plan and commercial advertising signage policy;
- A public realm contribution of 2% of building construction cost will be required for development in Bassendean Town Centre. This includes provision for public art;
- All building signage will be of a high standard and generally not exceed 5% of the building wall area to which it is fixed;

- Signage suspended below awnings, canopies or balconies or cantilevered will have a minimum clearance above footpath level of 2.7m; and
- Signage shall not obscure display windows by more than 5% area.

The following comments are provided in relation to the Town's assessment of applicable LPP1 provisions (Note: where no comments are provided, it is seen that policy provisions have been satisfactorily addressed):

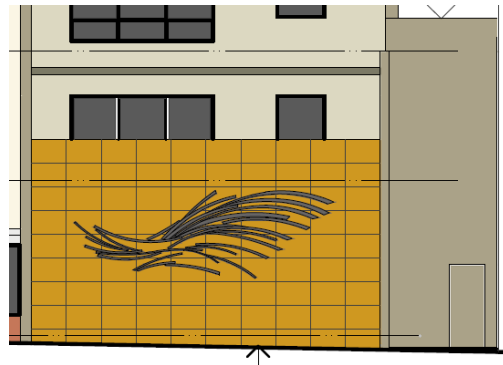
Stairwell on Hamilton St Frontage of Development

A stairwell has been positioned on the Hamilton St frontage of the development, but has not been glazed in any manner, contrary to the preferred arrangement identified within LPP1. Given the floor level of the landings within the stair, it is difficult (although not impossible) to position windows so that they would line up with other windows on either side of the stairwell. Given that the stair occupies only a very small proportion of the façade and that there is a large number of other windows and balconies facing Hamilton St, the stairwell is considered to be acceptable as proposed in this instance.

Extent of Blank Wall to Old Perth Road Frontage

The development incorporates a section of blank wall at the eastern end of the Old Perth Rd frontage that is 12m in length whereas LPP1 restricts sections of blank wall to 2m in length.

The drawings show a transformer compound, fire pump room and fire escape / fire tanks in this location as shown in the extract from the Old Perth Rd elevation, shown below. The prominence of this blank section of wall is exacerbated by the fact that it also constitutes balustrade associated with a common lounge area of the nursing home component of the development. This solid balustrade should be replaced with open balustrade in accordance with LPP1 requirements.



In acknowledgement of the conflict with LPP1 policy provisions, the applicant has notionally shown this section of wall as being the location of the public art for the development.

This approach should only be accepted if an appropriately designed piece of public art can be commissioned for this location. If not, the design should be adjusted to remove the transformer and fire pump rooms and replace these spaces with shop fronts and associated awnings as per the remainder of the Old Perth Rd frontage of the proposed development. This could be dealt with by way of a condition if the development were to be approved.

Functional Size Balconies

This is the subject of more detailed discussion under Design Element 6.3.1 – Outdoor Living Areas. As presented, concern is held with respect to the functionality of a number of balconies for the proposed multiple dwellings.

Predominantly Open Balustrades to Balconies

LPP1 specifies a requirement for the balustrade of balconies to be predominantly open. Contrary to this requirement, the balustrade design that has been incorporated into the design is predominantly solid, with a lesser amount of glazed balustrade used in the design. This matter could be dealt with by way of a condition, if the development were to be approved.

Design Element	Residential Design Codes	Town Centre Strategy	Compliance / Officer Comments
6.3.1 Outdoor living areas	Each unit to be provided with at least one balcony or equivalent accessed directly from a habitable room with a min area of 10 sq.m and min dimension of 2.4m.	Clause 8.5 – Old Perth Road Frontage: Upper levels of buildings fronting Old Perth Road should include functional size balconies.	Does Not Comply with Deemed-to-Comply provisions of the R-Codes. Consideration against Design principles required. See detailed comments, below.

Balconies for units 2, 3, 4, 5, 6, 7, 8, 9, 12 and 18 meet the requirements contained within the DTC provisions of the R-Codes.

Balconies for units 1, 10, 11, 13, 14, 15, 16 and 17 do not meet the requirements contained within the DTC provisions of the R-Codes and accordingly must be assessed against the associated Design principles.

Design principle 6.3.1 (P1) requires:

“Balconies or equivalent outdoor living areas capable of use in conjunction with a habitable room of each dwelling, and if possible, open to winter sun.”

The applicant’s planning report states that the multiple dwellings have generally been designed in accordance with the 10 sq.m area with 2.4m dimension requirements that are specified within cl 6.3.1 of the R-Codes. It goes on to state that:

“Units 10, 11, 14 & 15 have smaller balconies, and these have been made smaller to provide for solar access to dwellings below. However, these balconies are still of sufficient size to be used for over 55’s occupants and therefore, still satisfy the Design Principles of Part 6.3.1 which requires balconies to be used in conjunction with a habitable room and (if possible) open to winter sun.”

This does not actually explain how the balconies are of a sufficient size (i.e. by way of plans showing how they could be appropriately furnished) and makes no comment about access to winter sun.

The following balconies have area and/or dimensions that are less than those specified within the DTC provisions of the R-Codes:

- U1: 3.05m x 2.85m = 8.69 sq.m (plus extra 'unusable' area of 5.0m x 1.2m);
- U10: 3.05m x 2.20m = 6.71 sq.m (plus extra 'unusable' area of 4.4m x 0.5m);
- U11: 4.20m x 1.80m = 7.56 sq.m (plus extra 'unusable' area of 1.3m x 3.8m);
- U13: 3.00m x 3.10m = 9.30 sq.m (plus extra 'unusable' area of 1.2m x 0.7m);
- U14: 2.65m x 2.70m = 7.16 sq.m (plus second balcony of 1.6m x 2.8m = 4.48 sq.m);
- U15: 3.50m x 1.8m = 6.30 sq.m;
- U16: 3.70m x 2.60m = 9.62 sq.m (plus extra usable area of 2.0m x 1.4m) along with second balcony of 5.10m x 1.40m = 7.10 sq.m;
- U17: 3.00m x 2.80m = 8.40 sq.m.

With the exception of the balcony for U16 (and possibly U13) all of the balconies above are seen to be unreasonably small and/or have unreasonably restricted dimensions that will detrimentally affect their use.

There is the capacity to quite simply modify all of the balconies identified above to meet the area and dimension requirements specified within the DTC provisions of the R-Codes. Only one such balcony adjustment would cause impact on northern solar access to another dwelling (increasing size of balcony to U15 will affect solar access to U6). Adjustments that can be made to balconies, along with any associated impact on solar access to other dwellings, is identified below:

(Unless detailed otherwise, the suggested change does not result in adverse solar access impacts for any other unit)

- U1: Extend balcony toward Hamilton St (west) or Old Perth Rd (south);
- U10: As per discussion above for U1;
- U11: Extend balcony to the north to extent required to achieve 10 sq.m area;
- U13: As per discussion above for U11;
- U14: Extend balcony to the west to extent required to achieve 10 sq.m area;
- U15: Extend balcony to north to extent required to achieve 10 sq.m area (it is noted that this change will have some limited impact on 6);
- U16: Adjust section of balcony immediately adjacent to B2 of U15 in order to provide balcony of prescribed overall size with 2.4m dimension;
- U17: Extend balcony toward Old Perth Rd (south).

This matter could be addressed by way of condition of approval (requiring balconies to be adjusted in the manner identified above), if the development were to be approved.

Design Element	Residential Design Codes	Town Centre Strategy	Compliance / Officer Comments
6.3.2 Landscaping	<p>Landscaping of open spaces in accordance with the following:</p> <ul style="list-style-type: none"> • Separate pedestrian paths providing wheelchair accessibility connecting all entries to buildings with public footpath and car parking areas; • Lighting to pathways and car parking areas; and • Clear sight lines at pedestrian and vehicle crossings. 	<p>Clause 7.10 – Landscape and Hardscape</p> <p>All spaces around buildings are to be designed to offer attractive amenity for users and passers-by.</p> <ul style="list-style-type: none"> • A town centre public realm contribution of 2% of development cost will be payable to Council as a condition of development approval; • Landscape provision will be assessed on quality rather than quantity; and • Generally use water-wise and indigenous plant species. 	<p>Does not demonstrate compliance with Deemed-to-Comply provisions of the R-Codes.</p> <p>See detailed comments, below.</p>
<p><u>Landscape Plan</u></p> <p>The landscape plan has been reviewed by the Town's Parks and Gardens Supervisor who has indicated that he is generally happy with the plant species selected and that the plan is generally acceptable.</p> <p>The plan shows retention of existing street trees within the road reserve adjoining the site along with an existing Jacaranda on site alongside the 'service entrance' to the development. The plan is outdated, however, in that it shows works within the Hamilton Street road reserve that are no longer proposed (embayed parking and footpath re-location), so it should be updated to reflect existing verge treatments that are proposed to be retained. In doing so, it should show how the existing 'soft' verge area along Hamilton Street is to be treated and should also incorporate provision of street tree planting within the Hamilton Street verge area.</p> <p>The need for an updated landscape plan to be provided, implemented and for landscaping to be subsequently maintained throughout the life of the development can be dealt with by way of conditions in the event that the proposed development is approved.</p>			

R-Codes

The R-Codes requires that the development incorporate lighting to pedestrian pathways and car parking areas (the Town's LPP1 – Town Centre Strategy and Guidelines separately includes a requirements relating to lighting as specified within Part 9.6 – External Lighting). Lighting requirements can be dealt with by way of a condition in the event that the proposed development is approved.

6.3.3 – Parking (Cars)

The requirements for the provision of on-site car parking spaces for the development are set down by provisions contained within:

- The R-Codes for Multiple Dwellings; and
- LPS10 for the Shops and Nursing Home.

Also of relevance are provisions contained within:

- LPP1 – Town Centre Strategy and Guidelines; and
- SPP4.2 – Activity Centres for Perth and Peel.

	Provided by Proposed Development	Prescribed by R-Codes or LPS10	If SPP 4.2 – Activity Centres is used	Officer Comment
18 Multiple Dwellings	18	19 (1 bay per unit for units 2-9 & 11-18) (1.25 bays per unit for units 1 & 10).	19	Accept 18 bays (1 bay per unit)
Multiple Dwelling Visitor	5	5 (0.25 bays per unit)	5	Visitor bays not to be solely restricted to multiple dwellings
Nursing Home and Shops	27	38 (LPS10 requirement for Nursing Home is 1 bay per 5 beds) (LPS10 requirement for Shops is 8 per 100 sq.m of gross floor area)	31 (SPP 4.2 Activity Centre suggests provision of 4-5 bays per 100 sq.m of floor area for shops)	Accept 27 bays

Un-allocated visitor	1	0	0	6 visitor bays for the shared use of all components of the development
Accessible (Disabled)	1	0*	0	1 accessible bay for the shared use of all components of the development
TOTAL	52	62	55	52**

* Although an accessible bay is not prescribed by the Scheme or Codes, one of the matters to be considered by local government (under cl 67(u)(v) of the Local Planning Scheme Regulations) is that consideration be given to “access by older people and people with a disability.” Also, noting the non-residential nature of the development, car parking provision for people with a disability is a mandatory requirement from a Building Code perspective.

** It is considered reasonable to accept the car parking concession for the following reasons, but subject to the following listed requirements:

Reasons:

- (a) The Town has accepted a car parking concession for other new commercial development within the Town Centre where the number of bays has aligned with parking ratios set down within SPP4.2 – Activity Centres for Perth and Peel;
- (b) There are 3 existing car parking bays within the road reserve directly in front of the development site;
- (c) Four motorcycle / scooter bays are provided (as advocated by LPP1 – Town Centre Strategy and Guidelines);
- (d) There is potential for there to be some degree of reciprocity of use within the development;
- (e) There is potential for there to be some degree of public transport use associated with the development noting the proximity of the development site to the Bassendean Train Station, while also being located on a bus route; and
- (f) There is potential for there to be some degree of bicycle use associated with the proposed development (provided that this mode of transport is adequately catered for) (see further comments in next section of report in relation to this matter).

Requirements:

- (a) In the event that there is future strata titling of the site, the following car parking distribution shall be included on any strata plan:
- Multiple Dwellings – 1 bay per dwelling (18 bays total);
 - Nursing Home – 20 bays;
 - Shop 1 – 2 bays;
 - Shop 2 – 2 bays;
 - Shop 3 – 3 bays; and
 - 7 shared use visitor bays (inclusive of the accessible car bay) shall remain unallocated to any individual tenancy / strata lot.
- (b) Provision of enhanced bicycle parking facilities for the development (see next section of report for further discussion on this matter).

6.3.3 – Parking (Bicycles)

The requirements for the provision of bicycle spaces for the development (as well as end of trip facilities) are set down by provisions contained within:

- The R-Codes for Multiple Dwellings; and
- LPS10 for the Shops and Nursing Home.

Also of relevance are provisions contained within:

- LPP1 – Town Centre Strategy and Guidelines; and
- SPP4.2 – Activity Centres for Perth and Peel.

	Prescribed by R-Codes or LPS10	If SPP 4.2 – Activity Centres is used	Provided by proposed development
18 Multiple Dwellings	6	N/A	0 designated for MD's.
Multiple Dwelling Visitor	2	N/A	0 designated for MD visitors.
Nursing Home and Shops	See Comments below	Motorcycles and bicycles provided at 5-10% of all bays. (Approx. 3)	0 designated for Nursing Home and Shops.
Un-allocated spaces within car parking area	N/A	N/A	8 (4 racks that can each hold 2 x bikes)
TOTAL	Approx. 11		8

Clause 4.7.6 of LPS10 is titled 'Bicycle Facilities' and states that:

"The local government may require the provision of facilities that provide for and encourage cycling as part of any private development. Such facilities shall provide for storage and parking of bicycles and change rooms/showers for cyclists."

Bicycle parking is also addressed within LPP4.2 – Activity Centres for Perth and Peel as follows:

3.4 Cycling

The planning and development of activity centres should also make greater provision to encourage cycling for centre employees and visitors²⁸.



Cycling is an under-exploited and healthy mode of transport. It is inexpensive, reliable and convenient, particularly for shorter trips.

Planning considerations:

Network provision

To promote cycling as a viable mode of transport provision should be made for a comprehensive network²⁹ that connects the centre safely and conveniently to other local destinations. This includes dedicated or shared paths and the reallocation of road space to provide more space for cyclists, such as cycle lanes or bus lanes where cyclists are permitted.

End of trip facilities

Facilities should be provided to cater for and promote cycling within commercial and community developments such as showers, change rooms and lockers.

Cycle parking

Standards to ensure the supply of adequate cycle parking for public and private use should be adopted and mandated as part of the development control process.

Having regard to the comments and information provided above, it would be appropriate for additional bicycle parking spaces to be provided within the secure car park (an additional two racks, catering for an additional 4 bicycles) plus provision of at least two bike racks external to the development for visitor / customer use.

End of trip facilities are provided for the nursing home (separate male and female showers and a shared locker area), and a shower has been provided within the accessible ground floor toilet for the ground floor shops. Given their small size this limited provision for the ground floor shop tenancies (single shared shower only, no lockers) is considered acceptable.

Design Element	Residential Design Codes	Town Centre Strategy	Compliance / Officer Comments
6.3.4 Design of car parking spaces	Car parking bays and manoeuvring areas designed and provided in accordance with AS2890.1 (as amended).	Clause 7.4 – Development Type and Intensity in Bassendean: “Common parking areas below ground are encouraged.”	Does not comply. <ul style="list-style-type: none"> • Accessible car bay and adjoining visitor car parking bay are both under length; • Column position within this visitor

	<p>Visitor spaces marked and retained for such use, and outside security barrier.</p> <p>Car parking spaces (except visitors bays) concealed from view of the street.</p>	<p>Ground Level car parking area provided for development with car bays screened from view of the street.</p>	<p>bay does not demonstrate compliance with positioning specified within AS2890.1; and</p> <ul style="list-style-type: none"> • Aisle width between shared use car parking bays 19 and 20 is under width <p>See detailed discussion below.</p>
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Visitor parking spaces are located within the basement, however this not uncommon for a building that is designed in an 'urban' context (i.e. without large street setbacks where such bays would ordinarily be located). Location of visitor bays within basement is supported (as exists for adjoining development) provided that suitable arrangements can be made for access, and that there are conditions specifying the need for these bays to be made available for visitor use.

The length of the accessible car parking bay and adjoining visitor car parking bay must each be increased in length from 5.2 metres to 5.4 metres with the column to the rear of the visitor bay positioned in accordance with Figure 5.2 of AS2890.1.

The aisle width between shared use car parking bays 19 and 20 must be increased from 5.8 metres to 6.1 metres minimum to satisfy the provisions contained within CI 2.5.2 of AS2890.1.

Design Element	Residential Design Codes	Town Centre Strategy	Compliance / Officer Comments
6.3.5 Vehicular Access	<p>Vehicular access is limited to one opening per 20m street frontage that is visible from the street.</p> <p>Access to on site parking spaces is to be provided from the secondary street (Hamilton Street)</p>	<p>Clause 7.9 – Vehicle movement and parking:</p> <p>Parking should be accessed from secondary streets and not from Old Perth Road. Parking should be located to rear of or below buildings.</p> <p>Crossovers should be limited to one crossover (3 – 6m wide) per development site. Crossovers should</p>	<p>Does not comply with either Deemed-to-comply provisions of the R-Codes nor LPP1 requirements.</p> <p>Consideration against Design principles of R-Codes and CI 6.3 – Variation Discretion of LPP1 required in relation to proposal for two crossovers on Hamilton Street.</p> <p>See detailed discussion below.</p>

	<p>Driveways designed for two way access to allow for vehicles to enter the street in forward gear.</p> <p>Driveways to be adequately paved and drained.</p>	<p>match footpath colour.”</p> <p>Service and delivery should be provided discretely and in minimal space.</p>	
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The existing Nursing Home has a crossover on the Hamilton Street frontage of the development site which is proposed to be retained.

There were two crossovers associated with the former car yard site (one at the street corner where Hamilton Street and Old Perth Road intersect and a second at the eastern end of the Old Perth Road frontage) which are both to be removed.

A new (second) crossover is proposed to be installed on the Hamilton Street frontage of the site. The two crossovers are separated from each other by 10.2 metres.

Noting this, vehicle access arrangements must be considered against the Design principles contained within cl 6.3.5 P5 which requires:

“Vehicular access provided so as to minimise the number of crossovers, to be safe in use and not detract from the streetscape.”

The existing crossover is intended to serve a space that will be used for deliveries and rubbish collection (for the Nursing Home).

Proposed arrangements are supported noting that:

- Vehicle access has been restricted to Hamilton Street as required by LPP1 and the R-Codes;
- Two crossovers allows for separation of cars and trucks;
- Overall number of crossovers to the site has decreased from three to two; and
- Two crossovers for a development site with over 145 metres of street frontage (as is the case with the proposed development) is not excessive.

A separate application will need to be made to the Town for the proposed new crossover.

The vehicle access to the lower ground floor ramp incorporates a change in levels of approximately 1m and the drawings do not provide sufficient information to demonstrate that the ramp has been appropriately designed with respect to gradient and transitions at the base of the ramp, across the building line and across the property boundary.

In the event that approval were to be granted, it would be appropriate that this matter be dealt with by way of a condition of approval.

Design Element	Residential Design Codes	Town Centre Strategy	Compliance / Officer Comments
6.3.6 Site works	Excavation or filling between the street and a building not exceeding 0.5m except where necessary to provide for pedestrian or vehicle access, drainage works or natural light for a dwelling. Excavation or filling within a site and behind a street setback line limited by compliance with building height limits and building setback requirements.	No specific provisions.	Complies.
Design Element	Residential Design Codes	Town Centre Strategy	Compliance / Officer Comments
6.3.7 Retaining walls	Where a retaining wall less than 0.5m high is required on a lot boundary, it may be located up to the lot boundary.	No specific provisions.	Complies.
Design Element	Residential Design Codes	Town Centre Strategy	Compliance / Officer Comments
6.3.8 Stormwater management	All storm water being directed to garden areas, sumps or rainwater tanks within the development site if possible.	Clause 9.2 – Services and Infrastructure: “All stormwater shall be contained on site or connected to drainage points where supplied.” Local Planning Policy No. 14 (LPP14) – On-site Stormwater Policy also applies to the development.	Does not comply with Deemed-to-Comply provisions of the R-Codes. Consideration against Design principles and Town’s Local Planning Policy No. 14 –

			On-Site Stormwater Policy required.
<p>The applicant has provided a “Stormwater Drainage Management Plan” report prepared by BPA Engineering Civil & Structural Consultants in support of the application for development approval.</p> <p>In summary, the report indicates that the site is unsuitable for stormwater disposal on site and on this basis recommends that stormwater be disposed of into the municipal drainage system.</p> <p>A Town of Bassendean drainage line does exist within the Old Perth Rd road reserve to the south of the development, but there is no drainage infrastructure in the Hamilton St road reserve. This suggests that stormwater associated with the existing nursing home must be contained on site via the use of soakwells.</p> <p>In the event that discharge into the Town’s system is proposed, LPP14 requires that at a minimum, the development be designed to accommodate a 1:20 year storm event on site with discharge into the Town’s system only occurring where a storm event beyond 1:20 years is experienced. The report prepared by BPA indicates that this will be accommodated by way of a below ground storage tank. This corresponds with arrangements that were put in place for development of the adjoining ‘Whitfield’ development at Nos. 78-80 Old Perth Road.</p> <p>The procedure that must be followed in conjunction with the application for a Building Permit is detailed in LPP14.</p>			
Design Element	Residential Design Codes	Town Centre Strategy	Compliance / Officer Comments
6.4.1 Visual Privacy	<p>Major openings set back from lot boundaries in accordance with the cone of vision or screened.</p> <p>Prescribed setbacks from boundaries are:</p> <p><u>3m</u> Beds / studies</p> <p><u>4.5m</u> Major openings other than bedrooms</p> <p><u>6m</u> Balconies</p>	<p>Clause 7.5 – Building Envelope:</p> <p>“Rear setbacks from residential adjoining should provide for privacy and comply with R code requirements.”</p>	<p>Does Not Comply with Deemed-to-Comply provisions of the R-Codes.</p> <p>Consideration against Design principles required. See detailed comments, below.</p>

Upper Ground Floor Level

The design incorporates two balconies (one directly outside the staff room approximately 5m in length and a second of approximately 26m in length which runs the length of nursing home bedrooms 2-8) which is set back 3m from the common boundary with the adjoining mixed use development at Nos.78-80 Old Perth Road. Overlooking from this component of the development is not controlled by the R-Codes as it is non-residential in nature. Notwithstanding, the proposed configuration is supported for the same reasons as those described below for the residential component of the development on the second and third floor of the development.

First Floor Level

The design incorporates a balcony of approximately 34.5m in length which runs the length of nursing home bedrooms 29-37, and which is set back 3m from the common boundary with Nos. 78-80 Old Perth Road. Comments for this component of the development are the same as those for the upper ground floor level.

Second Floor Level

The design incorporates 3 multiple dwellings and a common lounge/meeting room alongside the common boundary with Nos. 78-80 Old Perth Road which each have major openings to habitable rooms / active habitable spaces that are set back a lesser distance from the common boundary than those identified within the DTC provisions of the R-Codes as described below:

U5:

- Balcony (from Lounge) – 5.5m to boundary;
- Lounge window – 3.57m setback to boundary; and
- Balcony (from B1) – 3.57m setback to boundary.

Communal Lounge / Meeting Room

- Balcony with 3.57m setback to boundary;

U6:

- Balcony – 3.57m to boundary; and
 - Lounge window – 3.57m setback to boundary.
- (3.57m setback to B2 window of U6 meets DTC provisions of R-Codes)

U7:

- Balcony – 2.7m to boundary.

Third Floor Level

The design incorporates 3 multiple dwellings alongside the common boundary with Nos. 78-80 Old Perth Road which each have major openings to habitable rooms / active habitable spaces that are set back a lesser distance from the common boundary than those identified within the DTC provisions of the R-Codes as described below:

U14:

- Balcony (from Lounge) – 5.5m to boundary;
- Lounge window – 3.57m setback to boundary; and
- Balcony (from B1) – 3.7m setback to boundary.

U15:

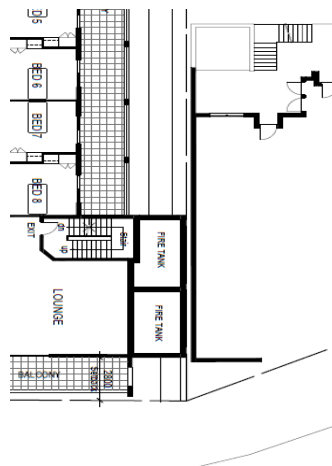
- Balcony – 3.7m to boundary; and
- Lounge window – 3.57m setback to boundary.
(3.57m setback to B2 window of U15 meets DTC provisions of R-Codes)

U16:

- Balcony – 2.7m to boundary.
(6.4m setback to Living Room window meets DTC provisions of R-Codes)

The openings to multiple dwellings on the second and third floor levels of the proposed development which are described above along with the two lower levels of nursing home are all considered to be suitable for approval under a Design principle assessment for the following reasons:

The sections of development which are closest to the Old Perth Rd end of the development sit alongside a boundary wall on the adjoining property which extends in length 22m back from the Old Perth Rd property boundary while also extending to the full height of the adjoining development. This wall is shown in the plan extract, below. As such, the portions of the development which are closest to the Old Perth Rd end of the development are looking directly toward a 3 storey blank boundary wall on the adjoining property.

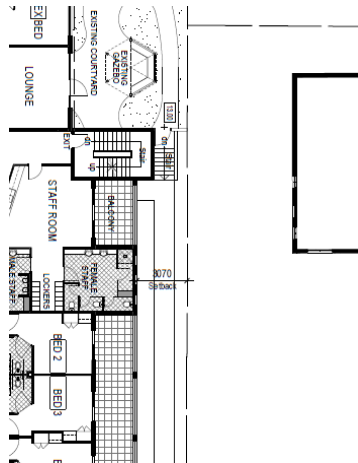


The sections of development that are located centrally overlook a row of carports and vehicle access way as shown on following aerial photo extract:



The sections of development that are located furthest from Old Perth also overlook a section of car park on the adjoining development and a section of building beyond which contains bedroom windows on the first and second floors.

However, the overall separation distance between the proposed development and the wall containing those bedroom windows is 9.5 metres and this exceeds the separation distance that would result if DTC setbacks from each of the adjoining lot boundaries (i.e. 3m for bedroom + 6m for balcony) were provided. On this basis the separation distance is seen to acceptable and the Design principle met.



In addition to the reasons identified above, the following points in support of the proposed arrangement are also noted:

- Construction of the adjoining development was completed approximately two years ago, so arrangements that exist on the adjoining property are unlikely to change for a considerable period of time; and
- It is the two levels of nursing home additions that sit 'alongside' development on the adjoining property while the uppermost two levels of the proposed development, being the multiple dwellings, are positioned 'above' development on the adjoining property.

Design Element	Residential Design Codes	Town Centre Strategy	Compliance / Officer Comments
6.4.2 Solar access for adjoining sites	Not to overshadow adjoining residential properties by specified amounts (25% for adjoining R20 coded properties at Nos. 28 & 30 Whitfield St with specific percentage not set for adjoining Town Centre zoned lot at Nos. 78-80 Old Perth Road.	Clause 7.5 – Building Envelope: “Rear setbacks should be provided suitable to accommodate parking and avoid overshadowing of neighbouring buildings.”	Complies. Having regard to orientation of the lot, all shadow is cast toward the Old Perth Rd road reserve. Rear setbacks not applicable noting that the development constitutes

			additions and alterations to the southern side of an existing building and that shadow cast from the proposed development is directed away from adjoining properties and toward the road reserve.
Design Element	Residential Design Codes	Town Centre Strategy	Compliance / Officer Comments
6.4.3 Dwelling size	<p><u>1 Bed units:</u> 20% minimum (4 required / 1 proposed);</p> <p>and</p> <p>50% maximum (9 allowed / 1 proposed)</p> <p><u>2 Bed units:</u> 40% minimum (8 required / 15 proposed)</p> <p><u>3 Bed units:</u> No requirements / 2 proposed.</p>	<p>Clause 7.4 – Development Type and Intensity:</p> <p>Provision of affordable single or 2 bed apartments is encouraged.</p> <p>Smaller dwellings with, 1 bed/1bath or 2 bed/2 bath, flexible living space and limited internal fit out and finishes are encouraged to provide affordable housing for younger and older people.</p>	<p>Does Not Comply with Deemed-to-Comply provisions of the R-Codes.</p> <p>Consideration against Design principles required. See detailed comments, below.</p>
<p>The proposed dwelling mix is supported for the following reasons:</p> <ul style="list-style-type: none"> • 89% of the proposed dwellings fall into the 1 bed/1bath or 2 bed / 2 bath form of development advocated by LPP1; • The development introduces 3 bedroom Multiple Dwellings within the Town Centre for the first time; and • Even with the dwelling mix that is proposed within this individual development, the overall multiple dwelling apartment mix that is occurring within the Town Centre as a whole is satisfying the mix of dwelling types advocated by the R-Codes as shown below. 			

Completed Mixed Use Developments within the Town Centre include:

- 78-80 Old Perth Rd: 22 x 1 Bed and 12 x 2 Bed dwellings;
- 85 Old Perth Rd: 8 x 1 Bed and 32 x 2 Bed dwellings; and
- 93 Old Perth Rd: 10 x 1 Bed and 15 x 2 Bed dwellings.

The existing overall multiple dwelling mix is therefore:

- 1 Bed: 40 of 99 dwellings or 40.4%;
- 2 Bed: 59 of 99 dwellings or 59.6%; and
- 3 Bed: 0 of 99 dwellings or 0%.

If the proposed 18 Multiple Dwellings which form part of this development are included, the overall multiple dwelling mix within the Town Centre becomes:

- 1 Bed: 41 of 117 dwellings or 35%;
- 2 Bed: 74 of 117 dwellings or 63%; and
- 3 Bed: 2 of 117 dwellings or 2%.

The overall dwelling mix fits comfortably within that advocated by both the R-Codes and LPP1 – Town Centre Strategy and Guidelines.

Design Element	Residential Design Codes	Town Centre Strategy	Compliance / Officer Comments
6.4.4 Outbuildings	Size of outbuildings as specified.	No specific provisions.	Complies. No outbuildings proposed.
Design Element	Residential Design Codes	Town Centre Strategy	Compliance / Officer Comments
6.4.5 External fixtures, utilities and facilities	<p>Solar collectors acceptable.</p> <p>Standard TV aerials, essential plumbing and water down pipes.</p> <p>Other fixtures not visible or screened.</p>	<p>Clause 8.10 – Plant and Equipment:</p> <p>All plant and equipment must be concealed from public view using screening or other means that is an integral part of the building design. Surface mounted services, piping and conduits will not be permitted.</p> <p>Roof mounted equipment, aerials, antennas, masts etc. must be screened from all views including from above where applicable.</p>	<p>Unable to Ascertain Compliance.</p> <p>See comments, below.</p>

		<p>Ground level or balcony mounted equipment/air conditioning plant must be well screened using materials to suit the building.</p> <p>All plant and equipment must have noise attenuation to council satisfaction.</p> <p>Telecommunications dishes are not permitted on roofs.</p> <p>Lift over runs shall be contained within the roof space or appropriately designed as an element of the building active frontages.</p>	
In the event that the development is approved, this matter can be dealt with by way of a condition(s) of approval.			
	<p>Storerooms - One per unit and 4m² with minimum dimensions of 1.5m.</p>	No specific provisions.	<p>Does Not Comply with Deemed-to-Comply provisions of the R-Codes.</p> <p>Consideration against the Design principles required. See detailed comments below.</p>
<p><u>Floor Area:</u> Stores for all multiple dwellings incorporate prescribed 4 sq.m internal area.</p> <p><u>Internal Dimensions:</u></p> <ul style="list-style-type: none"> • Stores 1-5, 16 and 17 appear to have a minimum internal dimension of 1.4m. • Stores 10-14 incorporate an internal dimension of 1.15m and as a result of this narrow width, their functionality is severely compromised (they have 			

little actual usable storage area). Additionally it is not clear that these stores are associated with the car parking bays from which they are accessed. Functionality of the stores (and therefore ability to support) would increase if instead of a standard door (as proposed) they were provided with a roller-door with a width that was equivalent to the width of the car bay that the respective store was situated behind. Additionally, it would need to be confirmed that stores and adjoining car bays were associated with the same dwelling.

Access

Stores 6 and 7 are located behind visitor car parking bays and cannot be accessed. It is necessary for the path that runs behind apartment visitor bay 3 and apartment visitor bay 4 to be connected behind the lift in order to provide necessary access.

Each of these matters can suitably be addressed by way of conditions in the event that the proposed development is approved.

	<p>Rubbish bins – communal pick up area addressing specified requirements.</p>	<p>Clause 7.9 – Vehicle movement and parking:</p> <p>“Consideration should be given to location, access to and storage of recycling and other rubbish bins including communal bin facilities.”</p> <p>Clause 9.3 – Servicing and maintenance:</p> <p>All waste storage and delivered goods should be contained within buildings. Rubbish storage and collection facilities shall comply with the current general requirements of the Town of Bassendean and will be efficient, convenient and allow for collection of recyclable material.</p>	<p>Complies</p> <p>Waste Management Plan has been provided and is generally acceptable but requires some refinement.</p> <p>See further comment below.</p>
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The application for development approval is supported by a Waste Management Plan (WMP) prepared by Aurora Environmental. In summary, the WMP explains that waste management will be dealt with in the following manner:

- Two separate bin storage areas are proposed which are positioned in two separate locations.
- The existing bin storage area that serves the nursing home will be retained and will continue to service the nursing home component of the development. The private collection arrangements that are in place with respect to this waste service will continue to operate as they currently do, but collection frequencies will be increased to cater for the increased size of the expanded nursing home.
- A new bin storage area will be incorporated into the car parking area that services the development. This bin storage area will house 240L bins (general and recycling) for both the proposed 18 multiple dwellings and the 3 shop tenancies.
- The new bin storage area is of a sufficient size to accommodate the number of bins that are projected to be required based upon land uses shown on the plans that are the subject of the current application (i.e. 18 MD's and 3 shops).

There are some inconsistencies in the WMP which should be rectified by way of an updated document. For example:

- In Table 3 (pg. 8) the WMP indicates that the multiple dwellings will generate 2140L of general waste per week and 2140L of recyclables per fortnight. Based upon a weekly collection for general waste and fortnightly collection for recyclables, this equates to a need for 9 general 240L bins and 9 recycling bins for the multiple dwellings. However in Table 6 (pg. 9), the WMP states that the multiple dwellings will be provided with 8 general bins and 5 recycling bins;
- There should be a need for an updated WMP to be prepared in the event of future change of use to any of the shop tenancies where any proposed new use would generate additional waste;
- The WMP refers to a potential need for 20 bins to be placed kerbside for collection but does not account for bins associated with the commercial tenancies that will also need to be placed kerbside for collection; and
- The WMP should set the number of bins that are to be provided for each of the uses. A definitive figure is needed by the Town in order that matters such as delivery of the correct number of bins and setting of correct rubbish charges to different components of the development can be set.

Additionally, it is considered to be more appropriate for bins to be placed on the Hamilton Street frontage of the development site only (and not the Old Perth Road frontage) while awaiting collection, and the WMP will need to be updated to reflect this arrangement.

In the event that development approval is granted, the need for an updated waste management plan can be dealt with by way of a condition of approval.

	Clothes drying screened from view from the primary or secondary street.		Conditions recommended that mechanical clothes drying facilities be provided for each dwelling and for clothes drying to be screened from view of street or any other public place.
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Local Planning Scheme No. 10, by virtue of Clause 5.5, gives the local government the ability to vary the site and development standards for all development other than residential development.

Similarly, the Town Centre Area Strategy, which is adopted as a Planning Policy under the Scheme, gives the discretion to vary any part of the Guidelines, subject to the quality of the building and place design being considered when granting any variation.

The Residential Design Codes provides Deemed-to-comply development standards to ensure a certain path to approval and also the opportunity to provide performance based solutions under the associated Design Principles.

Local Planning Scheme

Local Planning Scheme No. 10 (LPS10) sets down a limited number of development controls against which the development proposal must be assessed against.

Clause 4.10 of LPS10 is titled 'General Development Requirements – Town Centre Zone.' It states that in considering applications for development approval within the Town Centre Zone, the local government (or in this case the Metro Central JDAP in lieu of the local government) shall have regard to the Objective for the Zone and that all development shall have regard to:

- (a) The Town Centre Design Guidelines; and
- (b) Any other relevant policy statement prepared by the local government.

With respect to residential development (as is proposed in this instance), CI 4.10 states that:

- The local government may, at its discretion, permit residential development within the Town Centre Zone to a maximum density of R-AC3; and that
- Residential development shall only be permitted where the local government is satisfied that this development is complementary to the scale and character of buildings within the Town Centre Zone.

Car parking requirements are also specified within Table 2 of the Scheme and these requirements have been discussed in detail within the report.

Local Planning Policies

Local Planning Policy No. 1 – Town Centre Strategy and Guidelines and Local Planning Policy No. 15 – Percent for Art Policy each identify the requirements for:

- A 1% Town Centre infrastructure contribution to be provided; and
- A 1% Art Contribution to be provided (or for public art to be provided on site to a value equivalent to 1% of the construction cost of the development)

Conditions have been included within the recommendation in relation to each of these matters.

In their submission (pages 15 and 16 of the planning report), the applicant has a mistaken understanding of required contributions in relation to public art (referring to a 2% or \$260,000 public art contribution based upon the \$13M development value).

Actual requirements are:

- 1% (or \$130,000) contribution toward public infrastructure; and
- 1% (or \$130,000) contribution toward public art, or (as is more likely with this proposal) an equivalent amount being spent on public art associated with the development itself.

Accordingly, the actual required financial contribution associated with the development is likely to be \$130,000 for infrastructure (with public art being provided on site as part of the development).

This is not considered to be unreasonable requirement given the discretion that is being supported (particularly linked to car parking provision) for the development. This requirement has also been provided consistently in conjunction with other approvals for similar development within the Town Centre.

Options/Alternatives

If the Development Assessment Panel believes that it is not appropriate to exercise discretion as advocated within this report and the associated officer recommendation, it could choose to incorporate additional conditions or refuse the application subject to specifying appropriate reasons.

Council Recommendation:

The Council of the Town of Bassendean considered this application (including this Responsible Authority Report) (RAR) at its ordinary meeting held 24 April 2018 at which time it endorsed the RAR, with the exception of the following amendments:

Recommended Condition 5 was modified by removing part (b) as follows:

5. The blank section of wall associated with the fire pump room and transformer compound on the Old Perth Road frontage of the development shall be modified by replacing the solid balustrade to the balcony of the lounge above (which forms a continuation of the wall to the pump room and transformer) with clear glass balustrade and:
- (a) Replacing the transformer and pump room with shop fronts to match the remainder of the design of the ground floor of the Old Perth Road frontage of the development, including awnings above; or
 - ~~(b) Applying a piece of public art to this location to the satisfaction of the Town, and in accordance with the provisions contained within Local Planning Policy No. 1 Town Centre Strategy and Guidelines and Local Planning Policy No. 15 – Percent for Art Policy.~~

Council made this change as:

- it was of the view that the ground floor blank wall on the Old Perth Road frontage of the development should be deleted in accordance with design arrangements advocated with the Town's Local Planning Policy No. 1 – Town Centre Strategy and Guidelines; and that
- inclusion of public art over this component of the building was not a an acceptable design alternative to render this component of the building suitable for approval

In addition to resolving that recommended condition 5 be modified, Council also resolved that an additional Advice Note be included within the notice of determination as follows:

“Strongly encourages the applicant by way of the advice notes to give consideration to inclusion of the following within the development:

- (a) An electric vehicle charging station;*
- (b) A rooftop garden; and*
- (c) A green wall feature.”*

Conclusion:

This application represents the fourth Mixed Use development within the Town Centre to take advantage of increased development potential offered under the provisions of LPS10 (RAC3 density of development) and the Town Centre Strategy and Guidelines following the completion of mixed use developments at No. 85 Old Perth Road, Nos. 78-80 Old Perth Road and No. 93 Old Perth Road.

The proposal is generally consistent with LPS10 incorporating the Residential Design Codes and Local Planning Policies. Where adjustment / refinement is required, this is able to be dealt with via recommended conditions of approval. The proposed development should deliver the type of building envisaged by the sites zoning and the Town of Bassendean Town Centre Area Strategy.

Application for Planning Approval

Proposed Aged Care Facility, Multiple Dwellings & Shops

Lot 54 (#27) Hamilton Street & Lots 84-85 (#68-70) Old Perth Road,
Bassendean

Town of Bassendean / Metro Central JDAP

Application for Planning Approval

Proposed Aged Care Facility, Multiple Dwellings & Shops

Lot 54 (#27) Hamilton Street & Lots 84-85 (#68-70) Old Perth Road,
Bassendean

Town of Bassendean / Metro Central JDAP

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Prepared for:

T&T MANAGEMENT SERVICES PTY LTD

PO Box 78
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1.0 INTRODUCTION

Peter Webb and Associates (PWA) acts for T & T Management Services Pty Ltd (T&T), which owns Lot 54 (#27) Hamilton Street and Lots 84-85 (#68-70) Old Perth Road, Bassendean in this matter and lodge this Application on T&T's behalf.

T&T is a company within the Aegis Aged Care Group which is the largest aged care provider in Western Australia.

T&T own and operate the existing Bassendean Aged Care Facility at Lot 54 Hamilton Street. In order to meet the high demand for quality aged care accommodation in the Bassendean area, T&T plan to extend this facility into the recently acquired Lots 84 and 85 Old Perth Road, which share a common northern boundary with Lot 54, being situated directly to the south of the Bassendean Aged Care Facility. As part of preliminary discussions over the proposed expansion of this Facility over Lots 84 and 85 with the Town of Bassendean, it was acknowledged that the subject lots would be required to be amalgamated with Lot 54. On behalf of T&T, we have obtained a WAPC conditional approval for amalgamation of the three subject lots. The conditions of this approval are currently in the process of being satisfied. A copy of the WAPC Amalgamation Approval is attached at **Annexure 1**.

This Application seeks approval for the proposed development of a five (5) storey building, with a basement car park, three (3) shop tenancies at street level with primary frontages to Old Perth Road, two (2) levels of aged care accommodation providing a total of 64 beds and two (2) upper floor levels of residential Over-55's apartments (18 multiple dwellings). The new development incorporates a "seamless" connection to the existing Aged Care Facility at the upper ground level.

The existing Aged Care Facility at Lot 54 Hamilton Street includes 44 aged care beds (some bed rooms have two (2) beds in the room), which will be reduced to 39 aged care beds when the construction of the new aged care extension begins.

In total, 39 aged care beds will be accommodated in the existing facility, with 64 new aged care beds (some bed rooms have two (2) beds in the room) being accommodated in the extension (**total 103 aged care beds**).

1.1 Joint Development Assessment Panel (JDAP) Determination

Due to the anticipated construction cost being **\$13 million**, the Development Application will be required to be determined by the Metro-Central Joint Development Assessment Panel (JDAP) as a mandatory Application.

The JDAP process has been developed in order to streamline approval processes for large-scale development proposals and act in the place of the local government in making decisions on whether or not to grant approval.

Accordingly, please find **attached** our completed Application for Planning Approval Form and DAP Form 1, both signed by the Directors of T&T.

Please also find **attached** the prescribed Application fees based on the anticipated construction cost of \$13 million.

Following is a supporting report outlining the details of the proposal as well as the location, the site and relevant planning background and supporting rationale.

2.0 OVERVIEW & SITE DETAILS

2.1 Overview

Applicant:	Peter Webb & Associates (PWA)
Architect:	Montague Grant Architects Pty Ltd (MGA)
Landowners:	T & T Management Services Pty Ltd (T&T)
Scheme:	Local Planning Scheme No. 10 (LPS 10)
Zoning:	LPS 10: "Town Centre"
	MRS: "Urban"
Current Use:	Aged Care Facility and Vacant
Combined Lot Size:	4,947m ²
Proposed Use Classes:	"Use Not Listed" (Aged Care Facility) "Multiple Dwellings" (Over 55's Apartments) "Shop" (3x Retail Tenancies)
Construction Cost:	\$13,000,000.00

2.2 Site Details

The lots the subject of this Application include Lot 54 (#27) Hamilton Street, Bassendean; and Lots 84 (#68) and 85 (#70) Old Perth Road, Bassendean. The WAPC had granted conditional Approval to amalgamate the three landholdings into a single green title lot, which was obtained as part of the planned extension of the existing Bassendean Aged Care Facility, the subject of this Application. T&T is currently in the process of satisfying each of the conditions of the Amalgamation Approval. A copy of the WAPC Approval 151362 is attached at **Annexure 1**.

The lots the subject of this Application are currently described on separate Certificates of Title Volumes 2514, 1631 and 1496 and Folios 597, 156 and 999 and have individual land areas of 3,101m², 922m² and 924m², respectively. The combined land area of the three (3) lots is 4,947m². (Refer to **Annexure 2**: Certificates of Title.)

Existing improvements on Lot 54 include a single storey brick and tile Aged Care Facility with associated car parking in the south western corner of that site. Lots 84 and 85 have until recently, operated as a used motor vehicle sales facility, with associated sales and administration structures existing on the land, which are not in a particularly good state of repair. This site is largely paved for the display of used motor vehicles. (Please refer **Figure 1** for Aerial Photograph). Three (3) car parking bays exist in the Old Perth Road reserve adjacent to the southern boundary of the subject site.

Vehicle access to the car parking facility for the existing Aged Care Facility is provided from Hamilton Street. Vehicle access to Lot 84 is currently provided at the corner of Hamilton Street and Old Perth Road with access to Lot 85 being via Old Perth Road.

All of the usual engineering infrastructure services (including sewerage, reticulated scheme water supply, electricity and telephone services) are all available to the Bassendean Aged Care Facility and have been provided to it. Similarly, Lots 84 and 85 also enjoy access to all of the usual urban engineering infrastructure services.



Figure 1: Aerial Photograph

Please refer to the attached annotated photographs at **Annexure 3** which depict the existing Bassendean Aged Care Facility, together with photographs of the subject land in the context of this part of the Bassendean Town Centre.

3.0 THE PROPOSAL

The proposed extension of the Bassendean Aged Care Facility is described on design drawings prepared by Montague Grant Architects Pty Ltd (MGA) included at **Annexure 4**. Two (2) 3D Perspective views of the proposed development are also included to support this Application, and area also included at Annexure 4.

The proposed extension of the existing Aged Care Facility involves the construction of a five (5) storey building on the corner of Old Perth Road and Hamilton Street, which is designed to sensitively step down towards and seamlessly connect to the established Facility on Hamilton Street.

The proposed development will accommodate a total of 52 parking bays in the lower ground level parking area.

A Landscaping Plan has been prepared by Urban Retreat Garden Design and is included at **Annexure 5**.

3.1 Proposed Development

This proposal comprises three (3) components being:

- Aged Care Facility Extensions;
- Over-55's (Aged Persons') Apartments; and
- Three (3) Shop tenancies fronting Old Perth Road at the lower ground level.

3.1.1 Aged Care Facility

The upper ground and first floor of the proposed new building are to provide additional much needed high care accommodation for the aged. Sixty four (64) new aged care beds will be provided in the new extension together with 39 aged care beds that will be in the existing facility. (Currently there are forty four (44) aged care beds in the existing facility, however 5 beds will need to be removed to facilitate the aged care extension.)

Therefore, in total, there will be **103 beds** available for aged care accommodation.

The upper ground floor level is designed to provide the connection to the existing Aged Care Facility to the north, which is proposed to be extended south to meet the new building. The extension of the existing single storey building on Hamilton Street to the south will involve the removal of 11 car bays which currently exist along the southern side boundary of that lot. These car bays are proposed to be accommodated within the new basement car park of the amalgamated lot.

The upper ground floor and first floor levels accommodating the aged care facilities will include bedrooms which have balconies facing east, set back 3.07m from the boundary. These balconies are not anticipated to be a problem, since the adjacent development to the east

includes a three-level building on the boundary with a solid blank parapet wall facing the subject site. Therefore, the aged care balconies of the upper ground and first floor levels will not cause any visual privacy issues (because there is solid blank wall).

The two levels of aged care accommodation will also be supplemented with lounge spaces, kitchen, courtyard (upper ground), therapy rooms, a theatre, staff room, administration and reception in various locations.

Importantly, at the corner of Old Perth Road and Hamilton Street, each of the aged care accommodation levels includes a lounge with access to balconies to accentuate the corner (and to make the aged care residents feel part of the town life). The corner shop below with curved street awning also matches in with this design feature.

Car parking facilities (52 car parking bays) to accommodate staff and visitors to the aged care facility and residents of the multiple dwellings and shops are located on the lower ground level, accessed from Hamilton Street.

3.1.2 Over 55's Apartments

The Over 55's component of the development will comprise a total of 18 multiple dwellings, located over the top two (2) levels of the proposed development.

Of the multiple dwellings, 15 are two-bedroom dwellings; 2 are three-bedroom dwellings and 1 is a one-bedroom dwelling.

All multiple dwellings are at or below 110m² in plot ratio area and each have access to a suitably-sized balcony. All multiple dwellings are accessed via a communal lift which has restricted security access.

Fourteen (14) stores (each of at least 4m² in area) are included in the lower ground parking level to supplement 14 multiple dwellings and 2 stores each are located on the second and third floors, respectively.

3.1.3 Shops

The development incorporates three (3) individual "Shop" tenancies on the lower ground level, with primary frontages to Old Perth Road. These shop tenancies are designed to ensure the building provides for maximum interaction with its frontage to Old Perth Road, at street level, with the inclusion of extensive glazing. The "Shops" will have awnings extending out over the adjacent pavement areas.

The "Shops" are generally located on the street boundary to Old Perth Road.

The basement car parking associated with the facility is proposed to the rear of the shops. Vehicle access to and from the on-site parking facility is proposed from Hamilton Street.

The three shop tenancies will include a total floor space of 219m².

The shops will also have access to separate male, female and disabled toilet facilities, located between shop tenancy 1 and 2, accessed from the basement parking level.

(Subsequent uses in these three (3) tenancies will be subject to separate Change of Use Applications).

4.0 PLANNING ASSESSMENT

4.1 Metropolitan Region Scheme

The Metropolitan Region Scheme (MRS) is the statutory planning Scheme for the Perth Metropolitan Region.

The subject land is zoned “Urban” under the MRS.

4.2 Local Planning Scheme No. 10

4.2.1 Zoning

The lots the subject of this Application are zoned “Town Centre”, pursuant to the Town of Bassendean Local Planning Scheme No. 10 (LPS 10) and are also subject to the provisions of the Bassendean Town Centre Strategy and Guidelines (the Strategy). Refer **Figure 2** for LPS 10 Zoning Map Extract.

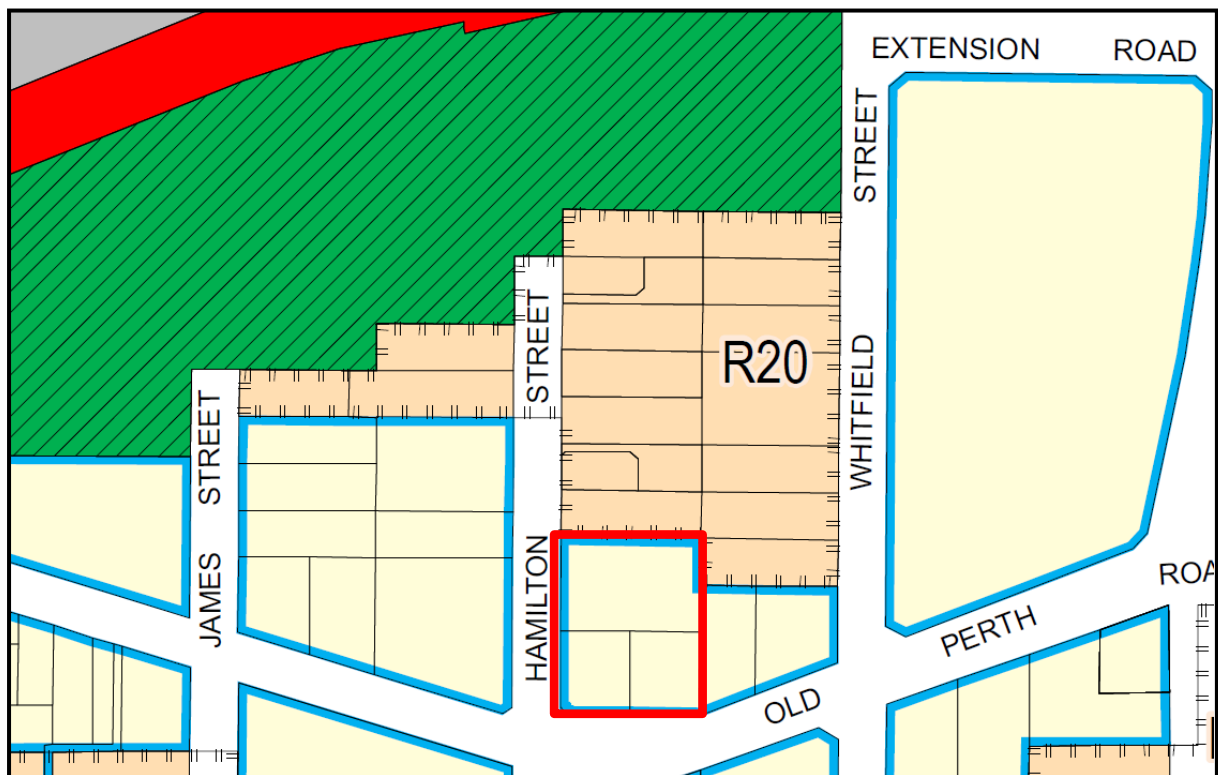


Figure 2: LPS 10 Zoning Map Extract

The objectives of the “Town Centre” zone are:

- “(a) to promote, facilitate and strengthen the town centre zone as the principal focus of the district in terms of shopping, professional, administrative, cultural, entertainment and other business activities;
- (b) To recognise the unique and specific function of each precinct within the town centre in terms of:

- (i) *Traditional main street pedestrian based commercial retail, west of Wilson Street;*
- (ii) *Civic, drive-by commercial and town centre living uses between Wilson and Whitfield Street; and*
- (iii) *Car based retail in the Bassendean Village Shopping Centre.*
- (c) *to accommodate a diversity of commercial, cultural and residential facilities;*
- (d) *to encourage the integration of existing and proposed facilities within the zone so as to promote ease of pedestrian movement and the sharing of infrastructure, as well as to retain the opportunity for any future expansion of the area;*
- (e) *to achieve safety and efficiency in traffic circulation;*
- (f) *to ensure that buildings, ancillary structures and advertising are of high quality and achieve an architectural theme contributing to the uniqueness of the townscape;*
- (g) *to provide sheltered places for pedestrians and shade to car parking areas;*
- (h) *to preclude the storage of bulky and unsightly goods from public view;*
- (i) *to provide landscaping appropriate to the scale of development; and*
- (j) *to ensure that development conforms with the Local Planning Strategy and the principles of any Local Planning Policy adopted by the Council.”*

In response to these objectives we consider that:

- the proposed development will accommodate a diverse range of commercial and residential facilities in the “Town Centre” zone;
- the proposed development encourages integration of existing and proposed facilities by combining the existing Aged Care Facility with the proposed Aged Care extensions;
- the proposed development is of high quality design which contributes significantly to the developing townscape by redeveloping the site and removing run-down facilities adjacent to Old Perth Road;
- the proposed development provides sheltered places for pedestrians with the use of awnings over the Shops frontages along Old Perth Road;
- the proposed development ensures that no storage of bulky goods or unsightly materials is evident from the public realm.

In these circumstances, the proposed development complies with the general objectives of the “Town Centre” zone.

4.2.2 Use Classes

The Use Class of “Nursing Home” is not a use which is specifically identified in LPS 10. Following a preliminary meeting with the Planning Department of the Town regarding T&T’s

proposal to expand the proposed Aged Care Facility over Lots 84 and 85 Old Perth Road, the Town confirmed in writing that this Development Application for the planned extension proposal will be assessed as a 'Use Not Listed' in accordance with Clause 4.4.2 of LPS 10. (Refer to **Annexure 6: Town's Correspondence** (November 13, 2014) and associated PWA correspondence (October 22, 2014)).

As indicated in our correspondence to the Town of October 22, 2014, a Scheme Amendment to progress this proposal is completely inappropriate given that the Town does have the ability to consider a Use Not Listed, particular where a same use already exists on part of the subject site and which use is not at all inconsistent with the context of uses within the Town Centre.

In this respect, the Town will need to consider whether the use is consistent with the objectives of the zone as outlined in Clause 4.4.2 (a) of LPS 10. As previously outlined, the proposed development is consistent with the objectives of the "Town Centre" zone, and provides a high quality development within the existing townscape.

The Use Classes of "Shop" and "Multiple Dwellings" are uses which are capable of approval in the "Town Centre" zone. A "Multiple Dwelling" is a "D" (Discretionary) use and a "Shop" is a "P" (Permitted) use in the "Town Centre" zone.

4.2.3 Car Parking

Table 2 of LPS 10 sets out the parking requirements for the Aged Care Facility and the Shop components of the development, and the R-Codes set out the parking requirements for the Over-55's Apartments component of the development.

The parking requirements of the development are outlined in **Table 1** below, with additional detail outlined after it.

This development proposes to provide 52 basement car parking bays in the lower ground floor level parking area. Three (3) car parking bays already exist in the Old Perth Road reserve adjacent to the southern boundary of the subject site, which can be used by visitors.

Use Class	Ratio	Calculation	Proposed
Nursing Home	1 bay per 5 beds	103 beds = 21 bays	
Shop	8 bays per 100m ² GFA	219m ² GFA = 17.5 bays	
Multiple Dwellings	1 bay per dwelling plus 0.25 visitor bays per dwelling	18 dwellings = 18.5 bays 18 dwellings = 4.5 visitor	
Total Required		61.5	
TOTAL PROVIDED			52

Table 1: Car Parking Requirements

In relation to the Aged Care Facility component of the Application, the “Nursing Home” car parking requirement can be used, as it is the “best fit” of the available uses in Table 2 of LPS 10.

For the Shop component, the “Shop” car parking requirement of Table 2 of LPS 10 can be used.

For the Over 55's component of the development the R-Codes will be used to determine the car parking requirement.

Aged Care Facility:

Table 2 of LPS 10 indicates that a ratio of **1 parking bay per 5 beds** is required for any development for a Nursing Home.

Since there are 103 beds in the complete aged care facility, there is a requirement for **21** parking bays.

Shops:

Table 2 of LPS 10 indicates a ratio of **8 parking bays per 100m²** gross floor area for “Shop” uses. Since there is 219m² of gross floor area attributed to the proposed three (3) Shop tenancies, there is a requirement for **17.5** parking bays.

Over 55s Apartments:

For the Over-55's Apartments, the R-Codes require **1 car parking bay per multiple dwelling** (less than 110m² in size), in Location A. (The site is within 800m of the Bassendean Train Station, so the site is a “Location A” site).

Since there are 16 apartments that fit this criteria, there is a requirement for **16** parking bays.

Two (2) of the proposed multiple dwellings are 3 bedroom dwellings, and therefore, these two (2) dwellings require 1.25 bays per dwelling (**2.5**).

The R-Codes also require 0.25 visitor parking bays per dwelling, which therefore requires **4.5**.

Total Parking Requirement:

So for the subject site, there is a total parking requirement of (21 + 17.5 + 16 + 2.5 + 4.5) **61.5 (61) parking bays**.

With the proposed 52 parking bays in the basement level of the development, there is a slight parking shortfall.

The parking basement level will be secured after hours with staff and apartment occupants having access to the car park with the use of personal cards.

4.2.4 Variations to Site Development Standards & Requirements

LPS 10 contains a variation clause, which (except for development in respect of which the R-Codes applies) allows standards and requirements of LPS 10 to be varied, subject to compliance with the procedure set out at Clause 5.5.2 and Clause 5.5.3 of LPS 10.

The parking shortfall requires the exercise of discretion.

4.2.5 General Development Requirements – Town Centre Zone

LPS 10 indicates that the local government, at its discretion, can permit residential development within the “Town Centre” zone to a maximum density of **R Inner City (R-IC)**, where the development is complementary to the scale and character of buildings within the “Town Centre” zone (refer Clause 5.10.3 of LPS 10).

4.3 Residential Design Codes of WA

The provisions of the R-Codes (Part 6) are required to be considered in respect of the ‘Over 55’s’ (Aged Persons’) Apartment component of the proposed development.

For the purposes of the R Inner City (R-IC) Coding set out in Clause 5.10.3 of LPS 10, the R-Codes indicates that for assessment purpose, the **R-AC3 Coding** should be used.

An assessment of the **applicable parts** of Part 6 is outlined below.

4.3.1 Building Size (Part 6.1.1)

The Apartment component has been designed in accordance with the provisions of the R-Codes in terms of ‘building size’. The coding of the residential development on this site, according to the LPS 10, is **R-IC** (but the provisions of R-AC3 are to be used for assessment purposes).

The plot ratio requirements of the R-AC3 coding, is 2.0.

Given that the apartment component of the development is above other (non-residential) components, the defined Plot Ratio is only for the residential component within this mixed use proposal.

The plot ratio area attributed to the residential multiple dwellings (only) is 1,876m² which, as a ratio of the site’s combined land area, is 0.38 (which is therefore compliant).

4.3.2 Building Height (Part 6.1.2)

The development has been designed in accordance with the provisions of Part 6.1.2 of the R-Codes which requires a height of walls to be no higher than 18.00m. The wall height as viewed from Old Perth Road is (generally) 16.00m – 17.00m and is therefore, compliant with the provisions of the R-Codes.

4.3.3 Street Setback (Part 6.1.3)

The entire building has been located to a generally nil setback to Old Perth Road to assist with providing solar access to the windows facing the internal courtyard. This is a variation from the

R-Codes' requirement to have a 2.00m minimum primary street setback, however, the Town has previously advised that it will be supportive of this variation for the benefits it provides for other parts of the site.

Balconies for upper levels of the apartment complex are completely within the property boundaries.

Balconies facing Old Perth Road are at a nil setback for the second level, but are setback further for the upper-most level.

Balconies for the apartments facing Hamilton Street are set back at least 2.20m from the boundary.

4.3.4 Lot Boundary Setbacks (Part 6.1.4)

The Apartment component on the top two levels has been generally designed in accordance with the provisions of Part 6.1.4 of the R-Codes which requires setbacks to be in accordance with Table 5 of the R-Codes, subject to minor variations set out below.

The setback is required to be 4.00m from adjacent lot boundaries.

Setbacks to the eastern boundary of the site are the main part of the development requiring assessment for lot boundary setbacks.

The eastern most units (5-7 and 14-16) are set back 3.57m from the eastern boundary, in lieu of 4.00m. Since these walls have no major openings facing east (where walls are set back 3.57m), the slight variation is considered acceptable, given also that the adjacent (recently completed) development to the east has a large blank parapet wall on part the boundary (up to the third level) with the remainder simply being a covered car parking area to the rear of it. Therefore, the adjacent development would not have a significant interface with the subject site.

Major openings for the eastern most units (5-7 and 14-16) are set back approximately 5.50m - 6.50m in accordance with the Visual Privacy requirements of the R-Codes.

4.3.5 Street Surveillance (Part 6.2.1)

The entire development has been designed in accordance with the provisions of Part 6.2.1 of the R-Codes which requires street elevations of buildings to address the street, with facades generally parallel to the street and with clearly definable entry points visible.

As indicated on the Development Plans, the façades are clearly parallel to the street and includes a number of apartments over two (2) levels that have active and passive surveillance over Old Perth Road and Hamilton Street (from habitable rooms and balconies that have glass balustrading).

A clear definable pedestrian entry point to the entire development is evident from Hamilton Street.

Basement parking structures are located to the rear of the development and do not impact on the visual surveillance views from the apartments or aged care facility to the public realm.

4.3.6 Outdoor Living Areas (Part 6.3.1)

The multiple dwellings have been generally designed in accordance with the provisions of Part 6.3.1 of the R-Codes which requires all apartments to be provided with at least one (1) balcony or equivalent accessed from a habitable room with a minimum area of 10m² and a minimum dimension of 2.4m.

Units 10, 11, 14 & 15 have smaller balconies, and these have been made smaller to provide for solar access to dwellings below. However, these balconies are still of sufficient size to be used for over-55's occupants and therefore, still satisfy the Design Principles of Part 6.3.1 which requires balconies to be used in conjunction with a habitable room and (if possible) open to winter sun.

4.3.7 Parking (Part 6.3.3)

The Multiple Dwellings have been designed in accordance with the provisions of Part 6.3.3 of the R-Codes which outlines the minimum number of on-site car parking spaces per dwelling.

A previous section in this Report outlined the parking requirements for the site.

4.3.8 Vehicular Access (Part 6.3.5)

The development has been designed in accordance with the provisions of Part 6.3.5 of the R-Codes which requires consideration in respect of vehicular access.

Importantly, the facility provides for the following (in accordance with Part 6.3.5):

- Vehicle access is limited to one crossover to Hamilton Road to the new development.
- Delivery access is from Hamilton Street, at an existing crossover location.
- Driveway to the car park is designed for two-way access to allow for vehicles to enter the street in a forward gear; and
- Access-ways will be sealed and drained appropriately.

4.3.9 Visual Privacy (Part 6.4.1)

The Visual Privacy requirements of Part 6.4.1 of the R-Codes for balconies of the apartments are required to be considered in respect of the Design Principles, as they are not set back in accordance with the Deemed-to-Comply requirements, which require a 6.00m setback.

The balconies are set back 3.57m from the boundary to the east.

The neighbouring, recently completed development to the east includes a large three storey high blank parapet on part of the boundary with the remainder being a roofed car park, and therefore the proposed apartment balconies will only overlook the roof component of the adjacent

development, which in the circumstances, will not cause any impact on visual privacy to that adjacent development.

The adjacent development is unlikely to change, even in the medium term, since it has only recently been completed.

The other balconies facing north overlook only the roof of the existing Aged Care Facility which will be included on the same Title once the Amalgamation Approval is fully implemented. As such, visual privacy issues will not occur in this direction.

All other major openings for the multiple dwellings are set back in accordance with the Visual Privacy requirements of the R-Codes.

4.4 Local Planning Policies

4.4.1 Local Planning Policy 1: Bassendean Town Centre Strategy & Guidelines

This proposal seeks to redevelop this prominent corner site within the Bassendean Town Centre to form part of the established Aged Care Facility currently on Lot 54, in a manner which accords with the specific Planning and Design Guidelines of the Strategy for the Central Area (between Wilson and Whitfield Streets) of the Town Centre.

It is indicated in the Strategy that the land the subject of this Application is appropriate for *“residential apartments with ground level mixed commercial uses”*, with a five (5) storey development being appropriate along the Old Perth Road frontage of the proposed amalgamated site.

The first two levels are recommended as having a nil setback to Old Perth Road with the three levels above that being set back to allow for landscape and solar access to Old Perth Road. The development is designed to generally respond to these provisions.

The Strategy requires a **public realm contribution of 2%** of the building construction cost for development with the “Town Centre” zone, which includes a **provision for public art**. It is anticipated that a Condition of Planning Approval may include the application of this requirement, either through physical provision of public realm artwork or possibly, a cash in lieu payment in accordance with the Town of Bassendean’s Local Planning Policy 15 “Percent for Art Policy”. For the reasons outlined in 4.4.2, this Application seeks to limit this requirement.

A compliance report against the main provisions of LPP 1 is included at **Annexure 7**.

4.4.2 Local Planning Policy 15: Percent for Art Policy

Local Planning Policy 15 seeks to improve the public realm by requiring developments which have an anticipated construction cost over \$1,000,000 to provide, or contribute to, public art.

LPP 1 already indicates that developments within the Town Centre attract a requirement to provide at least 2% of the anticipated construction cost in the form of public art (or a cash in lieu

payment if a physical contribution cannot be made). The requirement of LPP 1 is an increase in the standard requirement of LPP 15, which requires a 1% contribution.

In response to both LPP 1 and LPP 15, T&T seeks the Town to consider **applying a reduced requirement for the provision of public art** since the Applicant, a Community focussed organisation, is dependent on Commonwealth subsidy funding for this project. It is essential that the Applicant efficiently applies the scarce financial resources it is provided.

In those circumstances, requiring a 2% contribution to public art (which would be valued at \$260,000 given the \$13,000,000 anticipated construction cost) is considered unreasonable, and the scarce financial resources would be better spent in providing the expensive, crucial aged care services to the Community.

Should a full exemption not be achievable, we request that any Condition for public art be worded to provide for Art-related features to be designed into the exterior or interior of the new development by MGA in consultation with a recognised Artist to a percentage value which recognizes the special circumstance of this Proposal. (We suggest a 1% requirement linked to the value of **only** the residential apartments and shop components of this development).

In any event, this Application proposes public art by a local artist on the eastern end of the Old Perth Road frontage (stylised swan).

4.5 Waste Management

A Waste Management Plan has been prepared by Aurora Environmental and is attached at **Annexure 8**, however some general details are included below.

4.5.1 Aged Care Facility

Waste collection for the Aged Care Facility will be by a private contractor which will use a rear lift collection system considered ideal for small to mid-sized commercial operations. The facility will utilise various bin sizes for both general waste and recycling material.

Collection will occur at the existing crossover location to Hamilton Street in the designated “delivery bay”. A bin store is adjacent to that delivery bay.

4.5.2 Over 55's Apartments

Waste collection for the Over 55's Apartment component will be from Old Perth Road, undertaken by the Town's Waste Collection team. A caretaker of the facility will ensure that general waste and recycling bins are placed onto the street verge on collection day.

The internal bin store is located in the basement parking level which includes a rotary bin system and chute for non-recyclable waste. The caretaker will attend to the rotary bin system on a daily basis to ensure empty bins are available to it.

In addition, interim recycle bin stores are located on each apartment floor level for easy accessibility by occupants, and bins from these interim recycle bin stores will be moved to the main basement bin store by the caretaker at regular intervals.

4.5.3 Shops

Waste collection for the Shop tenancies will be by the Town's Waste Collection team, through the use of conventional rubbish and recycling bins. Tenants will have access to the bin store. The caretaker will be responsible for placing the shop bins onto the Old Perth Road street verge on collection days.

4.6 Overshadowing

The extent of overshadowing at midday on 21 June does not impact the footpath opposite the site along Old Perth Road. The extent of overshadowing is illustrated on the Shadow Plan at Annexure 4.

4.7 Traffic Impact Statement

Transcore (Traffic Engineers) were engaged to conduct a Traffic Impact Statement (TIS) in support of this application. The TIS is included at **Annexure 9**.

The traffic analysis undertaken demonstrates that the traffic generation of the proposed development is minimal (less than 100vph) and as such, would have insignificant impact on the surrounding road network.

4.8 Contaminated Site Audit

Strategen (Environmental Consultants) were engaged to conduct an environmental assessment of Lots 84 & 85 Old Perth Road, Bassendean, given the site was historically used as a service station, car workshop and more recently, a car sales yard. The environmental assessment was commenced following receipt of the WAPC's Approval for the amalgamation of the subject site, which included a condition requiring site investigation.

Senversa was subsequently engaged to undertake a Contaminated Site Audit and produce a Mandatory Auditors Report (MAR) for the site.

The Auditor's advice is included at **Annexure 10**.

5.0 SERVICING CONSIDERATIONS

All of the usual engineering infrastructure services (including sewerage, reticulated scheme water supply, electricity and telephone services) are all available to the site and have been provided to it.

The proposed development is intended to be supplemented with solar power generating equipment to increase energy efficiency.

Air conditioning wells have been included in the roof structure to effectively screen the air conditioning infrastructure.

A Stormwater Drainage Management Plan (SDMP) has been prepared by BPA Engineering and is included at **Annexure 11**. This SDMP has already been informally submitted to the Town's Engineering Department for comments, which have been incorporated in the final SDMP.

6.0 RESPONSE TO PRE-APPLICATION ISSUES

During a previous attempt to submit this Development Application, the Town had provided a number of comments in relation to different aspects of the proposal for the subject site.

A comprehensive dialogue on those issues was progressed between the Town and Aegis' consultant team, including MGA and PWA.

We include herewith, the Town's earlier comments and responses by PWA.

Town's comments

1. *Open up the ground level courtyard to more sun (increase size), noting (a) the limited solar access that is afforded to this space; and (b) the scale of built form surrounding this space (i.e. four storeys of built form around a small courtyard) (consider opportunities to bring at least the nursing home levels of the building out to the Old Perth Road and Hamilton Street property boundaries to assist in this respect) (opportunity exists for these levels of the building being brought out to street boundaries).*

Our response

It can be seen from the drawings that the courtyard on the ground level has been opened up to facilitate greater solar access to the lower levels of the aged care facility. This has largely been achieved by extending the development closer to the Old Perth Road and Hamilton Street road reserves.

Town's comments

2. *Landscaping detail shown on drawings for central courtyards are highly misrepresentative of landscape treatment that could actually be achieved within this space (drawings show 7m high trees on top of concrete slab to car park below with planters incorporating 400mm soil depth).*

Our response

The submitted drawings show mature vegetation specific to the extent of soil depth.

Town's comments

3. *Activate the area in front of the blank wall on the Hamilton Street side of the building which sits between shop 3 and the car park entry (i.e. consider incorporating a break out space for nursing home patients and their families into the design on the outside of the building into the design of the project).*

Our response

We refer the Town to our comments in relation to this issue where we had indicated that it was not practical to create a 'breakout space' for aged care residents in this locality for the reasons outlined in that email. We seek to have the Town reconsider this request.

Town's comments

4. *Blank wall to transformer and fire pump room on Old Perth Road frontage of the development only acceptable if a suitable public art concept can be formulated for consideration in conjunction with the application for development approval.*

Our response

We note the request to include suitable public art on the blank wall to the transformer and fire pump room on the Old Perth Road frontage of the development. It had always been MGA's intention to include a stylised sculpture of a swan on this wall and it is unfortunate that this was not included in MGA's earlier drawings however this has now been incorporated in the submitted drawings

Town's comments

5. *Increase size of entry foyer to development and consider relocation to corner of building or Old Perth Road frontage.*

Our response

In response to the Town's request to increase the size of the entry foyer for the development, MGA has redesigned the entry to increase the width of the foyer from 3.60m to 4.20m and this change is reflected on the submitted drawings.

Town's comments

6. *Provide weather protection to entry foyer (none shown on perspectives).*

Our response

An entrance canopy was shown on MGA's earlier drawings but was missed on the perspectives submitted. The entry roof awning has been retained and it is at about 1.00m below the first floor level.

Town's comments

7. *Consider direct link between entry foyer and adjoining commercial tenancy, especially if it is contemplated that it may be a café.*

Our response

The Town originally sought to have Aegis consider a direct (pedestrian) link between the entry foyer of the facility and the adjoining commercial tenancy. Aegis noted in its email

that this no longer appeared to be an issue for the Town as it was impractical for Aegis to provide this link.

Town's comments

8. *Consider balconies surrounding lounges on OPR / Hamilton St corner.*

Our response

The submitted design drawings now show balconies adjacent to lounges on the Old Perth Road / Hamilton Street corner.

Town's comments

9. *Reconsider the impact of the modifications to the existing entry to the existing section of nursing home facing Hamilton Street. The revised entry arrangement is considered to be inferior to that which currently exists. An entry of an equivalent standard to that which currently exists should be maintained as the existing section of nursing home will operate independently from the new section of development*

Our response

The existing entry to the existing Aged Care Facility is not a formal entry into the new Facility, and is being significantly reduced in size for that reason. The existing Aged Care Facility will NOT operate independently from the new Facility. The whole facility (old and new) will operate as a single unit. All visitors to the new Facility will be required to arrive at the main Reception area in the new part. Once residents and visitors are familiar with the expanded Facility, they will be provided with coded entry to the new entry point.

In Aegis's view a "convenient path of movement" for family members and visitors is provided. Family members and visitors can access the reception and then make their way down a lift or stairs to the "breezeway" to the relevant part of the Facility.

Town's comments

10. *Open up corridors throughout the proposed development to the outside through the introduction of windows and 'view corridors' within the building. Proposed development is very internalised and internal amenity for nursing home in particular but also apartment occupiers could be improved greatly by internal design adjustments to provide a relationship between the inside spaces and the outside. At the moment, the view down corridors is commonly to exit doors or blank walls. See markings on attached plans for a diagrammatic explanation in this respect*

Our response

In response to the Town's request to 'open up corridors throughout the proposed development...' Aegis has considered that request and in all of the circumstances of the

proposed development, believes it unreasonable and inappropriate to further modify the corridor design to reflect this request. The aged care component includes corridors that open up into lounge areas with windows and balconies.

Aegis believes that the development has an entirely appropriate internal configuration with the design as it has been submitted.

Town's comments

11. Integration of two buildings and carrying over architectural language from existing structure into new building. Perspectives show a very different built form between what is proposed and what is existing. Consider introducing some sections of pitched roof over some of the lower sections of the proposed building to tie in with the pitched roof form of the existing building (and the pitched roof which is proposed over the uppermost level of the proposed building).

Our response

MGA has modified the roof design of the proposed extensions to achieve a greater level of integration. MGA is of the view that this modified design will achieve the Town's objective of greater visual integration between the two buildings. Additionally, air conditioning 'wells' in the roof system are also proposed to effectively screen the air conditioning infrastructure.

Town's comments

12. Crime Prevention Through Environmental Design (CPTED) – be mindful of the emergency exit next to the fire pump room – don't create a space which is enclosed on both sides (as shown on the perspectives). Make sure that the right hand side of this area is not enclosed and is stepped back to tie in with the same design approach that has been utilised with the adjoining 'Whitfield' development (see attached photo).

Our response

In response to the Town's suggestion for Crime Prevention through Environmental Design (CPTED) Aegis believes that the exit area as designed by MGA, is precisely as has been suggested by the Town. We invite the Town's further review of the design drawings to ensure that the Town is agreeable to what is being proposed in this instance.

Town's comments

13. No concerns held with building bulk, provided that shadowing does not extend beyond kerb line on opposite side of Old Perth Road. Indeed, it was suggested that it may be possible to bring some sections of the building closer to street boundaries.

Our response

It is noted that the Town has no concerns with building bulk so there is little more to add to this issue. The overshadowing at June 21 does not extend beyond the kerb on the opposite side of Old Perth Road.

Town's comments

14. If there is a desire to push forward with the design concept as presented (what I will call the donut design for ease of reference) in lieu of a design incorporating a single building layer along street boundaries along with fully enclosed circulation spaces for the apartments, which are both notionally at odds with the design approach advocated within the Town Centre Policy and Strategy should only be supported where there is refinement to the design concept to provide:

- a) Increased size central courtyard;*
- b) Improved cross-ventilation within individual units;; and*
- c) Refinement to design to allow optimised solar access to living areas.*

In relation to the three points identified above, the following comments are made:

Central courtyard

Opportunities exist for the size of the central courtyard to be increased, as discussed earlier within this correspondence.

Our response

In response to the Town's issues concerning cross ventilation/solar access, MGA has undertaken extensive modification to its design to include additional windows and openings in the proposed apartment's component of the development, in addition to increasing the area of the central courtyard to achieve this objective.

Town's comments

15. Corner units – locating living areas at corner of dwellings with openings on opposing walls.

Our response

The design of the living areas in particular has been modified to achieve the required objective for improved cross ventilation. Additional openings have been created on opposing walls to achieve the outcome of greater cross ventilation.

Town's comments

16. Non-corner units (such as apartment 17) – incorporate a design where living room sits proud of adjoining rooms rather than being recessed into building as currently proposed,

allowing for openings for cross ventilation to be incorporated into side walls of living area in addition to street facing wall of living area.

Our response

In response to the Town's request that non-corner units (such as apartment 17) incorporates a design where the living room component sits proud of adjoining rooms to facilitate greater cross ventilation. This has now been provided in MGA's revised design.

Town's comments

17. Top level units – vented skylights.

Our response

In response to the Town's request for vented skylights on the top level apartments, MGA has agreed with this and these are shown as dashed, crossed rectangles on the submitted third floor plan.

Town's comments

18. Individual apartments on second top level – ventilation through units on uppermost level.

Our response

While Aegis notes the Town's request for individual apartments on the second top level to be provided with ventilation through the units on the upper most level, MGA confirm that this would be impractical as the effective air flow through such minor openings of contorted route would be minimal and non-effective. Larger openings to provide effective ventilation would result in a significant floor area reduction to the top floor units, and this is not acceptable to Aegis.

Town's comments

Solar Access

Opportunities exist for solar access to individual dwellings to be improved, including:

19. All dwellings on northern side of building (units 2, 3, 5, 11, 12, and 14) being designed with glazed north facing living areas and roof overhangs beyond designed specifically to exclude direct solar access during summer while allowing direct solar access to living areas during winter.

Our response

In response to the Town's request for solar access to individual dwellings to be improved, MGA has included smaller balconies on the top floor to facilitate greater solar access to the units below. (We note that this may be a variation to the Residential Design Codes of

WA (R-Codes) however if the Town is prepared to support this variation to the R-Codes' requirements then Aegis will incorporate these smaller balconies.)

Town's comments

20. Projection of Living areas for units on eastern and western sides of building (units 1, 6, 10 and 15) in such a manner that an element of north-eastern or north-western solar access is afforded to the living areas of these dwellings.

Our response

In response to the Town's request that the living areas be projected for the units on the eastern and western sides of the building, MGA has redesigned these units so they enjoy an element of NE/NW solar access.

Town's comments

Without additional measures being implemented, it is not considered that the variations which are being proposed from Council's policy for development within the Town centre should be supported. The principles referred to above can be incorporated into a refined design concept for the site (but it is important to note that it would be necessary for the design to be refined beyond that which has been provided to the Town to date). There was also a thought that additional measures such as provision of PV panels or the like, could also be incorporated into the design to demonstrate a commitment to energy efficient design principles that are advocated within the Town Centre Strategy and Guidelines, so it would be beneficial for you to give consideration to other design measures that you could incorporate into the design in this respect.

Our response

From the submitted design drawings, it can be seen clearly that Aegis has seriously considered the design principles of this development as required by the Town.

It has always been Aegis' intention to incorporate solar (photovoltaic) panels to assist in energy conservation and these panels are now shown on the submitted drawings. The solar panels are placed on the north-east and north-west roof planes.

Town's comments

Additional Comments:

I have also taken the opportunity to undertake a design review of the car park and provide the following comments

Car Park on site

21. The allocation / distribution of bays within the car park must be allocated between the differing land uses that are proposed and must match the allocation on any future strata

plan (i.e. bays for individual apartment owners, bays for residential visitors, bays for individual shop tenancies). If there is any intent that there will be a shared parking allocation for some of the bays, then this must be clearly shown on the plans and it must be clearly explained how this will translate into any future strata titling arrangement. There is no scope for individual apartment bays to be part of a sharing arrangement nor apartment visitor bays.

Our response

In response to the comprehensive comments in relation to car parking bays in the lower ground floor area, the submitted plan shows that this car parking facility has been comprehensively redesigned.

Town's comments

- 22. The alignment of the entry to the car park must be adjusted in order that it aligns with the access aisle beyond.*

Our response

The aligning of the entry to the car park with the alignment of the access aisle beyond has now been achieved in the submitted drawings.

Town's comments

- 23. The accessible car bay is unacceptable in that to exit this bay it is necessary to reverse along the entire aisle within which this bay is located and then reverse back into the main aisle of the car park prior to engaging forward gear to then leave the car park (an accessible car parking bay along with an associated shared space alongside must be provided for the development).*

Our response

The accessible car bay has now been redesigned to facilitate simplified reversing.

Town's comments

- 24. Bays in car park scale under length generally (5.3m v 5.4m min required)*

Our response

MGA confirms that the dimensions of the car parking bays are consistent with the minimum car parking dimensions required.

Town's comments

- 25. Access aisles within the car park scale under length generally (6.1m v 6.2m min required).*

Our response

In response to the Town's concern about vehicle access aisles within the car park, we confirm that these aisles are correctly sized at 6.2m.

Town's comments

26. Certain bays within the car park have a lesser width than prescribed (bay 44 is 2.1m wide v 2.4m min prescribed; bay 48 is 2.4m width but must be 2.7m min based on design presented; column between bays 51 and 52 has not been designed in accordance with the preferred parking envelope identified within Fig 5.2 of AS2890.1)

Our response

We confirm that the car parking bays as shown on the drawings are now consistent with Australian Standard AS2890.1

Town's comments

27. A wheel stop is required in bay 18 noting that it is arranged at right angles to bay 44.

Our response

The car park design shown on the submitted drawings includes wheel stops to all parking bays.

Town's comments

28. In car parks available to the public blind aisles are only permitted to be as long as the width of six, 90 degree spaces. The car park design incorporates two blind aisles which exceed this length

Our response

The car park design shown on the submitted drawings still incorporates two blind aisles which exceeds 6 car parking bays. However, with the Town's previous agreement to assist in this matter, these two blind aisles are now designated not for visitor use.

Town's comments

29. Much more detailed information is required in relation to pre-existing spot heights and contours needs to be provided in order that the driveway gradients specified in AS2890.1 can be considered and assessed in detail (across footpath, across building line, grade transitions etc).

Our response

The car park entry gradient slopes down from 13.10 12.20 which is 900mm in height over a distance of 7.90m, giving a gradient of 1:8.80 which, with transitions, complies with AS2890.1.

Town's comments

30. The width of the entry to the car park must be 6.1m min in order to demonstrate compliance with cl 2.5.2 of AS2890.1

Our response

The entry to the car park has been redesigned to be 6.10m wide in accordance with AS2890.1.

Town's comments

31. The entry to the car park should be designed to accommodate queuing space for two cars on site in order to demonstrate compliance with the provisions of cl 3.4 of AS2890.1. The current design provides for no on site queuing and the first vehicle parked awaiting entry to the car park would be blocking the footpath having regard to the changes to footpath location that are shown on the drawings. This is an unacceptable arrangement.

Our response

In response to the Town's request that the entry to the car park should be designed to accommodate queuing space for two cars in order to demonstrate compliance with the appropriate Australian Standard, we note that the car park entry will remain open during the opening hours of the facility (generally 6:00am to 6:00pm) so vehicles will be able to enter the site unrestricted and not be required to queue in front of the closed entry gate. The entry gate will be closed after 6:00pm and as there will be very few vehicle movements after this hour, vehicle queuing will not be an issue.

Town's comments

32. You would need to demonstrate how it was appropriate for residential visitor parking spaces (and visitor parking spaces to the development generally) to be located behind security enclosure, when the expected arrangement for visitor parking is that it will be located forward of security barriers

Our response

After-hours access through security gate will be via intercom, and accepted visitors will be allowed access into the car park by remote electric by aged care staff or apartment residents.

Town's comments

33. Pedestrian path within car park to rear of shops 1 and 2 must be 1.2m width minimum in order to meet disability access requirements. This path needs to connect through to entry lobby (i.e. through area where accessible car bay is currently shown)

Our response

The footpath within the parking structure to the rear of Shops 1 and 2 has been redesigned to connect through to the entry lobby and is 1.20m wide.

Town's comments

34. An area for required bicycle parking must be incorporated into the design of the car park.

Our response

In response to the Town's request for bicycle parking to be incorporated into the design of the car park, this has now been provided and located behind Shop 3 in the lower ground floor car parking area.

Town's comments

35. The arrangement that has been put forward in relation to car parking including the proposal for a variation to on site car parking provision will only be supported if there is some provision incorporated into the car park design for motor cycle and scooter parking (3 bays minimum) (specified dimensions 1.2m x 2.5m), along with the capacity to appropriately provide additional car parking around the perimeter of the site (see further comments below in this respect).

Our response

The revised car park design now incorporates four additional bays for motorcycles in addition to those provided specifically for bicycles.

Town's comments

36. The waste management plan for the development will need to clearly show how the delivery bay and associated turning bay is of a sufficient size to allow rubbish trucks to enter and leave the site in a forward gear. Without looking at this matter in detail I would anticipate that the driveway and associated turning bay is not of a sufficient size to accommodate the turning movements of the rubbish truck that will be servicing the development. The waste management plan will also need to clearly show how rubbish is to be transferred from the car park for collection by the rubbish truck also.

Our response

The waste collection trucks will continue to access the existing loading area, as they have done at the existing Bassendean Aged Care Facility for years. The transfer of rubbish from the bin store in the basement car park area for collection will be appropriately managed by the caretaker.

A Waste Management Plan has been prepared by Aurora Environmental.

Town's comments

37. *I know that we touched on this matter briefly during our earlier discussions, but I think that it would be prudent to suggest that a waste management consultant be engaged and involved in the design process to avoid the need for design modifications to be undertaken at a later date for design requirements that were not properly considered at this early stage.*

Our response

Aurora Environmental has been engaged to prepare a Waste Management Plan.

Town's comments

Car Parking Bays on Street

38. *The proposal to add parallel parking bays to the eastern side of Hamilton Street while maintaining right angle parking bays on the western side of Hamilton Street has been considered from an engineering perspective (including discussion with a representative of Main Roads) and it has been determined that this design approach is not acceptable from a traffic safety perspective as there is an unacceptable crash risk for this design configuration (the standard and safest design approach for street parking is parallel on either side of the street). Accordingly it will be necessary for the proposed development to be modified and for all of the bays that were shown parallel on Hamilton Street (where situated opposing right angle bays on the opposite side of the street) to be removed.*

Our response

Whilst a previous proposal included on-street car parking in Hamilton Street, this Application does not propose this.

Town's comments

39. *There will be limited opportunity to provide some parallel parking on the Hamilton Street side of the development site (likely limited to two bays within the vicinity of the proposed entrance to the development)(it is not possible for street bays to project any closer to the Hamilton Street/ OPR intersection than you have shown on your drawings) along with an extension to the parking embayment on the Old Perth Road side of the development site to accommodate an additional two bays beyond the three bays that currently exist on this side of the site (the drawings incorrectly show this space accommodating 4 bays in lieu of the 3 bays that it actually does accommodate). This obviously has implications for the car parking argument put forward in your initial submission.*

Our response

There will be no on-street car parking proposed.

Town's comments

40. Street trees on the Old Perth Road side of the property will need to be retained, however noting the intention to develop commercial tenancies, it will be possible to add in an additional 1.8 metre pedestrian path immediately forward of the site which will then re-join the existing pedestrian path on the kerb side forward of the development site in exactly the same way as has occurred on the opposite side of the street (refer to street view image attached).

Our response

In relation to the Town's comments concerning street trees on Old Perth Road and the Town's request to add an additional 1.8m wide pedestrian path immediately forward of the site, Aegis agrees with this and has included this footpath in its modified design.

Town's comments

41. The Town would be prepared to support a design concept of the kind that has been put forward ('donut' concept), but this would be contingent upon the design being refined further to provide enhanced solar access and cross ventilation beyond that which has been incorporated into the design to date.

Our response

Given MGA has substantially redesigned the proposal, we trust that the Town will support this Application.

7.0 CONCLUSION

This Report has been prepared by Peter Webb & Associates (PWA) in association with the project team, on behalf of T&T Management Services Pty Ltd to support a Development Application for the proposed Aged Care Facility extension, development of 18 Multiple Dwellings and three (3) Shop tenancies at Lot 54 (#27) Hamilton Street, Bassendean, and Lots 84-85 (#68-70) Old Perth Road, Bassendean.

The Town is undoubtedly aware of the desperate need for a far greater supply of high level care and Over-55's developments for our ageing community throughout the State, than is currently provided.

This Application endeavours to meet this need by providing a high quality Aged Care Facility accommodating 64 new aged care beds of various levels of care, in addition to 39 beds in the existing Aged Care Facility, together with 18 residential Over-55's apartments constructed over two levels.

This proposal will also enable the redevelopment of Lots 84 and 85 which continue to remain underutilised and unattractive.

The Application is demonstrated to be entirely consistent with the objectives and requirements for this proposal, as specified in the Town's relevant Planning Framework.

The Applicant has undergone extensive planning, design and consultation in the preparation of this entire proposal and we now seek the Town's favourable consideration of this Application.

The Town is reminded that approximately 12 years ago, the Applicant bought the Town of Bassendean's 25 aged care licences when it closed its low care hostel. At that time, the Applicant made an obligation to the Town to return those aged care beds back to the community in the future. The approval of this development will enable T&T to meet the previous undertaking provided by it, to the benefit of the community and to the benefit of the Town of Bassendean.

Accordingly, and on the basis of our submissions in this report and the attached Development Plans, we respectfully seek Planning Approval for the proposed Aged Care Facility at Lot 54 (#27) Hamilton Street, Bassendean, and Lots 84-85 (#68-70) Old Perth Road, Bassendean.

We look forward to the Town progressing this Application in a timely manner and to provide a favourable recommendation and Responsible Authority Report to JDAP within the allotted timeframe.

Peter Webb & Associates

ANNEXURES

ANNEXURE 1

WAPC Amalgamation Approval

Your Ref :
Enquiries : Nik Lamat (Ph 65519286)

Peter D Webb & Associates
P O Box 920
SUBIACO WA 6904

Approval Subject To Condition(s) Freehold (Green Title) Subdivision

Application No : 151362

Planning and Development Act 2005

Applicant	:	Peter D Webb & Associates P O Box 920 SUBIACO WA 6904
Owner	:	T & T Management Services Pty Ltd 90 Goodwood Parade BURSWOOD WA 6100
Application Receipt	:	30 January 2015

Lot Number	:	54, 84 & 85
Diagram / Plan	:	Deposited Plan 29092 Plan 1786
Location	:	Pt Swan Q1
C/T Volume/Folio	:	2514/597, 1631/156, 1496/999
Street Address	:	Hamilton Street & Old Perth Road, Bassendean
Local Government	:	Town of Bassendean

The Western Australian Planning Commission has considered the application referred to and is prepared to endorse a deposited plan in accordance with the plan date-stamped 30 January 2015 once the condition(s) set out have been fulfilled.

This decision is valid for three years from the date of this advice, which includes the lodgement of the deposited plan within this period.

The deposited plan for this approval and all required written advice confirming that the requirement(s) outlined in the condition(s) have been fulfilled must be submitted by 18 May 2018 or this approval no longer will remain valid.

Reconsideration - 28 days

Under section 151(1) of the *Planning and Development Act 2005*, the applicant/owner may, within 28 days from the date of this decision, make a written request to the WAPC to reconsider any condition(s) imposed in its decision. One of the matters to which the WAPC will have regard in reconsideration of its decision is whether there is compelling evidence by way of additional information or justification from the applicant/owner to warrant a reconsideration of the decision. A request for reconsideration is to be submitted to the WAPC on a Form 3A with appropriate fees. An application for reconsideration may be submitted to the WAPC prior to submission of an application for review. Form 3A and a schedule of fees are available on the WAPC website: <http://www.planning.wa.gov.au>

Right to apply for a review - 28 days

Should the applicant/owner be aggrieved by this decision, there is a right to apply for a review under Part 14 of the *Planning and Development Act 2005*. The application for review must be submitted in accordance with part 2 of the *State Administrative Tribunal Rules 2004* and should be lodged within 28 days of the date of this decision to: the State Administrative Tribunal, 12 St Georges Terrace, Perth, WA 6000. It is recommended that you contact the tribunal for further details: telephone 9219 3111 or go to its website: <http://www.sat.justice.wa.gov.au>

Deposited plan

The deposited plan is to be submitted to the Western Australian Land Information Authority (Landgate) for certification. Once certified, Landgate will forward it to the WAPC. In addition, the applicant/owner is responsible for submission of a Form 1C with appropriate fees to the WAPC requesting endorsement of the deposited plan. A copy of the deposited plan with confirmation of submission to Landgate is to be submitted with all required written advice confirming compliance with any condition(s) from the nominated agency/authority or local government. Form 1C and a schedule of fees are available on the WAPC website: <http://www.planning.wa.gov.au>

Condition(s)

The WAPC is prepared to endorse a deposited plan in accordance with the plan submitted once the condition(s) set out have been fulfilled.

The condition(s) of this approval are to be fulfilled to the satisfaction of the WAPC.

The condition(s) must be fulfilled before submission of a copy of the deposited plan for endorsement.

The agency/authority or local government noted in brackets at the end of the condition(s) identify the body responsible for providing written advice confirming that the WAPC's requirement(s) outlined in the condition(s) have been fulfilled. The written advice of the agency/authority or local government is to be obtained by the applicant/owner. When the written advice of each identified agency/authority or local government has been obtained, it should be submitted to the WAPC with a Form 1C and appropriate fees and a copy of the deposited plan.

If there is no agency/authority or local government noted in brackets at the end of the condition(s), a written request for confirmation that the requirement(s) outlined in the condition(s) have been fulfilled should be submitted to the WAPC, prior to lodgement of the deposited plan for endorsement.

Prior to the commencement of any subdivision works or the implementation of any condition(s) in any other way, the applicant/owner is to liaise with the nominated agency/authority or local government on the requirement(s) it considers necessary to fulfil the condition(s).

The applicant/owner is to make reasonable enquiry to the nominated agency/authority or local government to obtain confirmation that the requirement(s) of the condition(s) have been fulfilled. This may include the provision of supplementary information. In the event that the nominated agency/authority or local government will not provide its written confirmation following reasonable enquiry, the applicant/owner then may approach the WAPC for confirmation that the condition(s) have been fulfilled.

In approaching the WAPC, the applicant/owner is to provide all necessary information, including proof of reasonable enquiry to the nominated agency/authority or local government.

The condition(s) of this approval, with accompanying advice, are:

CONDITION(S):

1. Redundant vehicle crossover(s) to be removed and the kerbing, verge, and footpath (where relevant) reinstated with grass or landscaping to the satisfaction of the Western Australian Planning Commission and to the specifications of the local government. (Local Government)
2.
 - (a) Prior to commencement of subdivision works, investigation for soil and groundwater contamination is to be carried out to determine if remediation is required.
 - b) If required, remediation, including validation of remediation, of any contamination identified shall be completed prior to the issuing of titles to the satisfaction of the Western Australian Planning Commission on advice from the Department of Environment Regulation, to ensure that the lots created are suitable for the proposed use.

Investigations and remediation are to be carried out in compliance with the *Contaminated Sites Act 2003* and current Department of Environment Regulation Contaminated Sites Guidelines.

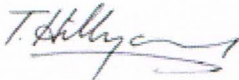
(Department of Environment Regulation)

3. Arrangements being made with the Water Corporation so that provision of a sewerage service will be available to the lots shown on the approved plan of subdivision. (Water Corporation)

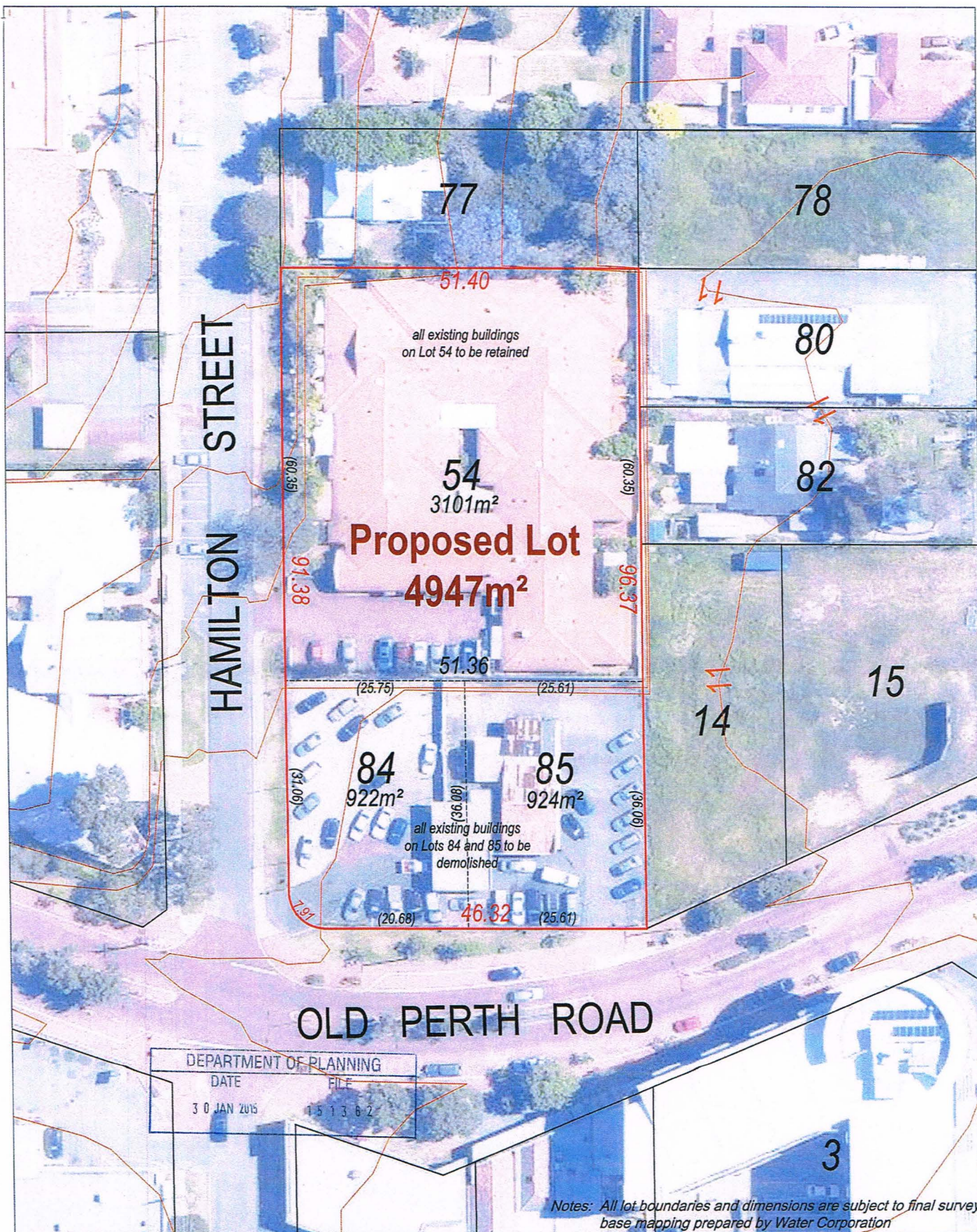
4. The provision of easements for existing or planned future water, sewerage and/or drainage infrastructure as may be required by the Water Corporation being granted free of cost to that body. (Water Corporation)
5. Arrangements being made to the satisfaction of the Western Australian Planning Commission and to the specification of Western Power for the provision of an underground electricity supply to the lot(s) shown on the approved plan of subdivision. (Western Power)
6. The transfer of land as a Crown reserve free of cost to Western Power for the provision of electricity supply infrastructure. (Western Power)

ADVICE:

1. The Town of Bassendean advises that an investigation for soil and groundwater contamination should be carried out for the existing Lots 84 and 85 prior to any future development in consultation with the Department of Environment Regulation.
2. With regard to Conditions 3 and 4, the landowner/applicant shall make arrangements with the Water Corporation for the provision of the necessary services. On receipt of a request from the landowner/applicant, a Land Development Agreement under Section 83 of the *Water Services Act 2012* will be prepared by the Water Corporation to document the specific requirements for the proposed subdivision.
3. With regard to Condition 5, Western Power provides only one underground point of electricity supply per freehold lot.

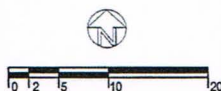


Tim Hillyard
Secretary
Western Australian Planning Commission
18 May 2015



PLAN OF AMALGAMATION

LOT 54 Hamilton Street,
LOTS 84 AND 85 Old Perth Road
BASSENDEAN



PETER D WEBB AND ASSOCIATES

CONSULTANTS IN TOWN PLANNING & URBAN DESIGN
PO BOX 920 SUBIACO WA 6904 TEL: 9388 7111
UNIT 2/19 YORK STREET SUBIACO FAX: 9388 7240

1:500 - 02-12-14 - P2062-01 - P2062

ANNEXURE 2

Certificates of Title

WESTERN



AUSTRALIA

REGISTER NUMBER	
54/DP29092	
DUPLICATE EDITION	DATE DUPLICATE ISSUED
4	26/8/2011

RECORD OF CERTIFICATE OF TITLE
UNDER THE TRANSFER OF LAND ACT 1893

VOLUME
2514FOLIO
597

The person described in the first schedule is the registered proprietor of an estate in fee simple in the land described below subject to the reservations, conditions and depth limit contained in the original grant (if a grant issued) and to the limitations, interests, encumbrances and notifications shown in the second schedule.



REGISTRAR OF TITLES

LAND DESCRIPTION:

LOT 54 ON DEPOSITED PLAN 29092

REGISTERED PROPRIETOR:
(FIRST SCHEDULE)

T & T MANAGEMENT SERVICES PTY LTD OF 90 GOODWOOD PARADE, BURSWOOD
(T M397473) REGISTERED 9/9/2013

LIMITATIONS, INTERESTS, ENCUMBRANCES AND NOTIFICATIONS:
(SECOND SCHEDULE)

Warning: A current search of the sketch of the land should be obtained where detail of position, dimensions or area of the lot is required.
* Any entries preceded by an asterisk may not appear on the current edition of the duplicate certificate of title.
Lot as described in the land description may be a lot or location.

-----END OF CERTIFICATE OF TITLE-----

STATEMENTS:

The statements set out below are not intended to be nor should they be relied on as substitutes for inspection of the land and the relevant documents or for local government, legal, surveying or other professional advice.

SKETCH OF LAND: DP29092
PREVIOUS TITLE: 1786-751, 1992-275
PROPERTY STREET ADDRESS: 27 HAMILTON ST, BASSENDEAN.
LOCAL GOVERNMENT AUTHORITY: TOWN OF BASSENDEAN

NOTE 1: DUPLICATE CERTIFICATE OF TITLE NOT ISSUED AS REQUESTED BY DEALING
L699107
NOTE 2: N115607 DEPOSITED PLAN 406625 LODGED



WESTERN



AUSTRALIA

RECORD OF CERTIFICATE OF TITLE
UNDER THE TRANSFER OF LAND ACT 1893

REGISTER NUMBER	
84/P1786	
DUPLICATE EDITION	DATE DUPLICATE ISSUED
2	7/1/2015

VOLUME
1631FOLIO
156

The person described in the first schedule is the registered proprietor of an estate in fee simple in the land described below subject to the reservations, conditions and depth limit contained in the original grant (if a grant issued) and to the limitations, interests, encumbrances and notifications shown in the second schedule.



REGISTRAR OF TITLES

LAND DESCRIPTION:

LOT 84 ON PLAN 1786

REGISTERED PROPRIETOR:
(FIRST SCHEDULE)

T & T MANAGEMENT SERVICES PTY LTD OF 90 GOODWOOD PARADE, BURSWOOD
(T M874673) REGISTERED 2/1/2015

LIMITATIONS, INTERESTS, ENCUMBRANCES AND NOTIFICATIONS:
(SECOND SCHEDULE)

1. THE LAND THE SUBJECT OF THIS CERTIFICATE OF TITLE EXCLUDES ALL PORTIONS OF THE LOT DESCRIBED ABOVE EXCEPT THAT PORTION SHOWN IN THE SKETCH OF THE SUPERSEDED PAPER VERSION OF THIS TITLE. VOL 1631 FOL 156.

Warning: A current search of the sketch of the land should be obtained where detail of position, dimensions or area of the lot is required.
* Any entries preceded by an asterisk may not appear on the current edition of the duplicate certificate of title.
Lot as described in the land description may be a lot or location.

-----END OF CERTIFICATE OF TITLE-----

STATEMENTS:

The statements set out below are not intended to be nor should they be relied on as substitutes for inspection of the land and the relevant documents or for local government, legal, surveying or other professional advice.

SKETCH OF LAND: 1631-156 (84/P1786)
PREVIOUS TITLE: 1006-672
PROPERTY STREET ADDRESS: 68 OLD PERTH RD, BASSENDEAN.
LOCAL GOVERNMENT AUTHORITY: TOWN OF BASSENDEAN

NOTE 1: N115607 DEPOSITED PLAN 406625 LODGED



WESTERN



AUSTRALIA

REGISTER NUMBER	
85/P1786	
DUPLICATE EDITION	DATE DUPLICATE ISSUED
2	7/1/2015

RECORD OF CERTIFICATE OF TITLE
UNDER THE TRANSFER OF LAND ACT 1893

VOLUME
1496FOLIO
999

The person described in the first schedule is the registered proprietor of an estate in fee simple in the land described below subject to the reservations, conditions and depth limit contained in the original grant (if a grant issued) and to the limitations, interests, encumbrances and notifications shown in the second schedule.



REGISTRAR OF TITLES

LAND DESCRIPTION:

LOT 85 ON PLAN 1786

REGISTERED PROPRIETOR:
(FIRST SCHEDULE)

T & T MANAGEMENT SERVICES PTY LTD OF 90 GOODWOOD PARADE, BURSWOOD
(T M874673) REGISTERED 2/1/2015

LIMITATIONS, INTERESTS, ENCUMBRANCES AND NOTIFICATIONS:
(SECOND SCHEDULE)

1. THE LAND THE SUBJECT OF THIS CERTIFICATE OF TITLE EXCLUDES ALL PORTIONS OF THE LOT DESCRIBED ABOVE EXCEPT THAT PORTION SHOWN IN THE SKETCH OF THE SUPERSEDED PAPER VERSION OF THIS TITLE.

Warning: A current search of the sketch of the land should be obtained where detail of position, dimensions or area of the lot is required.
* Any entries preceded by an asterisk may not appear on the current edition of the duplicate certificate of title.
Lot as described in the land description may be a lot or location.

-----END OF CERTIFICATE OF TITLE-----

STATEMENTS:

The statements set out below are not intended to be nor should they be relied on as substitutes for inspection of the land and the relevant documents or for local government, legal, surveying or other professional advice.

SKETCH OF LAND: 1496-999 (85/P1786)
PREVIOUS TITLE: 411-52
PROPERTY STREET ADDRESS: 70 OLD PERTH RD, BASSENDEAN.
LOCAL GOVERNMENT AUTHORITY: TOWN OF BASSENDEAN

NOTE 1: N115607 DEPOSITED PLAN 406625 LODGED



ANNEXURE 3

Annotated Site Photographs



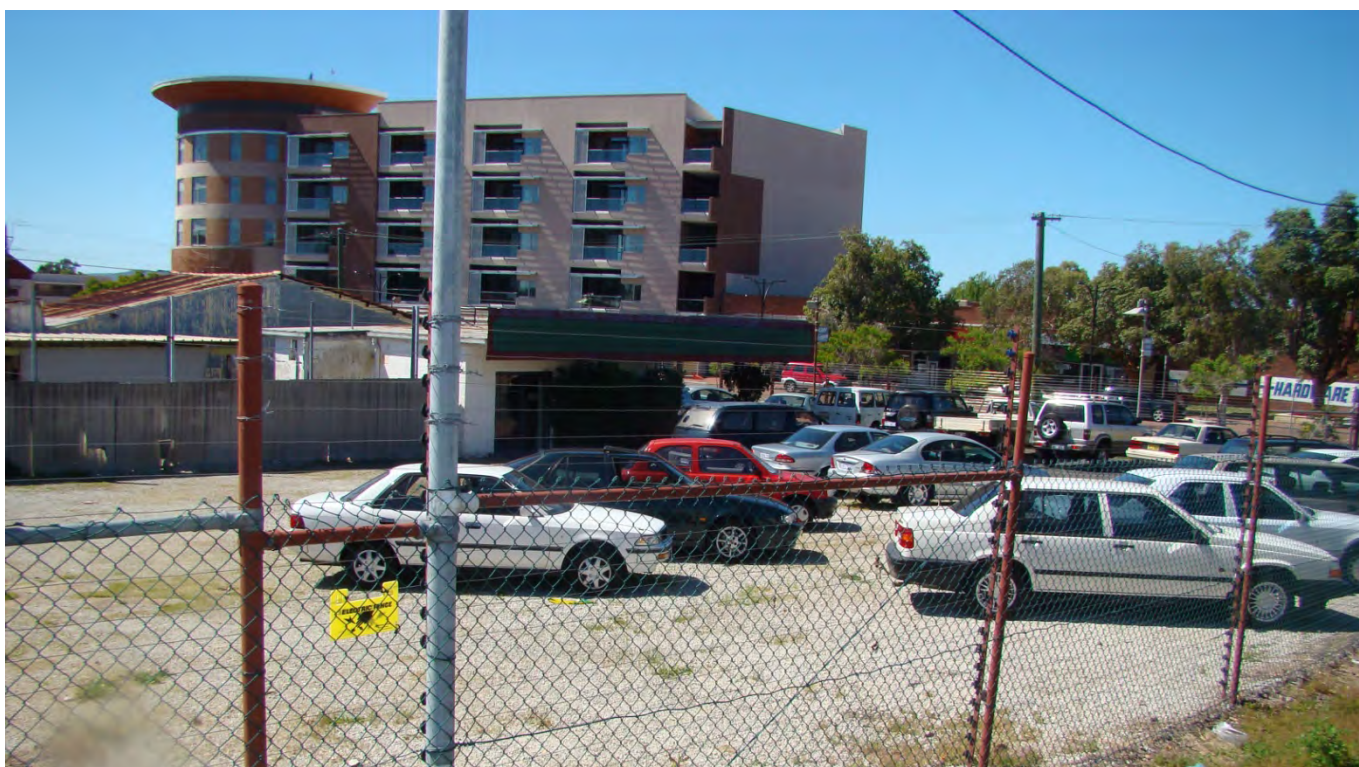
Photograph 1: Looking north east from Hamilton Street into the existing Aegis facility on Lots 16 and 79.



Photograph 2: Looking south east along Hamilton Street and with the landscape associated with the Aegis facility.



Photograph 3: Looking south west into the Aegis Hostel.



Photograph 4: Looking south east through the electrified fence of the motor vehicle sales premises, the subject of the new application to the multi storey apartment complex on southern side of Old Perth Road.



Photograph 5: The southern part of the Aegis Hostel facility from Hamilton Street noting the architectural merit of the structure.



Photograph 6: Looking east along the southern frontage of the site (adjacent to Old Perth Road), noting the width of the verge on this (northern) side of the road.



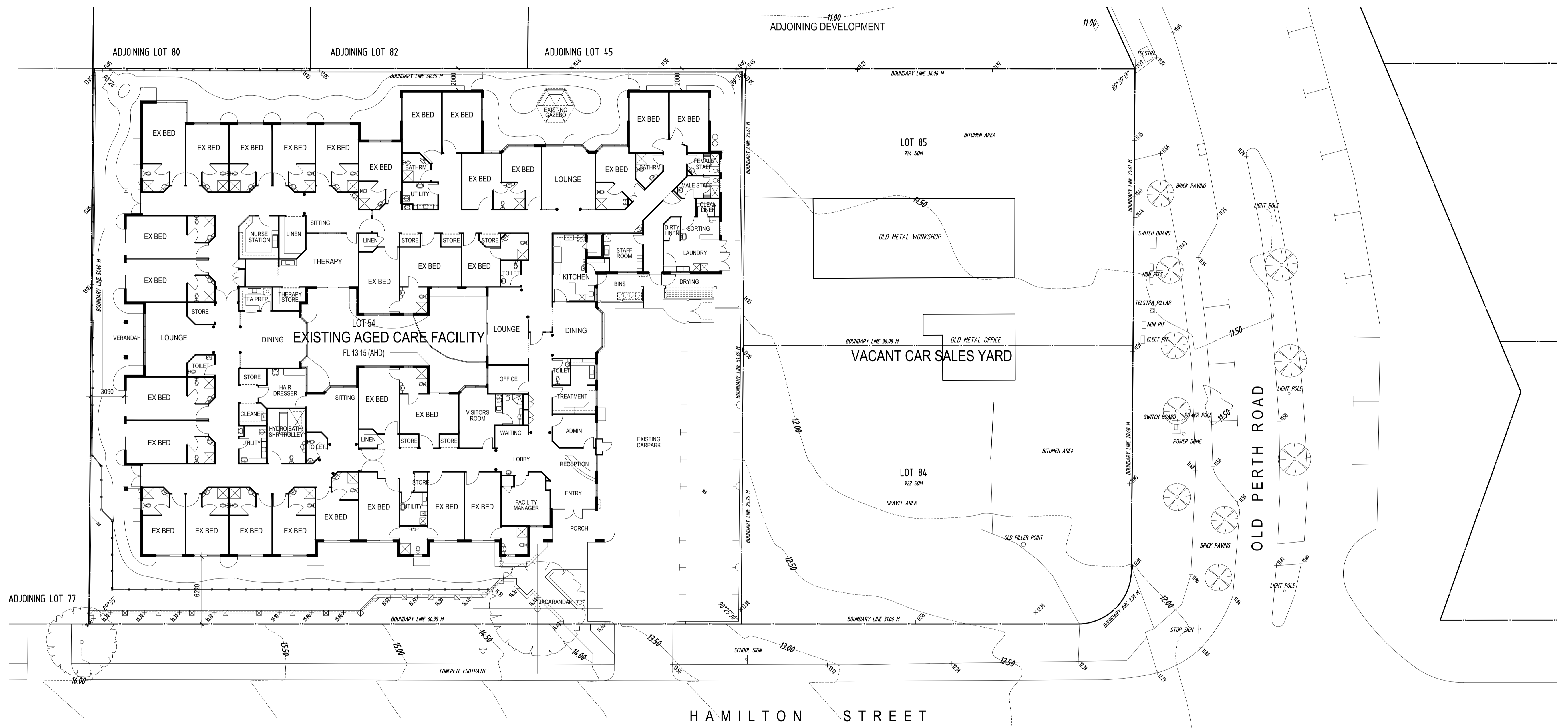
Photograph 7: Looking north west across the adjacent vacant (but to be developed) lot on the eastern side of the Aegis Aged Care facility and the north eastern corner off the car yard.

ANNEXURE 4

Design Drawings

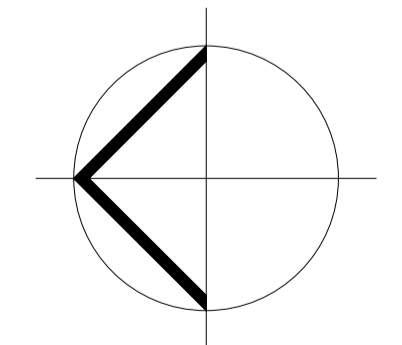
(Montague Grant Architects)

and 3D Perspective Views



SITE PLAN

1:200



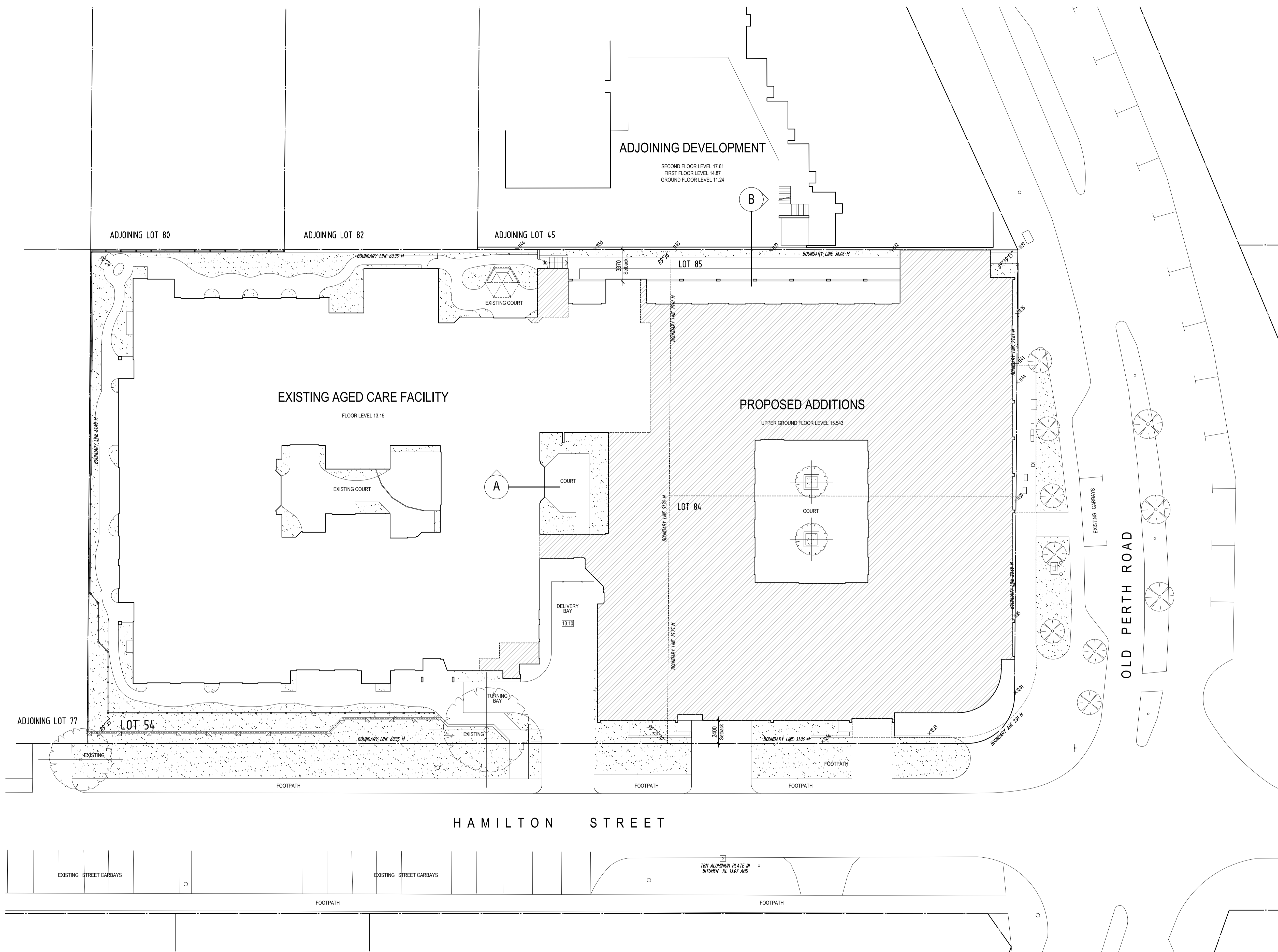


SCHEDULE OF FINISHES

PROJECT: BASSENDEAN AGED CARE, ALTERATIONS & ADDITIONS
SITE: HAMILTON STREET & OLD PERTH ROAD, BASSENDEAN
PROPRIETOR: AEGIS AGED CARE GROUP PTY LTD
JOB NO: 14.11
DATE: 8 DECEMBER 2017

EXTERNAL

<u>ITEM</u>	<u>MATERIAL</u>	<u>COLOUR</u>
Brick Walls generally	Painted sand finished render on clay brickwork	<ul style="list-style-type: none">- Dulux 'Grand Piano' S15C1- Dulux 'Stoney Creek S15A4'- Dulux 'Powered Rock' S15A2- Dulux 'Boycott' S15A7- Dulux 'Very Terracotta' S08F8
Tile Faced Brick Walls	Glazed ceramic wall tiles on clay brickwork	Special 'Ochre' colour selected for this specific project.
Metal Roof Fascia and Eaves Gutter	Colorbond Steel	Colorbond 'Woodland Grey'
Tile Roofs	Terracotta Marseille pattern roof tiles	Terracotta Orange 'Natural Blend'
Window Frames	Powdercoat finished aluminium	'Charcoal Metallic'
Window Glazing generally	Low energy performance glass	'Solar Grey'
Shopfront Glazing	Low energy performance glass	'Clear'
Balcony Balustrading	Frameless toughened glass with stainless steel handrail.	Clear glass & polished stainless steel.



SITE PLAN 1:200

AEGIS BASSENDEAN ALTERATIONS & ADDITIONS

MONTAGUE GRANT ARCHITECTS PTY LTD
26 BRISBANE ST, PERTH WA 6000 TELEPHONE: 9328 2233 FAX: 9227 6346 A.C.N. 009 072 593

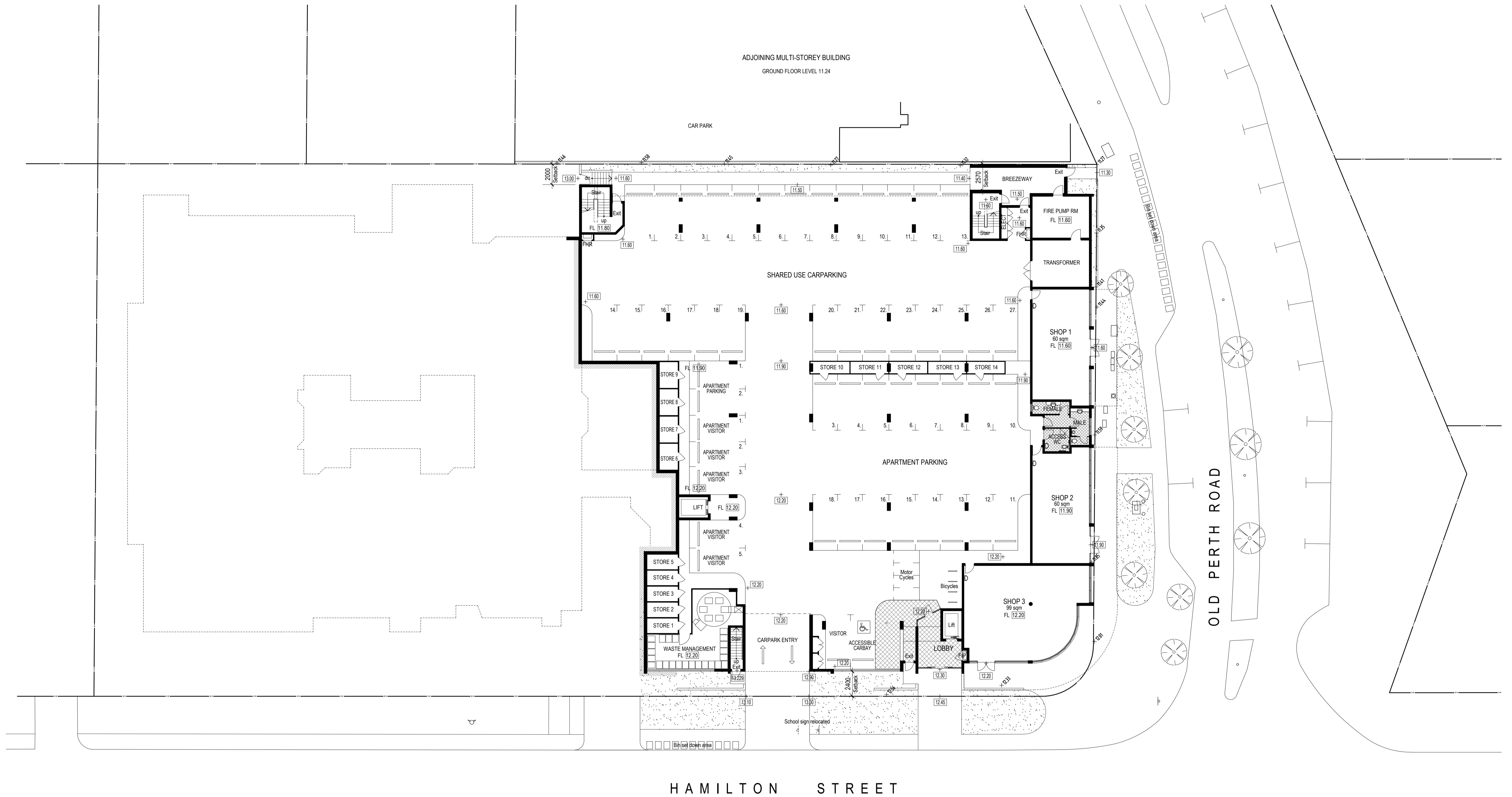
SITE PLAN
CLIENT AGED CARE GROUP PTY LTD
JOB BASSENDEAN AGED CARE, ALTERATIONS AND ADDITIONS
SITE LOTS 54, 84 & 85 OLD PERTH ROAD
BASSENDEAN
TOWN OF BASSENDEAN

JOB NO **14.11** DRG NO **SK1.**
DRAWN MGA DATE 31/10/17
SCALES 1:200 ISSUE B

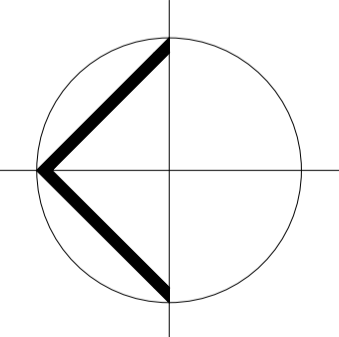
Contractor must verify all Dimensions before commencing Work or Shop Drawings
DRAWINGS MUST NOT BE SCALED

THIS DRAWING IS THE COPYRIGHT OF MONTAGUE GRANT ARCHITECTS PTY LTD EXCLUSIVELY

B	18/1/18	FOOTPATH TO HAMILTON STREET REVISED.
A	11/12/17	SURVEY OF ADJOINING DEVELOPMENT AND HAMILTON STREET ADDED. HAMILTON STREET CAR BAYS DELETED.
REVISION	DATE	DESCRIPTION



LOWER GROUND FLOOR 1:200



MONTAGUE GRANT ARCHITECTS PTY LTD
26 BRISBANE ST, PERTH WA 6000 TELEPHONE: 9328 2233 FAX: 9227 6346 A.C.N. 009 072 593

LOWER GROUND FLOOR
CLIENT AGED CARE GROUP PTY LTD
JOB BASSENDEAN AGED CARE, ALTERATIONS AND ADDITIONS
SITE LOTS 54, 84 & 85 OLD PERTH ROAD
BASSENDEAN
TOWN OF BASSENDEAN

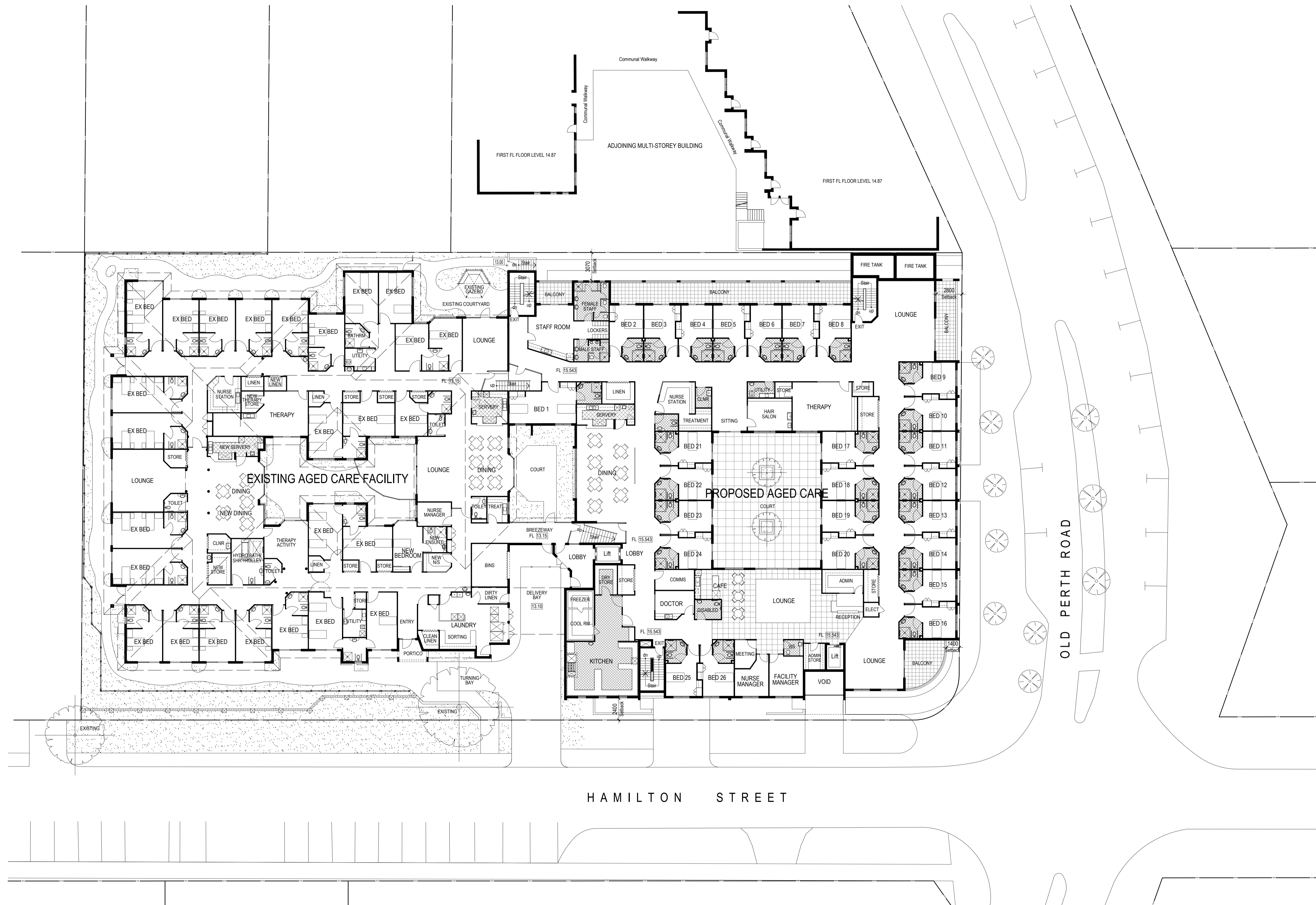
JOB NO **14.11**
DRAWN MGA
SCALE 1:200
DRG NO **SK2.**
DATE 31/10/17
ISSUE C

Contractor must verify all Dimensions before commencing Work or Shop Drawings

DRAWINGS MUST NOT BE SCALED

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C	31/1/18	SHOP 3 ALFRESCO NOTE REMOVED.
B	18/1/18	WASTE MANAGEMENT ROOM REVISED. BIN SET DOWN AREAS ADDED.
A	11/12/17	SURVEY OF ADJOINING DEVELOPMENT ADDED. HAMILTON STREET CAR BAYS DELETED.
REVISION	DATE	DESCRIPTION



UPPER GROUND FLOOR 1:200

B	18/118	FOOTPATH TO HAMILTON STREET REVISED.
A	11/1217	SURVEY OF ADJOINING DEVELOPMENT AND HAMILTON STREET ADDED. HAMILTON STREET CAR BAYS DELETED.
REVISION	DATE	DESCRIPTION

MONTAGUE GRANT ARCHITECTS PTY LTD

26 BRISBANE ST, PERTH WA 6000 TELEPHONE: 9328 2233 FAX: 9227 6346

DRAWING

CLIENT

JOB

SITE

UPPER GROUND FLOOR

AGED CARE GROUP PTY LTD

BASSEDEANE AGED CARE, ALTERATIONS AND ADDITIONS

LOTS 54, 84 & 85 OLD PERTH ROAD

BASSEDEANE

TOWN OF BASSEDEANE

CONTRACTOR MUST VERIFY ALL DIMENSIONS BEFORE COMMENCING WORK OR SHOP DRAWINGS

DRAWINGS MUST NOT BE SCALED

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14.11

DATE

31/10/17

ISSUE

B

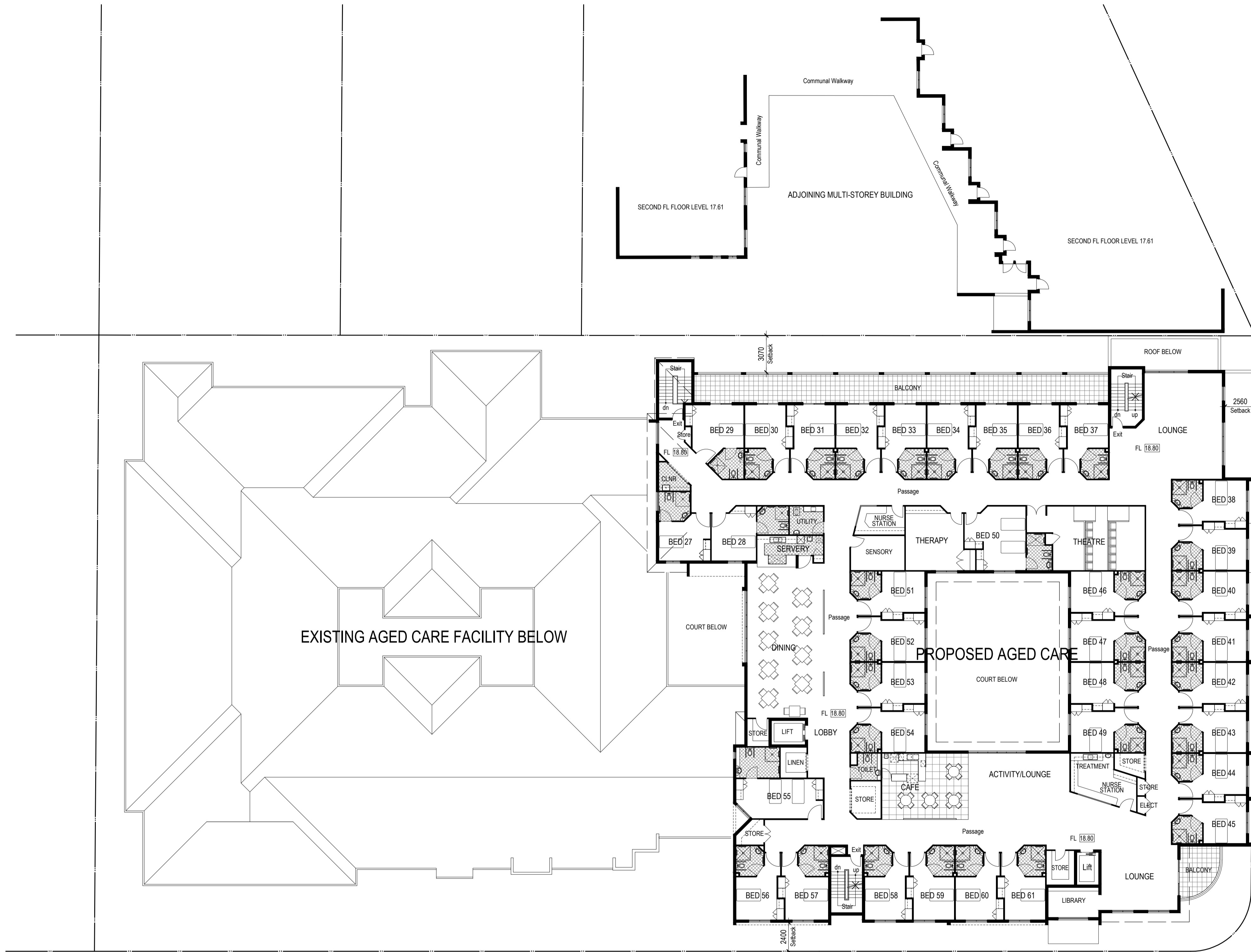
SK3.

DATE

31/10/17

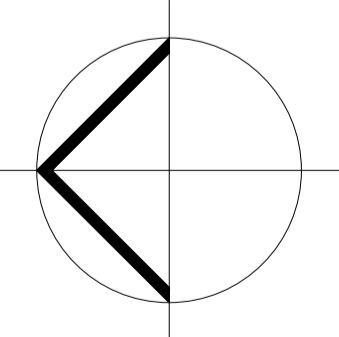
ISSUE

B



FIRST FLOOR PLAN

1:200



MONTAGUE GRANT ARCHITECTS PTY LTD
26 BRISBANE ST, PERTH WA 6000 TELEPHONE: 9328 2233 FAX: 9227 6346 A.C.N. 009 072 593

DRAWING FIRST FLOOR PLAN
CLIENT AGED CARE GROUP PTY LTD
JOB BASSENDEAN AGED CARE, ALTERATIONS AND ADDITIONS
SITE LOTS 54, 84 & 85 OLD PERTH ROAD
BASSENDEAN
TOWN OF BASSENDEAN

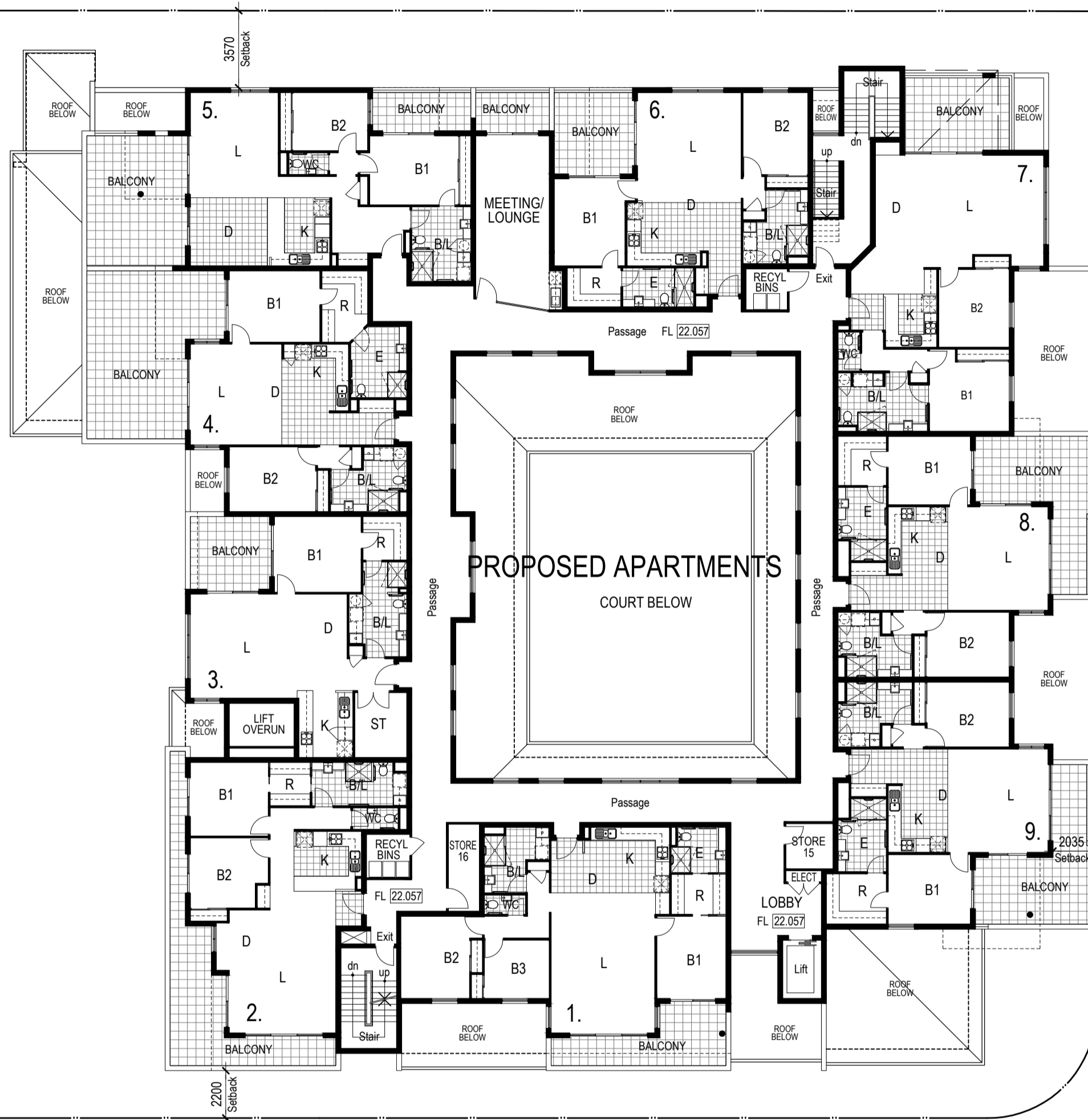
JOB NO 14.11
DRAWN MGA
SCALE 1:200
DRG NO SK4.
DATE 31/10/17
ISSUE A

Contractor must verify all Dimensions before commencing Work or Shop Drawings

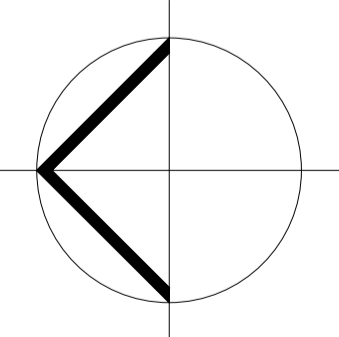
DRAWINGS MUST NOT BE SCALED

THIS DRAWING IS THE COPYRIGHT OF MONTAGUE GRANT ARCHITECTS PTY LTD EXCLUSIVELY

REVISION	DATE	DESCRIPTION
A	11/12/17	SURVEY OF ADJOINING DEVELOPMENT ADDED



SECOND FLOOR PLAN 1:200



MONTAGUE GRANT ARCHITECTS PTY LTD
26 BRISBANE ST, PERTH WA 6000 TELEPHONE: 9328 2233 FAX: 9227 6346 A.C.N. 009 072 593

SECOND FLOOR PLAN
CLIENT AGED CARE GROUP PTY LTD
JOB BASSENDEAN AGED CARE, ALTERATIONS AND ADDITIONS
SITE LOTS 54, 84 & 85 OLD PERTH ROAD
BASSENDEAN
TOWN OF BASSENDEAN

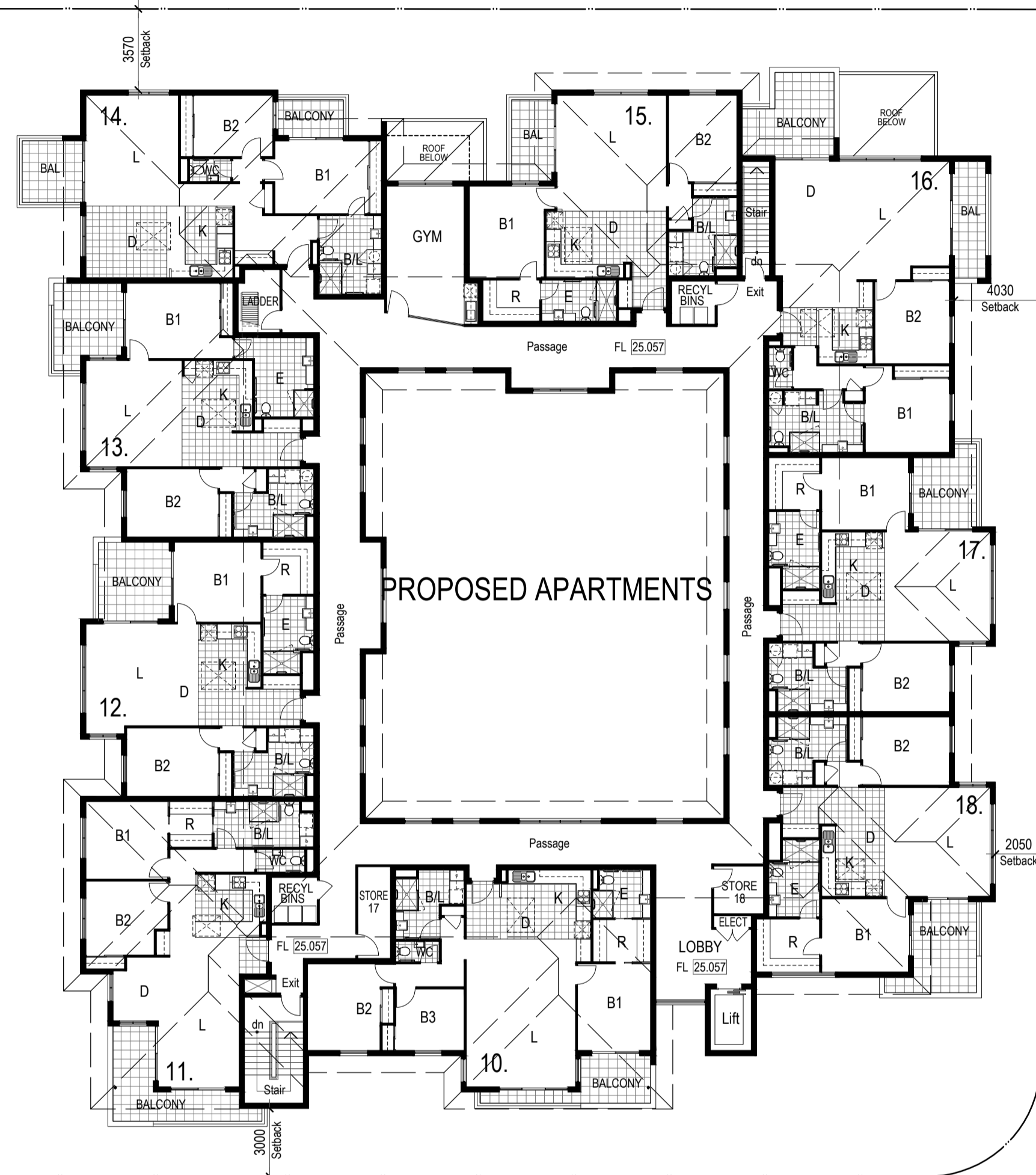
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DRAWN MGA
SCALES 1:200
DATE 31/10/17
ISSUE A

Contractor must verify all Dimensions before commencing Work or Shop Drawings

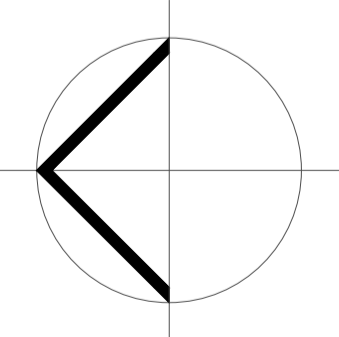
DRAWINGS MUST NOT BE SCALED

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REVISION	DATE	DESCRIPTION
A	18/11/18	RECYCLE BINS SHOWN



THIRD FLOOR PLAN 1:200



MONTAGUE GRANT ARCHITECTS PTY LTD
26 BRISBANE ST, PERTH WA 6000 TELEPHONE: 9328 2233 FAX: 9227 6346 A.C.N. 009 072 593

THIRD FLOOR PLAN
CLIENT AGED CARE GROUP PTY LTD
JOB BASSENDEAN AGED CARE, ALTERATIONS AND ADDITIONS
SITE LOTS 54, 84 & 85 OLD PERTH ROAD
BASSENDEAN
TOWN OF BASSENDEAN

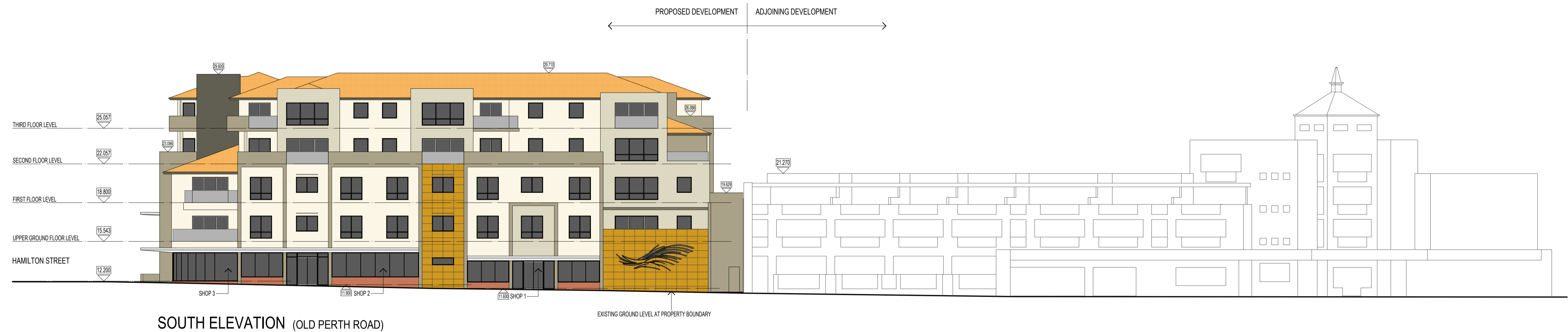
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DRAWN MGA
SCALES 1:200

DRG NO **SK6.**
DATE 31/10/17
ISSUE A

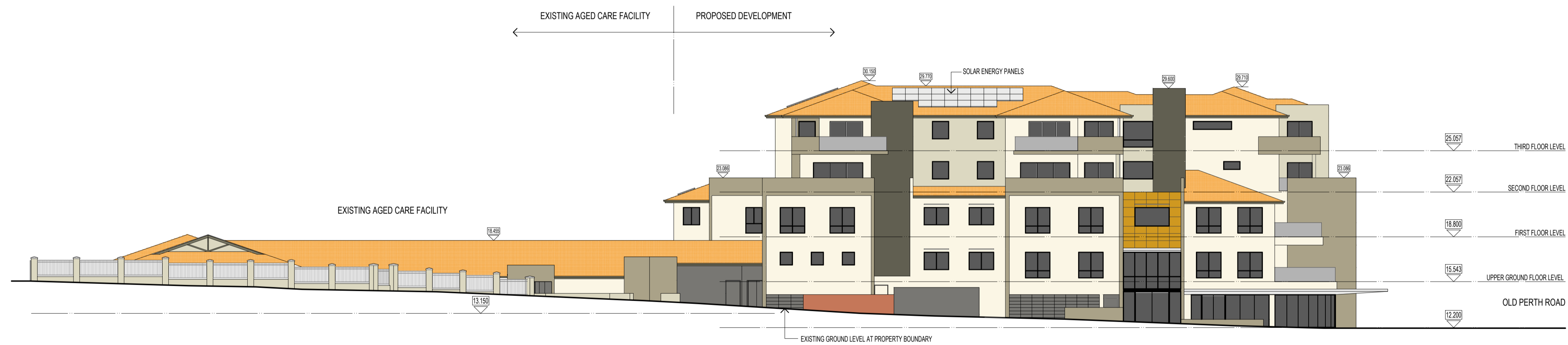
Contractor must verify all Dimensions before commencing Work or Shop Drawings
DRAWINGS MUST NOT BE SCALED

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REVISION	DATE	DESCRIPTION
A	18/11/18	RECYCLE BINS SHOWN



SOUTH ELEVATION (OLD PERTH ROAD)



WEST ELEVATION (HAMILTON STREET)

MONTAGUE GRANT ARCHITECTS PTY LTD
26 BRISBANE ST, PERTH WA 6000 TELEPHONE: 9328 2233 FAX: 9227 6346 A.C.N. 009 072 593

DRAWING ELEVATIONS
CLIENT AGED CARE GROUP PTY LTD
JOB BASSENDEAN AGED CARE, ALTERATIONS AND ADDITIONS
SITE LOTS 54, 84 & 85 OLD PERTH ROAD
BASSENDEAN
TOWN OF BASSENDEAN

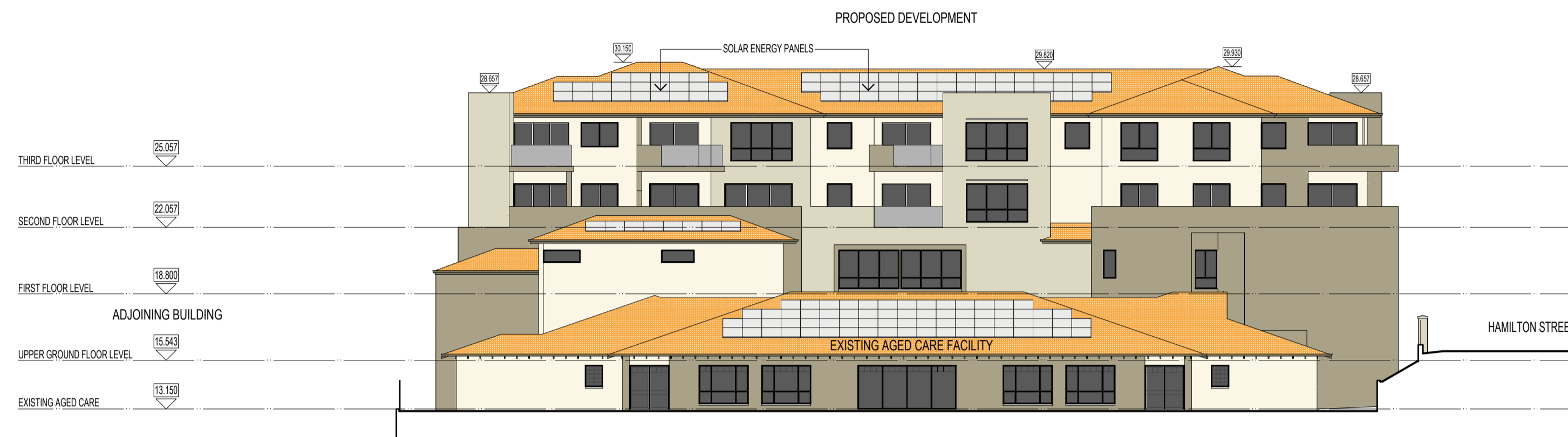
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DRAWN MGA
SCALES 1:200
DATE 31/10/17
ISSUE A

Contractor must verify all Dimensions before commencing Work or Shop Drawings

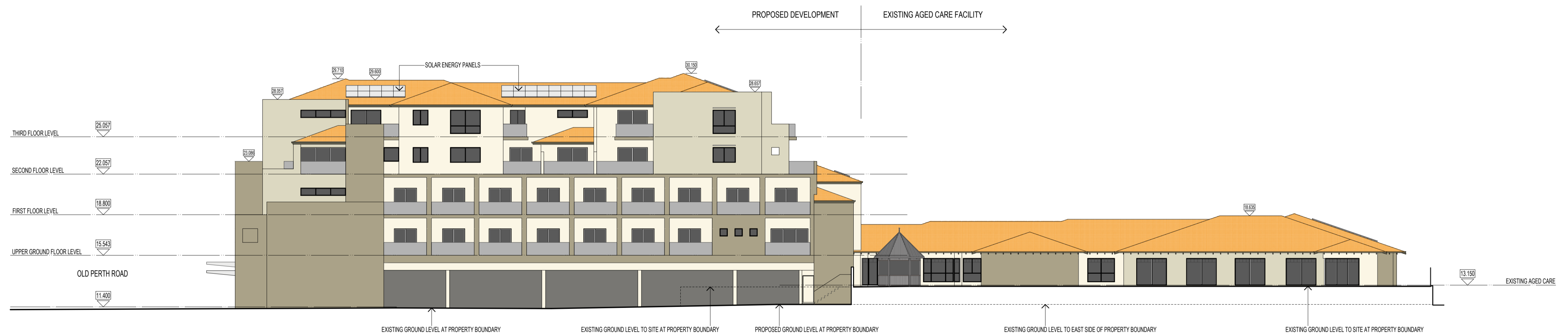
DRAWINGS MUST NOT BE SCALED

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REVISION	DATE	DESCRIPTION
A	11/12/17	REDUCED LEVELS ADDED



NORTH ELEVATION



EAST ELEVATION

MONTAGUE GRANT ARCHITECTS PTY LTD
26 BRISBANE ST, PERTH WA 6000 TELEPHONE: 9328 2233 FAX: 9227 6346 A.C.N. 009 072 593

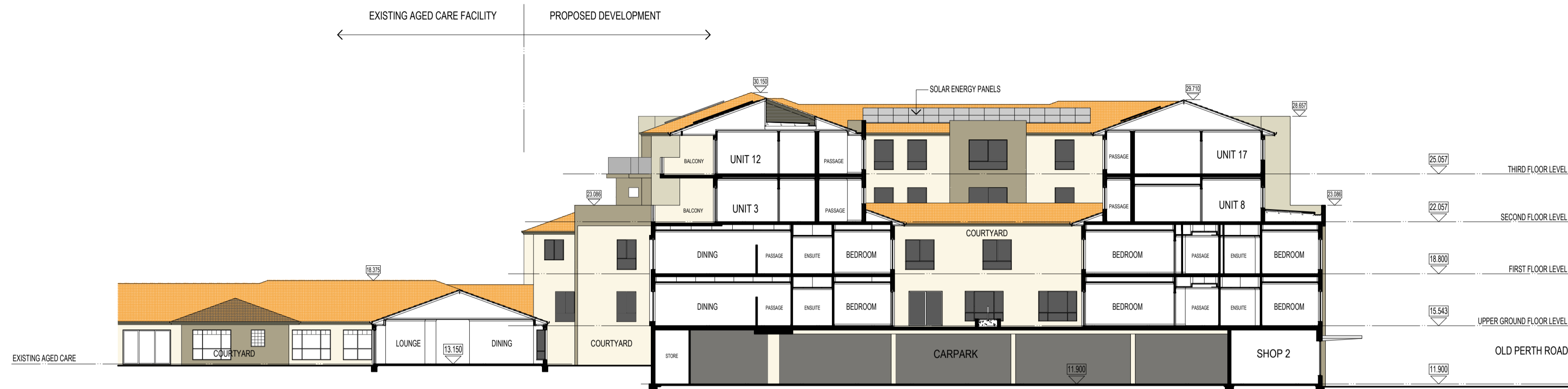
ELEVATIONS
DRAWING CLIENT AGED CARE GROUP PTY LTD
JOB BASSENDEAN AGED CARE, ALTERATIONS AND ADDITIONS
SITE LOTS 54, 84 & 85 OLD PERTH ROAD
BASSENDEAN
TOWN OF BASSENDEAN

JOB NO **14.11**
DRAWN MGA
SCALES 1:200
DATE 31/10/17
ISSUE A

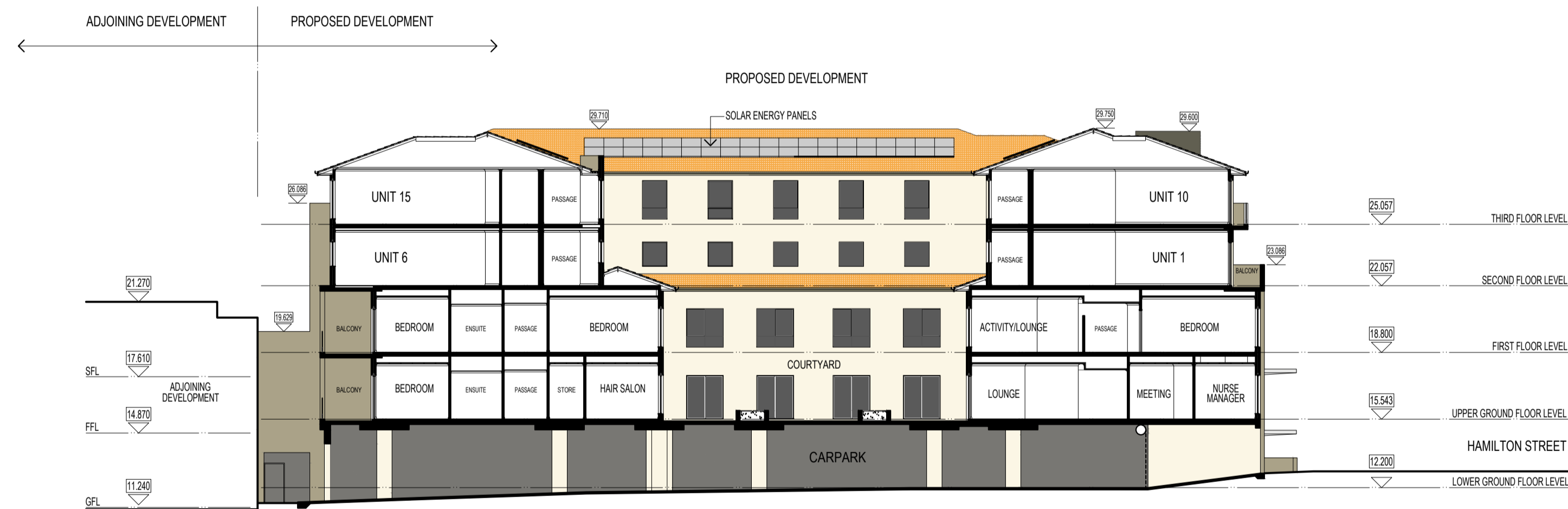
Contractor must verify all Dimensions before commencing Work or Shop Drawings
DRAWINGS MUST NOT BE SCALED

THIS DRAWING IS THE COPYRIGHT OF MONTAGUE GRANT ARCHITECTS PTY LTD EXCLUSIVELY

REVISION	DATE	DESCRIPTION
A	11/12/17	REDUCED LEVELS ADDED.



SECTION A



SECTION B

MONTAGUE GRANT ARCHITECTS PTY LTD
26 BRISBANE ST, PERTH WA 6000 TELEPHONE: 9328 2233 FAX: 9227 6346 A.C.N. 009 072 593

SECTIONS
DRAWING AGED CARE GROUP PTY LTD
CLIENT BASSENDEAN AGED CARE, ALTERATIONS AND ADDITIONS
JOB BASSENDEAN
SITE LOTS 54, 84 & 85 OLD PERTH ROAD
BASSENDEAN
TOWN OF BASSENDEAN

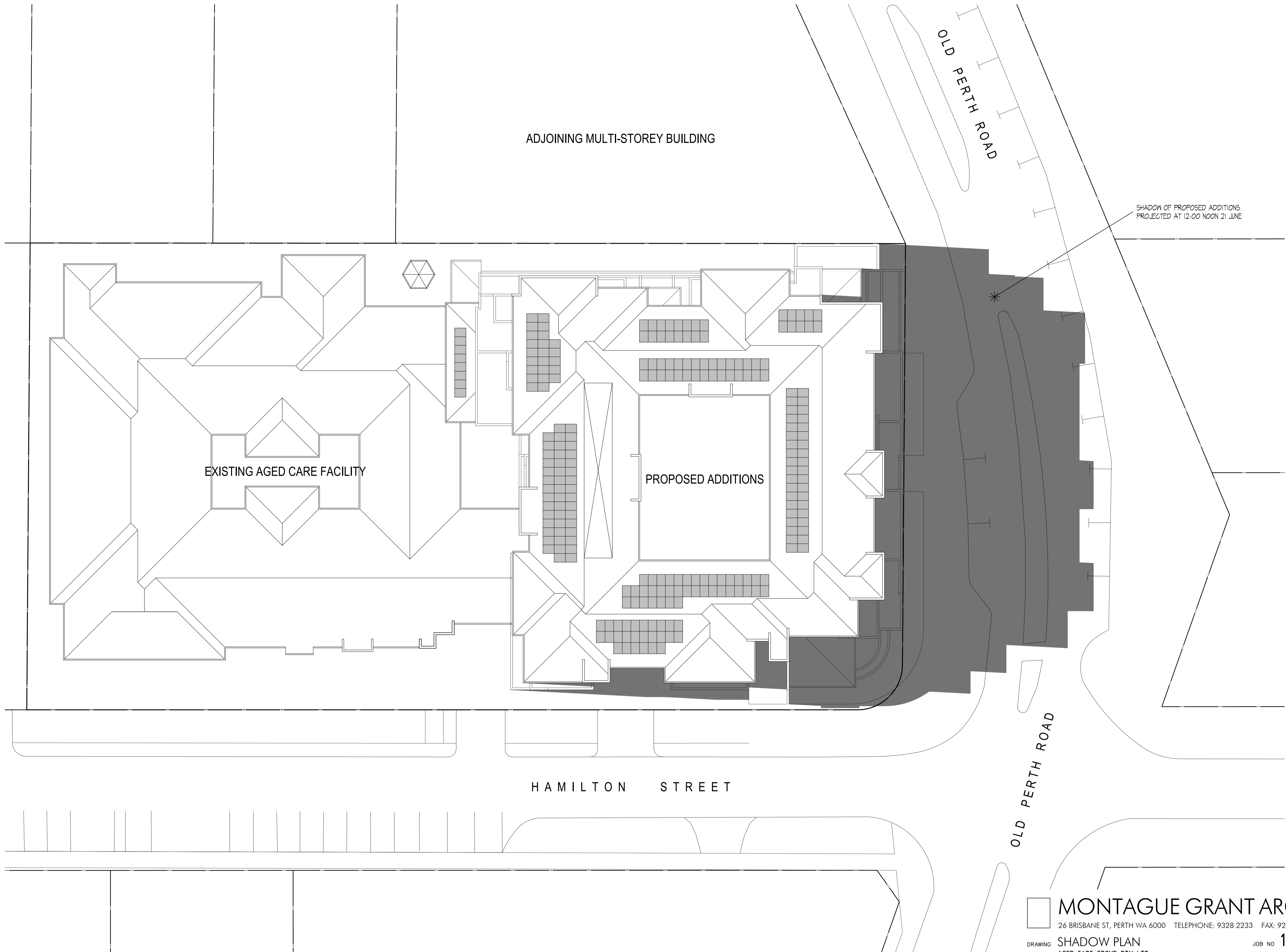
JOB NO **14.11**
DRAWN MGA
SCALES 1:200
DRG NO **SK9.**
DATE 31/10/17
ISSUE A

Contractor must verify all Dimensions before commencing Work or Shop Drawings

DRAWINGS MUST NOT BE SCALED

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REVISION	DATE	DESCRIPTION
A	11/12/17	REDUCED LEVELS ADDED



SHADOW PLAN 1:200

REVISION	DATE	DESCRIPTION
A	11/12/17	HAMILTON STREET CAR BAYS DELETED

MONTAGUE GRANT ARCHITECTS PTY LTD
26 BRISBANE ST, PERTH WA 6000 TELEPHONE: 9328 2233 FAX: 9227 6346
A.C.N. 009 072 593

DRAWING
CLIENT
JOB
SITE

SHADOW PLAN
AGED CARE GROUP PTY LTD
BASSENDEAN AGED CARE, ALTERATIONS AND ADDITIONS
LOTS 54, 84 & 85 OLD PERTH ROAD
BASSENDEAN
TOWN OF BASSENDEAN

JOB NO
DRAWN
SCALES

14.11
MGA
1:200

DRG NO
DATE
ISSUE

SK10.
31/10/17
A

Contractor must verify all Dimensions before commencing Work or Shop Drawings
DRAWINGS MUST NOT BE SCALED

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ANNEXURE 5

Landscaping Plan

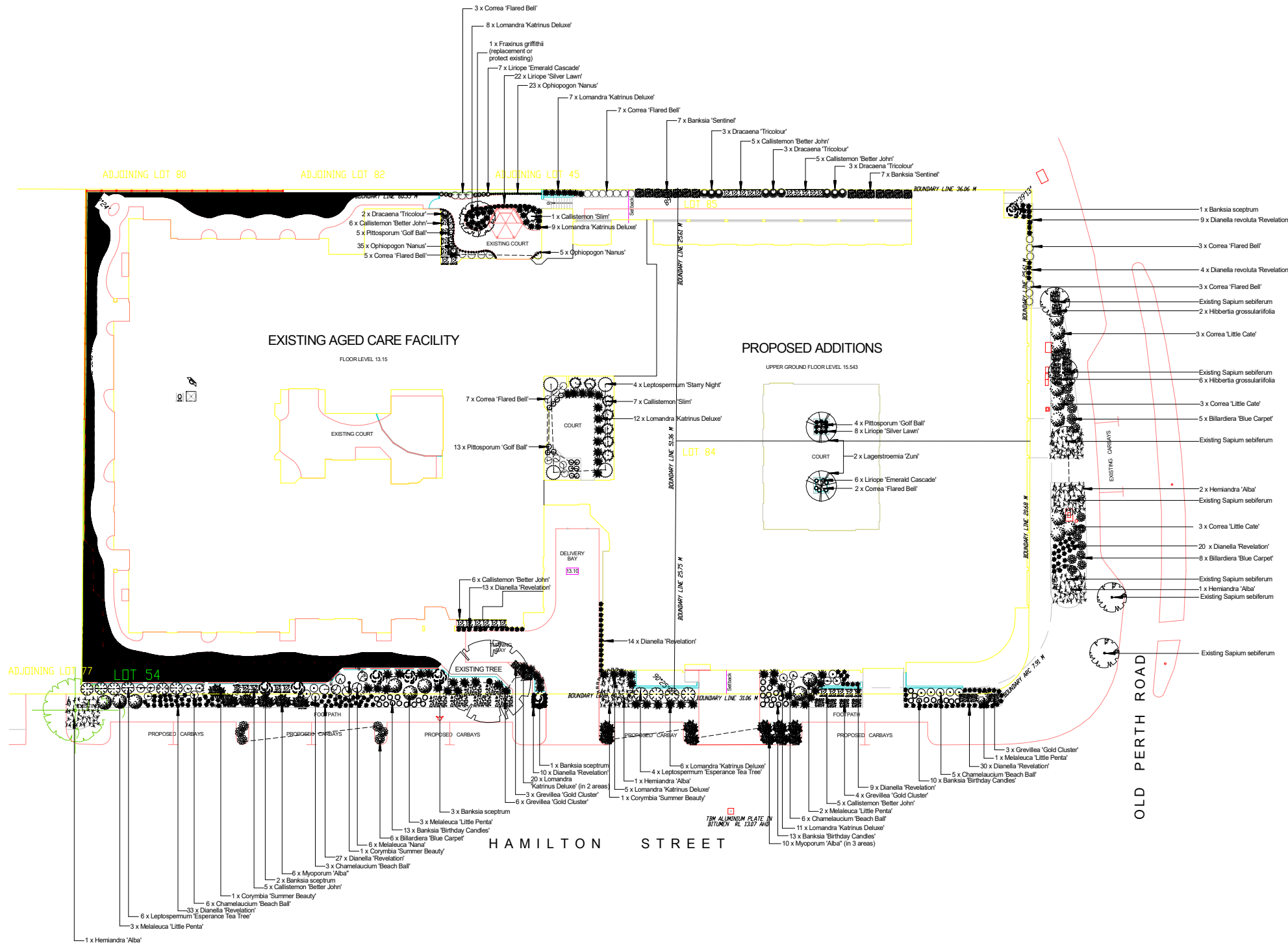
(Urban Retreat Garden Design)

PLANT SCHEDULE

All plants depicted are at estimated mature size as an indication of the future landscape.

Shrubs and ground cover to be planted shrubs at min 13cm pot size.
Trees to be planted at min 30ltr pot size.

Trees	Height x width
3 x <i>Corymbia ficifolia</i> 'Summer Beauty'	5m x 4m
2 x <i>Lagerstroemia indica</i> 'Zuni'	3m x 3m
1 x <i>Fraxinus griffithii</i>	6m x 4m
Shrubs	
36 x <i>Banksia spinulosa</i> 'Birthday Candles'	50cm x 60cm
14 x <i>Banksia sentinel</i>	2m x 90cm
32 x <i>Callistemon viminalis</i> 'Better John'	90cm x 80cm
8 x <i>Callistemon viminalis</i> 'Slim'	2m x 1.3m
20 x <i>Chamelaucium uncinatum</i> 'Beach Ball'	80cm x 80cm
9 x <i>Correa pulchella</i> 'Little Cate'	50cm x 1.5m
30 x <i>Correa reflexa</i> 'Flared Bell'	80cm x 70cm
11 x <i>Dracaena marginata</i> 'Tricolour'	2.5m x 1m
4 x <i>Leptospermum obovatum</i> 'Starry Night'	2m x 1.5m
10 x <i>Leptospermum sericeum</i> 'Esperance Tea Tree'	1.5m x 1.3m
6 x <i>Melaleuca incana</i> 'Nana'	1m x 1m
9 x <i>Melaleuca pentagona</i> var. <i>latifolia</i> 'Little Penta'	40cm x 2m
22 x <i>Pittosporum tenuifolium</i> 'Golf Ball'	40cm x 40cm
Grasses	
169 x <i>Dianella revoluta</i> 'Revelation'	50cm x 55cm
13 x <i>Liriope muscari</i> 'Emerald Cascade'	30cm x 30cm
30 x <i>Liriope muscari</i> 'Silver Lawn'	35cm x 40cm
78 x <i>Lomandra longifolia</i> 'Katrinus Deluxe'	70cm x 70cm
63 x <i>Ophiopogon japonicus</i> 'Nanus'	10cm x 20cm
Ground cover	
19 x <i>Billardiera fusiformis</i> 'Blue Carpet'	30cm x 1m
16 x <i>Grevillea juniperina</i> 'Gold Cluster'	30cm x 80cm
5 x <i>Hemiandra pungens</i> 'Alba'	20cm x 3m
8 x <i>Hibbertia grossularifolia</i>	10cm x 1.2m
16 x <i>Myoporum parvifolium</i> 'Alba'	10cm x 1.5m



DISCLAIMER

All symbols and elements depicted in this plan are artistic representations. To illustrate conceptual ideas and are subject to approval by the relevant professionals or authority.

It is the client's responsibility to ensure the required certifications, licenses and approvals are held prior to installation. Levels and measurements must be checked on site prior to construction.

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ISSUE REVISION

1 First issue

DATE NOTES

08.09.17

All planting areas to be mulched to a depth of 80mm. Mulch is pine bark wood chips.

Trees to be stabilised with stakes and webbing or polyethylene strips.

See the Certified Irrigation Plan for watering detail.

Watering schedule to be as per Water Corporation's 'Water Efficiency Measures' guidelines.



CLIENT

Aged Care Group

PROJECT

Aegis Bassendean
Alterations and Additions
Lots 54, 84 and 85
Old Perth Road
Bassendean

DRAWING

Landscape Plan

DATE 08.09.2017

CLIENT NUMBER DRAWING NUMBER

CO37 01

DESIGNER - Amelia Coleman

SCALE 1:500



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ANNEXURE 6

Town of Bassendean Correspondence & PWA Correspondence



22 October 2014

Our Ref: C2062-01.docx

Chief Executive Officer
Town of Bassendean
PO Box 87
Bassendean WA 6934

Attn: Mr B Reed - Manager, Development Services

Dear Sir

**Re: Proposed Extension of Existing Approved Nursing Home
Lots 16 and 79 Hamilton Street, Lots 84 and 85 Old Perth Road,
Bassendean**

This is to advise that we act for the Aegis Aged Care Group (Aegis) which company owns property situated at Lots 16, 79 and 53 Hamilton Street (cnr Old Perth Road), Bassendean.

In 2001, the Council of the Town supported Amendment No. 64 to the then Town Planning Scheme No. 3 (TPS 3) which resulted in a Scheme Amendment which included Lot 79 Hamilton Street within 'Appendix VII - Additional Uses' as an Additional Use - Nursing Home.

We believe that the Town would be aware that Aegis has undertaken extensive modifications to this facility and which has resulted in a much improved facility for the care of the aged and aging in the Town of Bassendean (and beyond).

We are pleased to advise that Aegis is currently in the process of finalising a contract to purchase adjoining lots to the south, being Lots 84 (SN 68) and 85 (SN 70) Old Perth Road, Bassendean. (Lot 84 is situated directly adjacent to the corner of Old Perth Road and Hamilton Street.)

Lots 84 and 85 directly abut Lots 16 and 79 to the south (and which lots currently accommodate the Aegis Nursing Home facility). Lots 84 and 85 presently accommodate a Used Car Sale facility which (at least in our opinion) in every respect, is quite inappropriate in this location.

In particular, it appears inconsistent with the objectives of the Town's Centre Area Strategy which *inter alia*, for this site, envisages a building of between three and five storeys in height. For example, the Strategy Plan seeks to, '*...ensure the plan includes sustainable mixed uses along Old Perth Road as a vibrant main street.*' The current use is hardly consistent with that objective.

The Bassendean Town Centre Strategy Plan (August 2007) indicates that the land the subject of this submission is appropriate for, 'Residential Apartments with Ground Level Mixed Commercial Uses.'

The Strategy also identifies this part of Old Perth Road as being an appropriate place for a small retail mode at its intersection with Hamilton Street. The sketch actually included in this section indicates up to five levels of building being appropriate. The first two levels are recommended as having a nil set back to Old Perth Road with two levels above that being set back to allow for landscape and solar access to Old Perth Road.

This part of the Town is zoned Town Centre in the Town's Local Planning Scheme No. 10 (LPS 10) and which zone is able to accommodate a range of uses either as Permitted (P) or uses approvable at Council's discretion ('A' or 'D'). Those uses include (but are not limited to): Ancillary Accommodation, Car Park, Community Purposes, Consulting Rooms, Convenience Store and Corner Shop, Fast Food Outlet, Hospital, Lunch Bar, Medical Centre, Multiple Dwelling, Office, Restricted Premises and Shop.

We note that the Use Class 'Nursing Home' is not a use which is identified in the Scheme and hence it appears that is why the Council of the Town supported the Use Class 'Nursing Home' as an Additional Use in the earlier Scheme (TPS 3). (It is not clear why that earlier approved Additional Use does not appear in Schedule 2 - Additional Uses of the current Scheme?)

It is evident (pursuant to Clause 4.4.2 (b)) that the Council of the Town does have the ability to consider a proposal where a specific use is not mentioned in the Zoning Table, *'...and cannot reasonably be determined as falling within the type, class or genus of activity of any other Use Category, the local government may....(b) determine that the use may be consistent with the objectives of the particular zone and thereafter, follow the advertising procedures of Clause 9.4 in considering an Application for Planning Approval...'*

It would be the Proponent's preference that Aegis not be required to proceed through a Scheme Amendment process, but that the Council feels it appropriate in all of the circumstances of this proposal, to consider this matter as an Application for a Use Not Listed, pursuant to Clause 4.4.

We attach herewith, annotated photographs which describe the existing Aegis Aged Care Nursing Home facility, together with photographs of the subject land in the context of this part of the Bassendean Town Centre.

We are aware that representatives of Aegis including specifically, the Director and CEO (Mr Michael Cross) had extensive discussions in the past with the Town's Executive staff including Mr Graeme Haggart (Director, Community Development) and Mr Brian Reed (Manager, Development Services).

As part of those discussions, it is evident that Aegis had indicated that it would seek to develop a four storey facility on this site. The proposed uses of each level of the building are summarised below.

- The basement level including shops/offices to the footpath; car parking bays; kitchen and laundry facilities.
- The ground floor level comprising of the main lobby together with aged care bed facilities.
- The first floor level containing aged care bed facilities.
- The second floor level accommodating Over 55 Years apartments.

It is Aegis' objective to develop a facility with up to approximately a total of 125 beds. The current Aegis facility maintains 44 beds in the Nursing Home and an additional 36 beds in the Hostel on the western side of Hamilton Street (being a total of 80 beds in the these two facilities). The extension of the existing facility on to Lots 84 and 85 is planned to include

an additional 45 beds over those which currently exist, resulting in the total of about 125 beds.

We are aware that in the past, Aegis had purchased 25 bed licences from the Town and in return, gave an undertaking that the company would return at least those 25 beds, in due course. That commitment is a fundamental part of the Aegis proposal to the Town as part of this Application.

Almost as an aside, Aegis is aware that two portions of land abutting the southern side of Lots 84 (293m²) and 85 (152m²) and which appear to have been given up/sold by previous owners. Aegis queries whether the Town still requires all or part of the land area of this truncation as the company would be most interested in discussing opportunities which might be available to purchase back all or part of that truncated area, if the Town is of the view that (all or part of) this truncated part of Old Perth Road is no longer required?

We are aware of the dialogue between Mr Cross and Mr Reed of the Town and the various commitments which had been given by Mr Cross of behalf of Aegis which include:

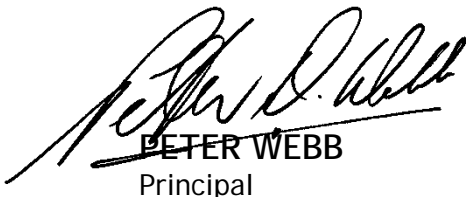
1. the future amalgamation of Lots 84 and 85 with the company's existing property.
2. car park to around 60% over the ground floor of the site.
3. office and retail outlets fronting Old Perth Road to the footpath.
4. frontage use to tie-in the proposed development of the adjoining site.
5. first floor aged care accommodation at the same finished floor level as the existing aged care facility on the adjoining land.
6. second and third floors of accommodation of aging and aged care.
7. an overall appearance of the facility will be of an apartment building, including small balconies.

We are also aware that at that time (November 2013) the Town responded to Aegis' proposals, suggesting that the most appropriate resolution of this issue would be to have Aegis make an Application for an Amendment to the Scheme which might propose an Additional Use of Residential Building on the site, although Aegis maintains its objective to seek to have the Town consider the application of Clause 4.4 rather than proceed through an Amendment to the Scheme.

Regardless of the planning mechanism used to achieve Aegis' objectives, it appears that the Town has provided some preliminary indication (at least at office level) of a willingness to support the principle of what is being proposed by Aegis, for which support in principle we are grateful.

We now look forward to discussing Aegis' proposals with you in some further detail at your convenience.

Kind regards



PETER WEBB
Principal

Cc: Mr M Cross - Aegis Aged Care Group Pty Ltd

Our ref: OLET-4590014
A2264, A4036: BR
Your ref: DC2062-01.docx

Peter D Webb And Associates
Po Box 920
SUBIACO WA 6904

Dear Peter and Claire

ADVISING OF PROPOSED EXTENSION OF EXISTING APPROVED NURSING HOME LOTS 16 AND 79 HAMILTON , LOTS 84 AND 85 OLD PERTH ROAD, BASSENDEAN

I refer to your letter of 22 October 2014 and firstly apologise for my delay in responding to you.

I advise that officers of the Town would support treating a future application as a use not listed, in accordance with Clause 4.4.2 of the Local Planning Scheme No 10.

Should you wish to discuss any aspect of this matter further, I may be contacted on 93778005.

Yours faithfully



BRIAN REED
MANAGER DEVELOPMENT SERVICES
13 November 2014.

ANNEXURE 7

LPP 1 Compliance Report (PWA)

LOCAL PLANNING POLICY 1 (LPP1)

BASSENDEAN TOWN CENTRE STRATEGY & GUIDELINES

DESIGN REPORT IN RELATION TO PROPOSED AGED CARE FACILITY EXTENSION,
MULTIPLE DWELLINGS AND 3 SHOPS AT LOT 54 (#27) HAMILTON STREET & LOTS 84-85
(#68-70) OLD PERTH ROAD, BASSENDEAN

PREPARED BY PETER WEBB & ASSOCIATES (PWA)

Local Planning Policy No. 1 (LPP1) - Bassendean Town Centre Strategy & Guidelines outlines a vision and objectives for development within the Bassendean Town Centre.

Planning and design guidelines in LPP1 are grouped into three (3) sections:

- Site planning and urban design;
- Building form and detail;
- Environment and services.

This Design Report provides responses to the relevant sections of LPP1 in support of the proposed development. The Architect has given due consideration to the guidelines of LPP1 in the design of the proposed development, which has resulted in a high quality built form outcome for this Town Centre site.

PART 7 - SITE PLANNING & URBAN DESIGN

Clause 7.1 Urban Setting & Context

Guidelines

- *Buildings should contribute positively to the desired character of the precinct and to the streets and public spaces around them.*

Proposal:

The proposed development contributes positively to the desired character of the Central (Old Perth Road) Precinct by appropriately positioning the ground level and first level at a nil setback and having upper floors set back from Old Perth Road to provide a town centre environment and account for reduced overshadowing.

An overshadowing plan is provided demonstrating that the proposed development does not overshadow any private property at midday June 21.

The proposal is compliant with Clause 7.1 of LPP1.

Clause 7.4 Development Type & Intensity in Bassendean

Guidelines

- *Higher intensity and mixed uses that contribute to vitality of town centre are encouraged while low intensity uses are discouraged.*
- *Provision of affordable single or 2 bed apartments is encouraged.*

Proposal:

The proposed development provides a high density mixed use development that will contribute to the vitality of the town centre and provides aged care services, multiple dwelling apartments and shop uses on ground floor fronting Old Perth Road.

By providing over-55s apartments in addition to aged care beds, this ensures that Bassendean continues to have a diverse and cohesive community where people can continue to live through different phases of life.

The proposal is compliant with Clause 7.4 of LPP1.

Clause 7.5 Building Envelope

Guidelines

- *An agreed envelope of footprint and height will define new development on each lot. There is no plot ratio limit in the town centre.*
- *A minimum height of 3 storeys or 10 metres is set for buildings generally in the town centre.*
- *A maximum height of 5 storeys is set for buildings generally on lots fronting Old Perth Road subject to streetscape, shadowing and overlooking issues.*
- *Buildings on the north boundary of Old Perth Road (west end) shall not be higher than the existing parapet at street front.*
- *Buildings on the south boundary of Old Perth Road (west end) shall not be higher than the existing Padbury building parapet at street front.*
- *Development should generally have nil set back to front and side boundaries.*
- *Residential development at ground level can be setback 2.0 to 4.0 metres to provide a transition between public and private space. Residential entry foyers at ground level can have a nil setback.*
- *Rear setbacks should be provided suitable to accommodate parking and avoid overshadowing of neighbouring buildings.*
- *Rear setbacks from residential adjoining should provide for privacy and comply with R code requirements.*
- *Entrances can be set back up to 4.0 metres to create a sense of address; these setbacks should be co-ordinated with neighbouring buildings and detailed as small urban public spaces.*

Proposal:

The proposed development provides a 5 storey development complying with the Town Centre requirement for its location along Old Perth Road. The development has a generally nil setback along Old Perth Road and along the side boundary. Awnings are proposed along Old Perth Road and at the corner of Hamilton Street to provide an urban form.

The proposal is generally compliant with the requirements of Clause 7.5 of LPP1.

Clause 7.6 Building Orientation and Address

Guidelines

- *Buildings should have the long axis east- west (or within 15 degrees of east- west) to maximise northern solar access.*
- *Buildings should have the primary entrance, address and frontage on or clearly identifiable from the primary street.*
- *Courtyards can be used to provide solar access in deeper buildings*

Proposal:

The proposal maximises northern solar access given the site's orientation and location. The proposed development has the main entrance at a clearly identifiable location on Hamilton Street, close to the intersection of Old Perth Road. The proposal also provides internal courtyard to provide solar access. The proposal is compliant with Clause 7.6 of LPP1.

Clause 7.8 Pedestrian & Cycle Amenity

Guidelines

- *Provide clear, well designed paths around buildings leading to entrances that link into the public footpath network.*
- *Provide pedestrian shelter at entrances and along active street frontages.*
- *Provide good end of trip facilities, including lockers and showers for walkers and cyclists in workplaces in the town centre.*
- *Provide bicycle racks outside all commercial, retail and civic buildings.*
- *Buildings should have the long axis east- west (or within 15 degrees of east- west) to maximise northern solar access.*
- *Buildings should have the primary entrance, address and frontage on or clearly identifiable from the primary street.*
- *Courtyards can be used to provide solar access in deeper buildings*

Proposal:

The proposal provides clear well designed paths that link proposed entrances (to aged care lobby and also the Shops) with existing paths in Old Perth Road.

The proposed development provides awnings along Old Perth Road to provide shelter along the active street front.

Bike racks are provided in the undercroft parking area for use by shop tenants or customers.

Other guidelines in this section have been addressed in other parts of the policy and in this Report.

As the proposed development is not primarily for retail use, end of trip facilities are not provided.

The proposed development generally complies with Clause 7.8 of LPP1.

Clause 7.9 Vehicle Movement & Parking

Guidelines

- *Car parking is to be provided consistent with LPS 10.*
- *Parking should be located to rear of or below buildings. Cars and parking areas should not visually dominate development.*
- *Where car parking requirements limit optimum site development council may consider cash- in- lieu payment.*
- *Parking for motor cycles and scooters should be provided to encourage use.*
- *At- grade parking areas including the Bassendean Village car park should be well landscaped with shade trees (1 for every 4 car bays) and have clearly defined, direct and well lit pedestrian links.*
- *For residential dwellings of 1 to 2 bedrooms the parking ratio shall be reduced to 1 bay per dwelling.*
- *Shared surfaces are encouraged using trafficable unit paving and materials consistent with neighbouring developments and public areas.*
- *Parking should be accessed from secondary streets and not from Old Perth Road.*
- *Crossovers should be limited to one crossover (3 – 6m wide) per development site. Crossovers should match footpath colour.*
- *Service and delivery should be provided discretely and in minimal space.*
- *Consideration should be given to location, access to and storage of recycling and other rubbish bins including communal bin facilities.*
- *Emergency vehicle access, particularly for fire fighting vehicles, must be provided to satisfaction of Council and FESA.*

Proposal:

The proposal has provided car parking generally consistent with the provisions of LPS 10 and is included in an undercroft parking area below the main building. This ensures that the car parking area does not visually dominate the development.

In addition to standard vehicles, the proposed development also provides four (4) motorcycle/scooter bays.

The undercroft parking area is accessed from Hamilton Street (and not Old Perth Road).

One main crossover is proposed to the new development, from Hamilton Street.

Consideration has been given to the location, access and storage of rubbish and recycling bins within the proposed development.

The proposal complies with Clause 7.9 of LPP1.

Clause 7.10 Landscape & Hardscape

Guidelines

- *Landscape provision will be assessed on quality rather than quantity. No specific percentage provision is required in the town centre but all outdoor areas are expected to be landscaped and maintained to a high quality appropriate to an urban setting.*
- *Existing healthy, mature trees of appropriate species should be retained and incorporated into new development. Where trees are removed they shall be indicated as removed on plans and their removal justified*
- *Generally use water- wise and indigenous plant species*
- *Improve microclimate of courtyards and other urban spaces with use of some deciduous shade trees and water elements. The use of deciduous trees will be limited to courtyards and other urban spaces where seasonal climate response is considered important.*

Proposal:

A landscaping plan has been prepared in support of the proposed development to provide comprehensive quality landscaped areas around the development, including endemic plant species. Shade trees will be included in courtyard areas. Existing mature trees will be retained where possible, and new trees will be planted. All landscaping areas will be reticulated.

The proposed development complies with Clause 7.10 of LPP1.

PART 8 – BUILDING FORM & DETAIL

Clause 8.1 Adaptable Buildings

Proposal:

The proposed development is for aged care and residential uses, which are unlikely to change for many years, and as such, have not been designed to be adapted for a different use.

Clause 8.2 Building Character

Guidelines

- *Buildings should reflect contemporary lifestyle, function and materials and not mimic historic styles and building methods.*
- *Buildings should respond to the character of significant buildings in the town.*

- *Buildings should have a proportion and scale appropriate to their location within a high quality urban town setting and respecting neighbouring buildings.*

Proposal:

The proposed development has been designed as a modern, contemporary development, and responds appropriately to its setting within an urban town centre environment. The proposed development is also complementary to surrounding development which is of a similar urban scale.

The proposed development generally complies with Clause 8.2 of LPP1.

Clause 8.3 Facades

Guidelines

- *Building facades should respond to neighbouring facades through use of consistent horizontal lines, good proportion and other design aspects.*
- *A consistent, well detailed design approach to all facades of a building is expected. Care should be taken in design of all facades that can be viewed from anywhere in the public realm, this includes window placement, proportion and relief in the wall plane.*
- *No façade shall appear as a “back” and blank walls should be avoided. Exposed plumbing or other services are not acceptable on any facades.*
- *Ground floor façades should be distinctive from upper levels, changes in wall plane, texture, material and colour can be used.*
- *Circulation spaces such as stairs and foyers should be positioned and glazed to add activity that is visible from the street.*
- *Glazing of facades is encouraged to provide visibility between inside and outside the building. Windows at ground level on active frontages shall be minimum 2.4m high. External sun shading is encouraged appropriate to orientation.*
- *The top of buildings should finish with a roof or expressed detail.*

Proposal:

The proposed development has been designed as a modern contemporary development, and provides high quality facades on all sides, including windows, material/colour changes, and contrasting feature walls.

Glazing of the shopfront facades has been included to provide visibility to the pedestrian footpaths.

External sun shading through the use of awnings has been included in the development.

A similar coloured pitched roof has been proposed to match in with the pitched roof of the existing aged care facility.

The proposed development complies with Clause 8.3 of LPP1.

Clause 8.4 Roofs

Guidelines

- *Simple roof forms complementing the linearity of buildings are desirable.*
- *Verge and eaves overhangs sufficient to create strong shadow lines are encouraged on expressed roofs.*
- *Low pitch roofs (<10 degrees) should be concealed by parapet walls.*
- *Pitched roofs should respect and be consistent in pitch with roofs in close proximity.*
- *The top of buildings should finish with a roof or expressed detail.*

Proposal:

The proposed development provides pitched roof to match in with the existing aged care facility, but also provides wall panels that project above the eave line in some areas, which provides visual interest.

Overall, the proposed development is considered to comply with Clause 8.4 of LPP1.

Clause 8.5 Old Perth Road Frontage

Guidelines

- *Active frontage can include small landscaped spaces that are publicly accessible and contribute to the streetscape and building address.*
- *Non- residential and mixed-use buildings shall have nil setbacks to Old Perth Road frontage.*
- *Mixed-use buildings should have predominantly non-residential ground floor frontages to Old Perth Road, with the exception of common foyers or home based studios/ offices.*
- *Residential active frontages should offer a transition such as a terrace or veranda between the public and private space where the resident can spend time and express identity through landscape and detail.*
- *Verandas or terraces can be raised above adjacent footpath level to a maximum of 1.2 metres.*
- *Glazed shopfronts are required in retail and commercial buildings.*
- *Old Perth Road facades should have a minimum of 80% clear glazed area at ground level.*

Proposal:

The proposed development provides active frontages along Old Perth Road, with three (3) shops proposed. The development is at a nil setback to Old Perth Road, together with non-residential uses at ground level. Glazed shopfronts have been proposed for the shop uses, which provides for passive surveillance.

Overall, the proposed development complies with the requirements of Clause 8.5 of LPP1.

Clause 8.6 Building Entry

Guidelines

- *The primary building entrance should be clearly identifiable and visible from the primary street.*
- *Other entrances should be scaled and designed according to their function and frequency of use.*
- *Entrances can be set back from the street with external treatments being consistent with the adjacent streetscape.*
- *Pedestrian shelter, signage and lighting should be provided at primary entrances.*

Proposal:

The proposed development provides the main building entrance to the aged care facility and upper residential apartments at a clearly identifiable location from Hamilton Street, close to the corner of Old Perth Road. The main entrance is set back from Hamilton Street, with footpath connection and landscaped environs. The main entrance area will be made legible and lit at night for pedestrian amenity and safety.

The proposed development complies with Clause 8.6 of LPP1.

Clause 8.7 Awnings, Canopies & Balconies

Guidelines

- *All active commercial and retail frontages in the west and east ends along Old Perth Road should have continuous pedestrian shelter over the footpath.*
- *Residential and mixed use buildings shall have pedestrian shelter such as awnings or canopies over entrances.*
- *Balconies and terraces are encouraged on street facades in residential and mixed use buildings.*
- *Balconies should have predominantly open balustrades, while considering the need for screening of washing and air conditioner units and solar screens.*
- *Awnings, canopies and balconies should :*
 - *Have minimum clearance to footpath of 2.7 metres;*
 - *Have minimum extension out from building of 2.5 metres;*
 - *Relate in height/ design to adjoining canopies/ awnings;*
 - *Consider signage locations and dimensions*
- *Provision and maintenance of canopies and awnings over the footpath is the responsibility of the building owner.*

Proposal:

The proposed development provides awnings over the pedestrian footpath along Old Perth Road. Balconies are proposed on upper levels fronting out on to both Old Perth Road and Hamilton Street. For the two levels in the aged care facility, there is a balcony at the corner, accessed from a communal lounge.

The awnings achieve the minimum clearance to the footpath and extend out at least 2.50m.

The proposed development complies with Clause 8.7 of LPP1.

Clause 8.8 Materials and Colour

Guidelines

- *Respond to neighbouring buildings with complimentary colours and materials.*
- *A limited palette of external colours and building materials should be used to ensure building harmony. Generally, use neutral, subtle colours for long lasting surface finishes and use bright colours only as accent and for surfaces that will be repainted or finished regularly.*
- *High quality durable materials that have acceptable levels of weathering and wear are preferred to materials that require constant maintenance..*
- *Use of tilt- up concrete is discouraged unless carefully detailed, finished and given relief in the wall plane.*
- *Use of highly reflective glazing is not permitted. Samples of reflective/ tinted coatings shall accompany any development application and will be to satisfaction of the Town of Bassendean.*
- *Strong and bright colours may be approved subject to durability, where council considers that proposed use of colour will contribute to the character of the town centre in a positive way.*

Proposal:

The proposed development provides a balanced range of colours and materials to ensure building harmony. The design of the building is high quality and complies with the requirements of Clause 8.8 of LPP1.

Clause 8.9 Signage & Public Art

Proposal:

No signage is proposed at this stage, given there is limited commercial space in the proposed development. Further no tenants have been sought for the three (3) shops at this stage, so signage will be dealt with under a separation Application.

Public art will be undertaken within the development, as referenced in the main Planning Report.

Clause 8.10 Plant & Equipment

Guidelines

- *All plant and equipment must be concealed from public view using screening or other means that is an integral part of the building design. Surface mounted services piping and conduits will not be permitted.*
- *Roof mounted equipment, aerials, antennas, masts etc must be screened from all views including from above where applicable. Detail of screening shall be included in DA plans, elevations and 3D images.*
- *Ground level or balcony mounted equipment/air conditioning plant must be well screened using materials to suit the building.*
- *All plant and equipment must have noise attenuation to council satisfaction.*
- *Telecommunications dishes are not permitted on roofs.*
- *Lift over runs shall be contained within the roof space or appropriately designed as an element of the building active frontages.*

Proposal:

The proposed development has been comprehensively designed and all plant and equipment (including bin stores) have been located away from public view.

PART 9 – ENVIRONMENT AND SERVICES

Clause 9.1 Climate and Energy Response

Guidelines

- *A solar access and shadow analysis is required as part of the DA.*
- *Buildings should be designed to minimise energy consumed for heating, cooling and artificial light including:*
 - *Window design for good thermal and daylight performance.*
 - *Building materials and insulation to contribute to comfortable thermal conditions.*
 - *Air movement within buildings to provide comfortable thermal conditions and appropriate air quality.*
 - *Building materials, appliances and fuel sources selected to minimise energy requirements and greenhouse gas emissions.*
- *Building services should be designed and maintained to minimise energy and resource use including:*
 - *Optimum natural light.*
 - *Optimum natural ventilation.*
 - *Energy efficient motors and equipment, lighting control systems, fittings and appliances.*

- *Energy efficient air conditioning and mechanical ventilation systems and controls.*
- *Minimum water use and waste.*
- *Energy efficient hot water systems.*
- *Water efficient taps and fittings.*
- *Minimal energy use over the whole life of the building.*
- *Maximum use of renewable energy and use of fuels with low greenhouse gas emissions.*
- *Current '5 star' requirements of the green star rating system can be used to demonstrate a response to this commitment. A report accompanying the DA should describe the climate response and energy requirements of the building.*

Proposal:

The proposed development has been well designed to respond to the site's orientation and includes windows and openings to allow for natural breeze ventilation and solar access. A shadow plan has been provided to demonstrate no detrimental overshadowing of adjacent land. Efficient water systems, taps and fittings will be incorporated into the development. Solar panels will be included on the roof for electricity generation.

The proposed development generally complies with Clause 9.1 of LPP1.

Clause 9.2 Services and Infrastructure

Guidelines

- *The Town of Bassendean requires infrastructure contributions to be made based on the value of development.*
- *All stormwater shall be contained on site or connected to drainage points where supplied.*

Proposal:

A Stormwater Drainage Management Plan has been prepared in support of the proposed development and is included in the Application package. Therefore, the proposal is compliant with Clause 9.2 of LPP1.

Clause 9.3 Servicing and Maintenance

Guidelines

- *Service yards must not be located along active frontages and shall be designed as integral parts of the building.*
- *All waste storage and delivered goods should be contained within buildings. Rubbish storage and collection facilities shall comply with the current general requirements of the Town of Bassendean and will be efficient, convenient and allow for collection of recyclable material.*

- *Doors providing access to internal waste/storage or loading dock areas should be the minimum width and height possible to serve the required loading/unloading function and be constructed of aesthetically pleasing materials.*

Proposal:

Bin storage areas have been included in the proposed development, away from public view, but still easily accessible. A Waste Management Plan has been prepared in support of the proposed development.

Clause 9.4 Noise Attenuation

Guidelines

- *Incorporate suitable noise attenuation measures in buildings affected by train or traffic noise in windows, ceilings and insulation airport noise controls.*
- *All accommodation buildings are to be detailed and/or designed so that internal noise levels in bedroom areas will be in the range of 30 to 35dB.*
- *All plant and equipment is to have noise attenuation.*

Proposal:

The proposed development is not affected by train or traffic noise, so does not required increased noise attenuation measures for windows and ceilings. Plant and equipment rooms will be suitably treated to reduce noise.

Clause 9.5 Safety and Security

Guidelines

- *A diverse and complementary mix of uses will encourage public presence and activity at different times of the day and night.*
- *Buildings should overlook public spaces and building entries should be clearly visible from public spaces.*
- *Buildings should not have recesses or other unsecured areas not in full public view.*
- *Solid fencing/screening above 0.8m high is discouraged on street frontages.*
- *A clear view from 0.8m- 2.0m above ground should be maintained in landscape, walling and screening unless screening is fully secure. Landscaping, walls and fencing shall be designed to maintain clear visibility to and from doors, windows, and pedestrian paths.*
- *Appropriate lighting shall be provided for safety and security (Refer 12.6)*
- *Robust materials which are aesthetically pleasing should be used in public places. Materials vulnerable to graffiti and vandalism shall be avoided. Use of security film to windows and anti graffiti treatment to other surfaces accessible at ground level is encouraged.*

Proposal:

The proposed development provides for three different land uses which provides for a range of activity at different times of the day. The proposed development addresses public spaces and the main entry is clearly identifiable from the street. The development does not propose any street boundary fencing of walls which could attract antisocial behaviour. All exterior spaces will be well-lit for the safety of the public, as well as the residents of the aged care facility and the over-55s apartments. The proposed development complies with Clause 9.5 of LPP1.

Clause 9.6 External Lighting

Guidelines

- *Appropriate lighting for pedestrian safety shall be provided to all pedestrian paths and parking areas.*
- *Building entrances should be lit for safety and identity.*
- *All external lighting shall be robust, vandal resistant and themed to complement development character.*
- *Display lighting to commercial and retail premises along Old Perth Road shall be time-switched to remain on every evening until at least 15 minutes after the last train has left Bassendean Station.*
- *Consideration should be given to pedestrians, cyclists and drivers with regard to glare from lighting sources.*

Proposal:

The proposed development will provide a range of lighting to public spaces, awnings, undercroft parking area, and along pedestrian footpaths for the safety of its residents and the public. The main entrance will be well-lit (including inside the lobby). The proposed development complies with Clause 9.6 of LPP1.

CONCLUSION

It is evident that the proposed development located at the corner of Old Perth Road and Hamilton Street, will reinforce a strong sense of place within the Bassendean Town Centre and includes a range of land uses to provide a vibrant main street environment.

The proposed development includes high quality built form, responds to the climate and is appropriate in the context of the Bassendean Town Centre. Landscaping and urban design reflects and incorporates a sustainable approach and contributes to the overall amenity of the area.

In conclusion, the proposed development generally achieves the objectives of the LPP1 - Bassendean Town Centre Strategy & Guidelines, and warrants approval accordingly.

ANNEXURE 8

Waste Management Plan

(Aurora Environmental)

Waste Management Plan

Proposed Aged Care Facility, Multiple Dwellings & Shops

Lot 54 (#27) Hamilton Street & Lots 84-85 (#68-70) Old Perth Rd,
Bassendean

Prepared For: Peter Webb & Associates
PO Box 920
SUBIACO WA 6904

Report Number: AP2017-235

Report Version: V1

Report Date: 13 February 2018

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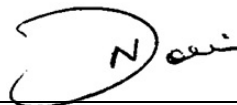
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Document No: PWA2017-001_WAST_001_ND_V1

Report No: AP2017-235

Author: Noel Davies
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Projects (Director)



Signature

13 February 2018

Date

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1 INTRODUCTION

1.1 BACKGROUND

Aurora Environmental has been engaged by Peter Webb and Associates (PWA) to prepare a Waste Management Plan for a proposed redevelopment of an existing aged care development located at Lot 54 (#27) Hamilton Street and Lots 84-85 (#68-70) Old Perth Road, Bassendean. The total area to be developed is approximately 4,900 m².

Peter Webb & Associates (PWA) acts for T & T Management Services Pty Ltd (T&T). T&T is a company within the Aegis Aged Care Group who is the largest aged care provider in Western Australia.

T&T own and operate the existing Bassendean Aged Care Facility at Lot 54 Hamilton Street. T&T plan to extend this facility into the recently acquired Lots 84 and 85 Old Perth Road, which share a common northern boundary with Lot 54, being situated directly to the south of the Bassendean Aged Care Facility.

Details of the current and proposed capacity of the facility are summarised in Table 1.

TABLE 1: SIZE OF DEVELOPMENT

DEVELOPMENT TYPE	CURRENT DEVELOPMENT	PROPOSED DEVELOPMENT	COMBINED
Aged Care Bed	44 ¹	64	103 ¹
Over 55 Apartments	0	18	18
Shop Tenancies ²	0	3	3
Aged Care Bed	44 ¹	64	103 ¹

Note:

1. The number of aged care beds in the existing development will be reduced to 39 with 64 new beds being created in the new development footprint.
2. The Shop tenancies are expected to be general retail and not restaurants or food outlets.

1.2 LIAISON WITH CITY OF BASSENDEAN

In developing the facility, the proposed approach to managing waste has been discussed at a number of meetings with Christian Buttel the City of Bassendean who requested a number of changes and modifications to the design of waste management facilities in the development. These requests have been addressed through design modifications.

The key requirements identified were:

- The facility needs to adopt an approach to waste management that facilitates waste minimisation through ready access to recycling services and promotion of the use of recycling facilities;
- The facility design needs to facilitate safe access by both commercial vehicles collecting waste and vehicles contract by City of Bassendean for kerbside collection of waste;

- Bin storage areas need to be secure and located off the street with sufficient bin capacity to meet waste generation needs without spillage of waste or overfilling;
- Waste storage needs to be in enclosed bins to prevent issues with odour and vermin;
- Bin storage areas and bins need to be regularly cleaned to prevent odour and vermin attraction; and
- Any commercial waste collections need to occur after 0700 to prevent noise impacts for residents in the Aged Care facility and on adjoin properties.

1.3 RELEVANT LEGISLATION AND POLICY

Local Governments are responsible for the collection of municipal solid waste under the Waste Avoidance and Resource Recovery Act 2007 (WARR Act). The focus of this legislation is to promote the safe collection of waste and to minimise the quantity of waste directed to landfill through adoption of the Waste Hierarchy which promotes waste avoidance and recycling in preference to disposal of waste to landfill.

The Health Act 1911 also imposes obligations on local governments as part of its environmental health role in terms of providing efficient and safe waste collection services to all residents which prevents the spread of diseases commonly associate with poor waste management practices through contamination of water or through increased through attraction of vermin such as flies and rodents which act as vectors for the spread of many diseases.

The two key aspects regulated by local governments are:

- Ensuring that larger premises with multiple dwellings or tenancies are designed to accommodate sufficient storage capacity for waste; and
- Ensuring that bin set out area are accessible by pic-up vehicles.

2 ESTIMATED WASTE QUANTITIES AND COMPOSITION

2.1 AGED CARE BEDS

Aegis has good quality data on the quantities and types a waste produced from the aged care bed portion facility having operated such facilities for many years. Based on this data the estimate waste production is summarised in Table 2.

TABLE 2: ESTIMATED WASTE PRODUCTION - AGED CARE BEDS

DEVELOPMENT TYPE	CURRENT DEVELOPMENT
General (Municipal Solid Waste)	15,480 L
Cardboard and Paper	3300L
Co-Mingled Recyclables	1200L
Grease Trap	333L

In addition to the waste listed in Table 1, a small amount of clinical waste is generated and stored in specialised containers in the doctor's room. These containers are collected on ad hoc basis by a contractor who picks them up when requested and replaces them with empty containers. The quantities are small and as this is an on demand service, this waste is not discussed further in this plan.

2.2 OVER 55 APARTMENTS

Waste types and volumes from the over 55 Apartments are based on the following assumptions:

- Waste production is similar to that from a typical apartment (ie MSW, Co-mingled recyclables and minimal or no garden waste); and
- Each apartment will be occupied by no more than 2 persons.

Based on these assumptions, the estimated waste quantities for 18 apartments is summarised in Table 3.

TABLE 3: ESTIMATED WASTE PRODUCTION – OVER 55 APARTMENTS

WASTE TYPE	TOTAL VOLUME / WEEK
General (Municipal Solid Waste)	2160 L/week
Co-Mingled Recyclables	2160 L/fortnight

These estimates are consistent with guidance published in WALGA guideline titled “Multiple Dwellings Waste Management Plan Guidelines” (WALGA, 2015a).

2.3 RETAIL TENANCIES

Waste volumes from the three retail tenancies has been calculated using the information contained in Appendix 1 of the WALGA guideline titled “Commercial and Industrial Waste Management Plan Guidelines” (WALGA, 2015a).

As stated in Section 1 the retail tenancies are expected to be general retail outlets and will not serve or handle foods. The floor areas of the tenancies are as 99m², 60 m² and 60 m² respectively.

Based on these floor areas, the nature of the retail premises and the information in Appendix 1 of the cited WALGA Guideline, the estimated waste production from the retail premises is summarised in Table 4.

TABLE 4: ESTIMATED WASTE PRODUCTION – RETAIL TENANCIES

WASTE TYPE	TENANCY 1 (99 M ²)	TENANCY 2 (60 M ²)	TENANCY 3 (60 M ²)	COMBINED VOLUME/WEEK
	Total Volume/Week	Total Volume/Week	Total Volume/Week	
General (Municipal Solid Waste)	350 L/week	210 L/week	210 L/week	770 L/week
Co-Mingled Recyclables	175 L/week	105 L/week	105 L/week	385 L/week

3 WASTE MANAGEMENT SYSTEM

3.1 OVERVIEW

The existing Aged Care Facility is serviced by commercial waste contractors using bulk storage bins and a conventional grease trap. Bins are currently stored in an enclosed bin storage area adjacent to the Delivery Bay (See Figure 2 and Appendix 1 Figure Sk3). This bin storage area is enclosed and mechanically ventilated. In order to cater for the increased waste production due to the increased number of beds, the frequency of waste collections will increase. Further information is provided in Section 3.2.1.

The Over 55 Apartments incorporate a waste chute on each floor which directs bagged waste from the apartments to a conventional 240L MGBs housed on a rotary carousel in at the Waste Management Room located in the Lower floor/carpark. As bins on the carousel become full, the carousel indexes to bring an empty bin under the chute. The facility caretaker will monitor the carousel several times a day and remove bins that are full and replace them with empty bins. Both the full and empty bins are stored in the waste management room which is mechanically ventilated. Further information is provided in Section 3.2.2.

Each floor housing the Over 55 Apartments incorporates 2 storage areas for Yellow lidded 240 L recyclable bins. Up to 5 bins can be stored in each of these bin stores. The caretaker will monitor the bins in these stores and take full bins to the Waste Storage Room, replacing them with empty bins as required. A total of 4 stores exist on the two floor with storage of for up to twenty 240 L MGBs

The retail premises will use 240 L MGBs for both general waste and co-mingled recyclables. The bins for the tenancies will be stored in the Waste storage room on the lower floor. Further information is provided in Section 3.2.3.

3.2 WASTE STORAGE AND HANDLING

3.2.1 Aged Care Facility

The aged care beds are fully serviced with small temporary storage bins which are collected and aggregated by staff into larger mobile bins and eventually deposited in to bulk containers in the Bin storage area adjacent to the Delivery Bay. Waste is separated into three streams:

- General Waste
- Recyclable Paper and Cardboard;
- Co-mingled Recyclables

A similar approach is taken to communal areas, where bins marked for each type of waste are placed for by residents and are serviced by cleaning staff with waste deposited in the large bulk storage bins in the bin storage area.

Transport of waste s from upper floors is facilitated by use of wheeled carts and use of elevators to transport waste between floors.

A significant percentage of the waste stream is generated from the kitchen area which serviced by day bins located within the kitchen which are subsequently emptied by staff in the bulk bins in the

bin storage area which is in close proximity to the kitchen. The kitchen is also equipped with a grease trap of 2000 L capacity which is serviced at approximately 6 week intervals by a licensed contractor from the Delivery Bay.

This waste system is already functioning successfully and will simply be expanded to service the larger number of beds.

The bulk solid waste bins are all stored in an enclosed dedicated bin storage room adjacent to the Delivery Bay. The Bin Storage Room is equipped with mechanical ventilation.

Bins from the Aged Care section of the facility will be collected by a commercial contractor using a rear lift truck. Details of the number and size of containers and frequency of collection are summarised in Table 5.

TABLE 5: WASTE STORAGE AND COLLECTION – AGED CARE

Waste Type	Bin Type/Size	Number of Bins	Collection Frequency
General (Municipal Solid Waste)	660L MGB	8	3 times per week (Mon, Wed, Fri)
Recyclable Paper and Cardboard	1100L MGB	3	Weekly Thursday
Co-Mingled Recyclables	240 L MGB	5	Weekly Thursday
Grease Trap	Grease trap	1	Every 6 weeks

3.2.2 Over 55 Apartments

The floors occupied by the over 55 Apartments are each serviced by a waste chute that allows residents to deposit general waste which is then directed to a bins mounted on a rotary carousel in the Waste storage area in the lower floor (See Figures 2 and SK2 in Appendix 1). The carousel is a Rotabin unit and holds 5x 240 L MGBs. Empty bins are indexed under the chute as each bin is monitored as full. Signage will be placed in the vicinity of the chute to confirm that only general waste should be placed in the chute.

The facility caretaker will regularly monitor the status of the bins on the carousel and remove full bins and replace them with empty bins as required.

In addition, two stores are provided on each floor occupied by the over 55 apartments for 240 L yellow lid MGBs dedicated for storage of co-mingled recyclables. The stores will be clearly labelled with signs indicating which waste materials residents can place in these bins. Each store incorporates mechanical ventilation and has the capacity to hold up to 5 x 240 L MGBs (20 in total in four stores on two floors) which provides ample storage capacity given the estimated waste production will fill less than bins 10 bins per fortnight. The facility caretaker will monitor the status of the bins and bins and remove full bins to the Waste Storage area in the lower floor and replace them with empty bins.

It is proposed that the waste from the over 55 apartments is collected by the normal Council collection service with the facility caretaker placing the bins on the kerb overnight in Hamilton Street and Old Perth Road depending on the number of bins to be collected (See Figure 2 for the pickup locations). The Council service operates on Mondays in this location with weekly general waste collections and fortnightly collections of co-mingled recyclables. It is estimated that the over 55 Apartments will produce a maximum of 10 general waste bins per week and 10 recycling bins per

fortnight so the maximum number of bins to be collected is 20 on recycling days. The two areas identified for kerbside collection can accommodate up to 30 bins.

The details of the Over 55 Apartment waste handling system are summarised in Table 6.

TABLE 6: WASTE STORAGE AND COLLECTION – OVER 55 APARTMENTS

Waste Type	Bin Type/Size	Number of Bins	Collection Frequency
General (Municipal Solid Waste)	240L MGB	8 bins	Weekly Monday
Co-Mingled Recyclables	240 L MGB	5	Fortnightly Monday

3.2.3 Retail Tenancies

The three retail premises are located on the lower floor and in the main front Old Perth Road. The tenancies have rear access into the car park with ready access to the waste storage area for bin storage. It is anticipated that the retailers will maintain bins in their tenancies and empty them on a daily basis into 240 L MGBs in the Waste Management room. The size of bins held in the tenancies will be determined by the leaseholder but the bins in the waste storage area will be 240 L MGBs with either green top for general waste or a yellow top for co-mingled recyclables.

To cater for the waste volumes outlined in Table 4, there will be a requirement for 3-4 bins for general waste and 1-2 bins for recyclables. The details of the Waste Management systems to serve the retail tenancies is summarised in Table 7.

TABLE 7: WASTE STORAGE AND COLLECTION – RETAIL TENANCIES

Waste Type	Bin Type/Size	Number of Bins	Collection Frequency
General (Municipal Solid Waste)	240L MGB	4 bins	Weekly Monday
Co-Mingled Recyclables	240 L MGB	4 bins	Fortnightly Monday

3.2.4 Bin Storage Areas

Three bin storage areas service the overall facility as follows:

- The existing Aged Care bin storage area adjacent to the delivery driveway will be retained to hold bins for waste generated in the Aged Care Facility. The same number of bins will be held in this stores but eh collection frequency will be increased to cater for the increase bed capacity of the facility. This bin store is in a secure area and mechanically ventilated.
- A new storage area is included in the Waste Management Room in the lower floor of the new building. In addition to the waste carousel, the room has the capacity to store up 30 bins. The store has an automatically closing door which remains closed except when being used to access or egress the room and is mechanically ventilated.
- In addition, 4 bins stores are provided across the two floors of the Over 55 Apartments. These bin stores can hold up to five (5) 240 L yellow topped MGBs for co-mingled recyclables. Each of these stores is fitted with an automatically closing door and will be clearly labelled as a bin store for Co-mingled recyclables only.

The information provided in Tables 3-6 shows that the total waste production from the Over 55 Apartments and Retail Tenancies can be handled in 21 bins. Between the main bin store and the

recycling stores, the capacity exists to store up to 50 bins, although it is envisaged that no more than 30 bins will be required at any time, assuming peak waste periods such as Christmas and the fact that some bins may not be totally filled.

The each bin store has been located to provide ready access to those placing waste in the bins while also providing a location secure from the public and away from sensitive areas such as residences.

The state of the bins and bin stores will be monitored by the facility Caretaker. The Caretaker will be responsible for:

- Moving full bins of the waste carousel and replace them with empty bins.
- Monitoring and transferring empty and full bins between the recycling bin stores over 55 Apartments and the lower floor waste storage area.
- Transferring full bins to the kerbside on waste pick up days and returning them to the bin stores after they have been collected.
- Collecting any litter and sweeping up accumulated dirt in the bin stores and placing this in the bins.
- Regularly washing and disinfecting the floors in the bin stores to keep them free of odour.
- Placing insect and rodent baits or using topical sprays as required to control pests.

As indicated earlier, the operators of the retail tenancies will be responsible for the type of waste receptacles they use in their premises but will have access to 240 L yellow top and green top bins in the waste store for bulk waste storage. The facility Caretaker will manage the bins used by the retail tenants in the same way as those used for waste from the over 55 Apartments.

3.2.5 Bin Collection

The Bins from the Aged Care Facility Bin store will be collected from the same location and under the same commercial contract that is currently used. The only change will be that in view of an overhead obstruction introduced as part of the new building, the bins will be collected by a rear-lift truck and the frequency will increase to three times per week (Monday, Wednesday and Friday).

Full bins from the over 55 Apartments and the Retail Tenancies will be transferred from the lower floor bin store and placed in kerbside collection zones on Hamilton Street and Old Perth Road (see Figure 1). It is anticipated that on average 21 bins will be placed on the kerb every second Monday when recyclables are collected (12 general waste bins and 9 recycling bins). It is estimated that up to 30 bins could be placed on the kerbside in the two areas indicated in Figure 1.

The facility Caretaker will be responsible for deploying and recovering the bins at the kerb.

4 EDUCATION AND AWARENESS

Consistent with Government policy, the owners of the facility are committed to minimising the volume of general waste that is directed to landfill. To this end the following actions will be taken:

- An ample number of yellow topped recycling bins will be provided for co-mingled recyclables generated in the Over 55 Apartments and the Retail tenancies;
- The Aged Care Facility has ample bin capacity to store separated and cardboard and co-mingled recyclables;
- All staff handling waste in the Aged Care Facility will be educated in the need to handle and store general waste and recyclable materials separately;
- Separate, clearly labelled bins will be provided in bed and communal areas of the Aged Care Facility for general waste and recyclables;
- All residents in the Over 55 Apartments will be briefed on the waste management system when they take residence with an emphasis on the need to segregate general waste and co-mingled recyclables and this briefing will be supported by written materials and brochures;
- The general waste chute and co-mingled bin stores will be clearly labelled to indicate the waste types that can be placed in each location. In the case of the general waste chute this will include notification not to place readily combustible or hazardous materials in the chute. Arrangements will be made with the Caretaker to handle, store and dispose of such materials separately in the Waste Store; and
- All tenants in the retail premises will also be briefed on the waste management system when they take up the lease with an emphasis on the need to segregate general waste and co-mingled recyclables and this briefing will be supported by written materials and brochures.

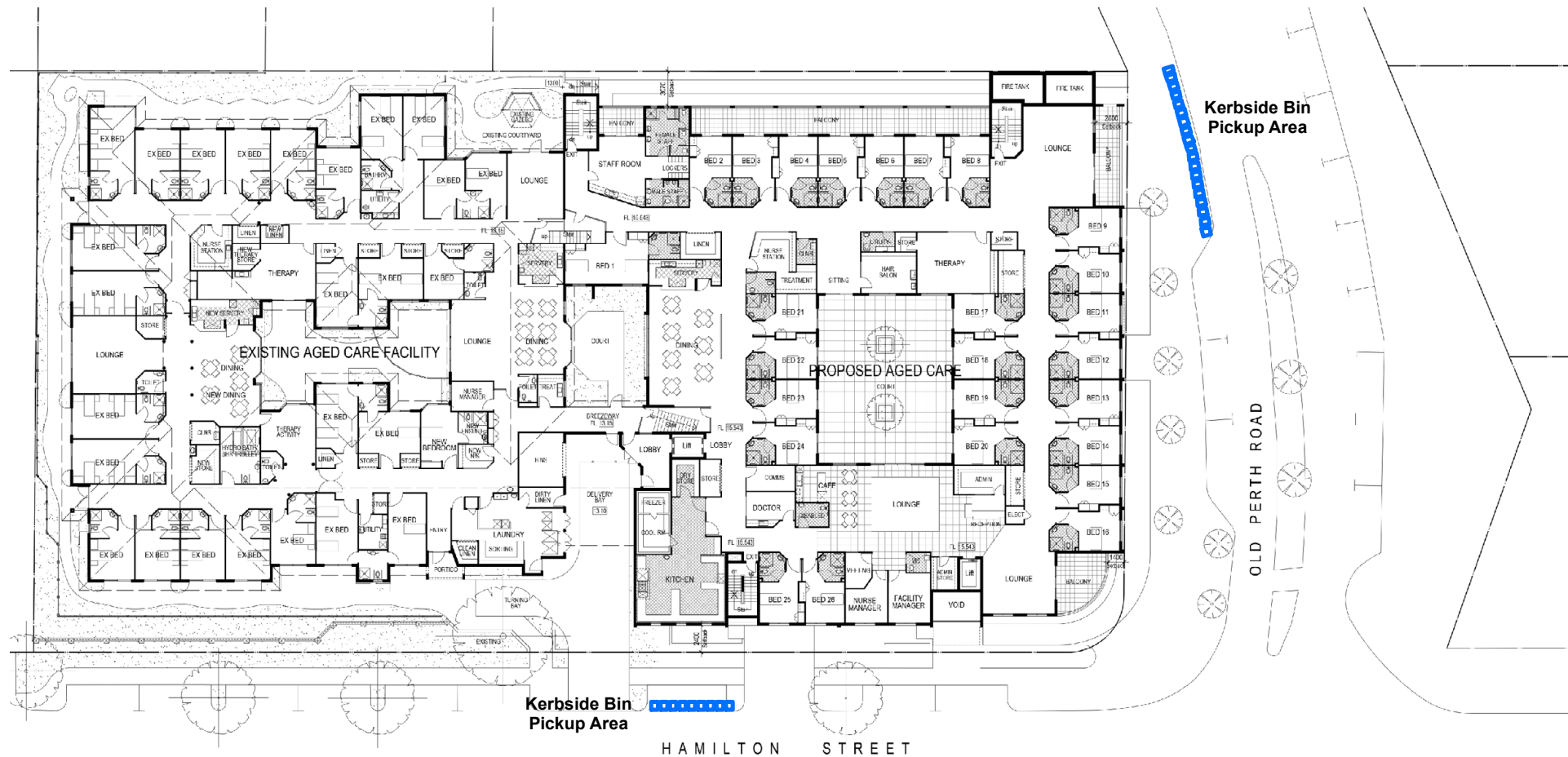
The Caretaker will be given the necessary support by the owners to ensure that his duties can be conducted effectively and efficiently.

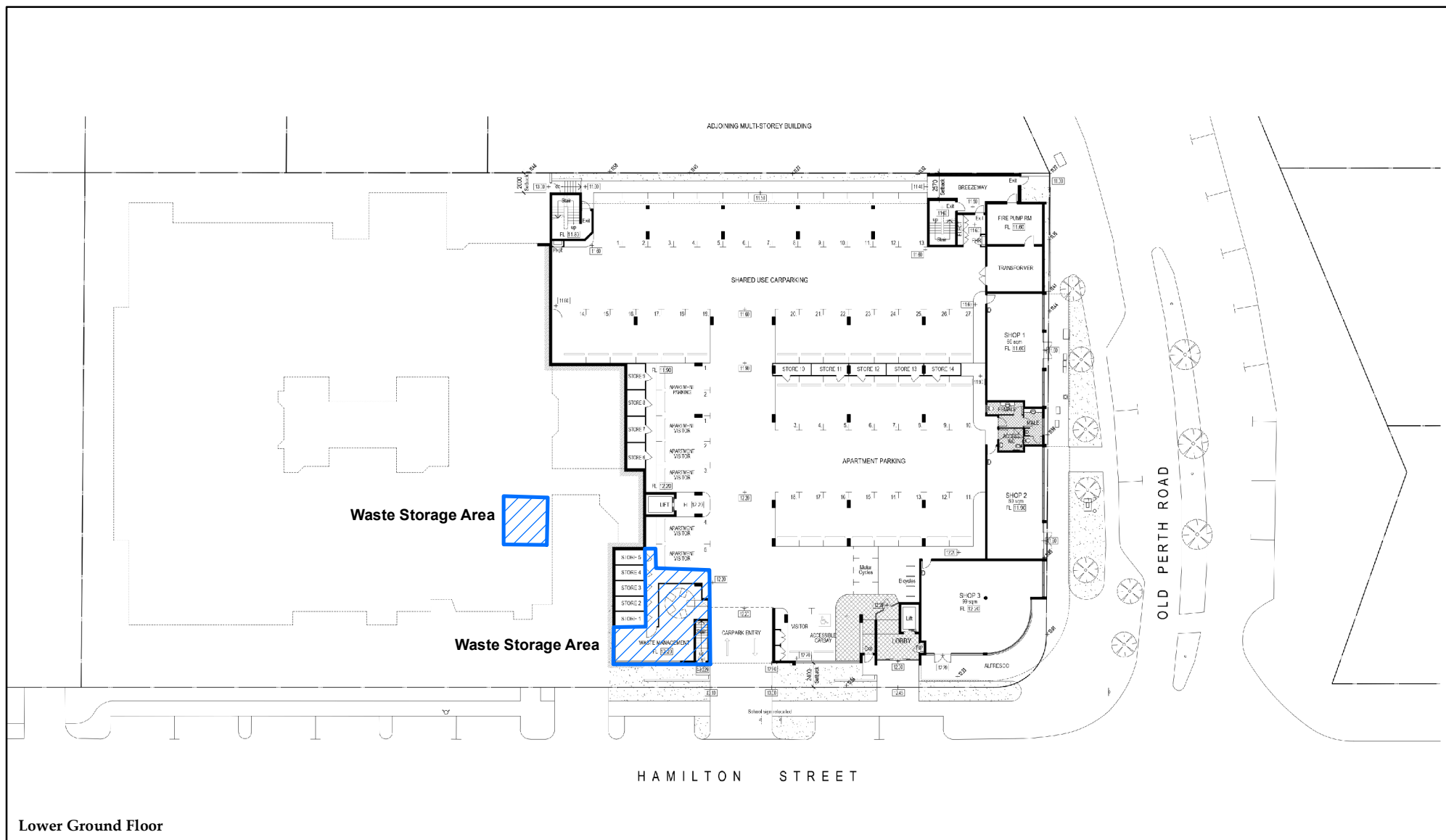
5 REFERENCES

WA Local Government Association (WALGA) (2015a) Multiple Dwelling Waste Management Plan Guidelines, 2015.

WA Local Government Association (WALGA) (2015b) Commercial and Industrial Waste Management Plan Guidelines, 2015

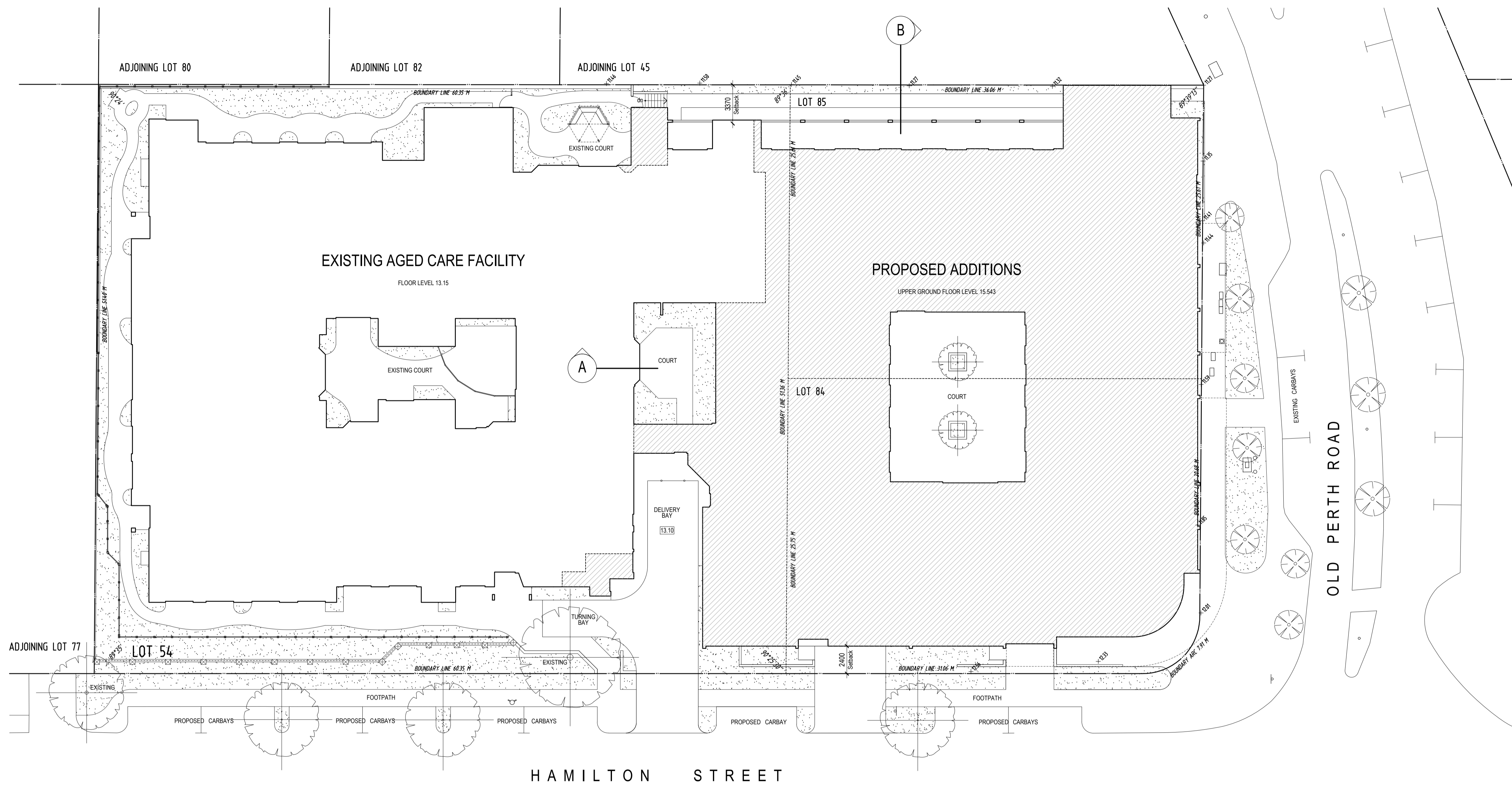
FIGURES





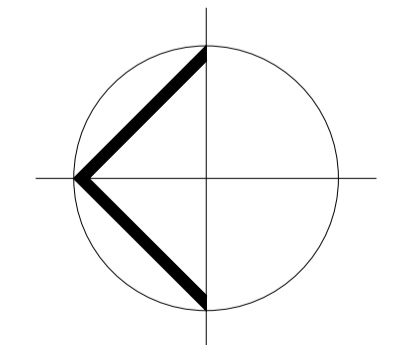
APPENDIX 1

Architectural Drawings



SITE PLAN 1:200

AEGIS BASSENDEAN ALTERATIONS & ADDITIONS



MONTAGUE GRANT ARCHITECTS PTY LTD

26 BRISBANE ST, PERTH WA 6000 TELEPHONE: 9328 2233 FAX: 9227 6346 A.C.N. 009 072 593

DRAWING

CLIENT

JOB

SITE

SITE PLAN

AGED CARE GROUP PTY LTD

BASSENDEAN AGED CARE, ALTERATIONS AND ADDITIONS

LOTS 54, 84 & 85 OLD PERTH ROAD

BASSENDEAN

TOWN OF BASSENDEAN

JOB NO

DRAWN

SCALES

14.11

MGA

1:200

DRG NO

DATE

ISSUE

SK1.

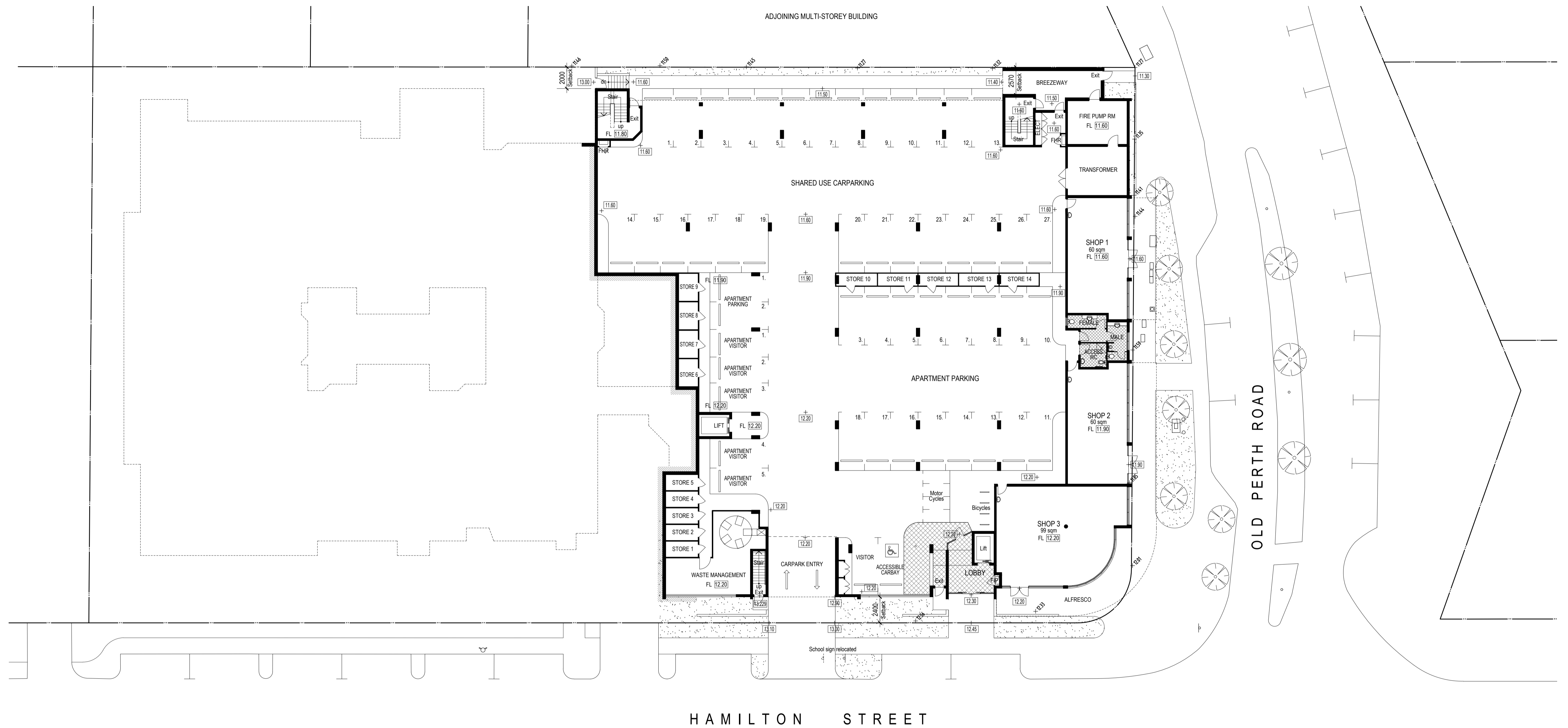
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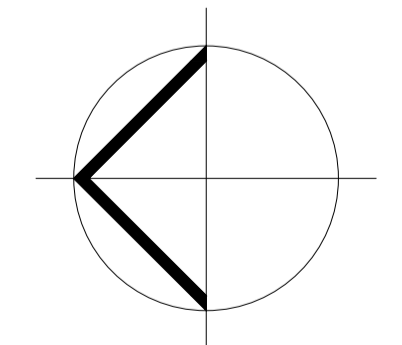
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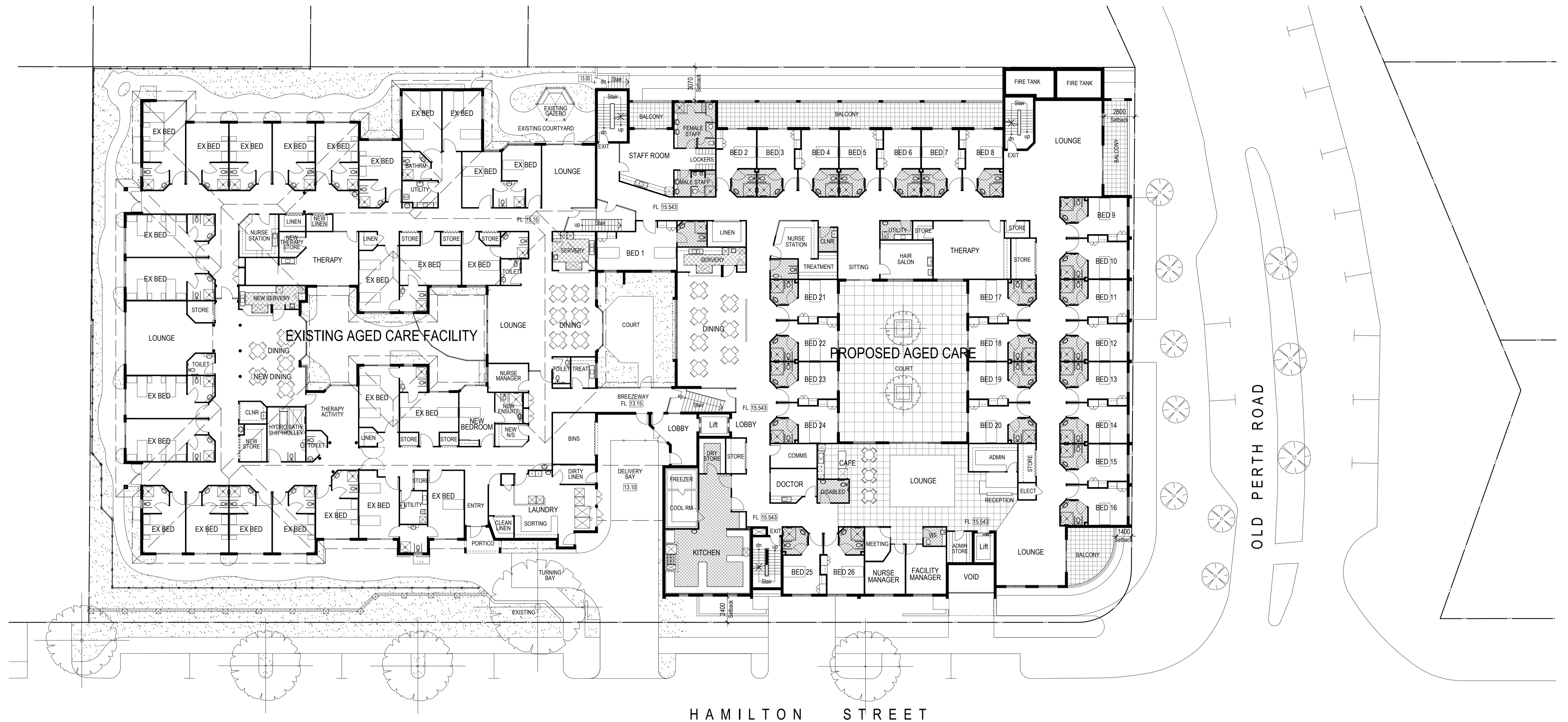
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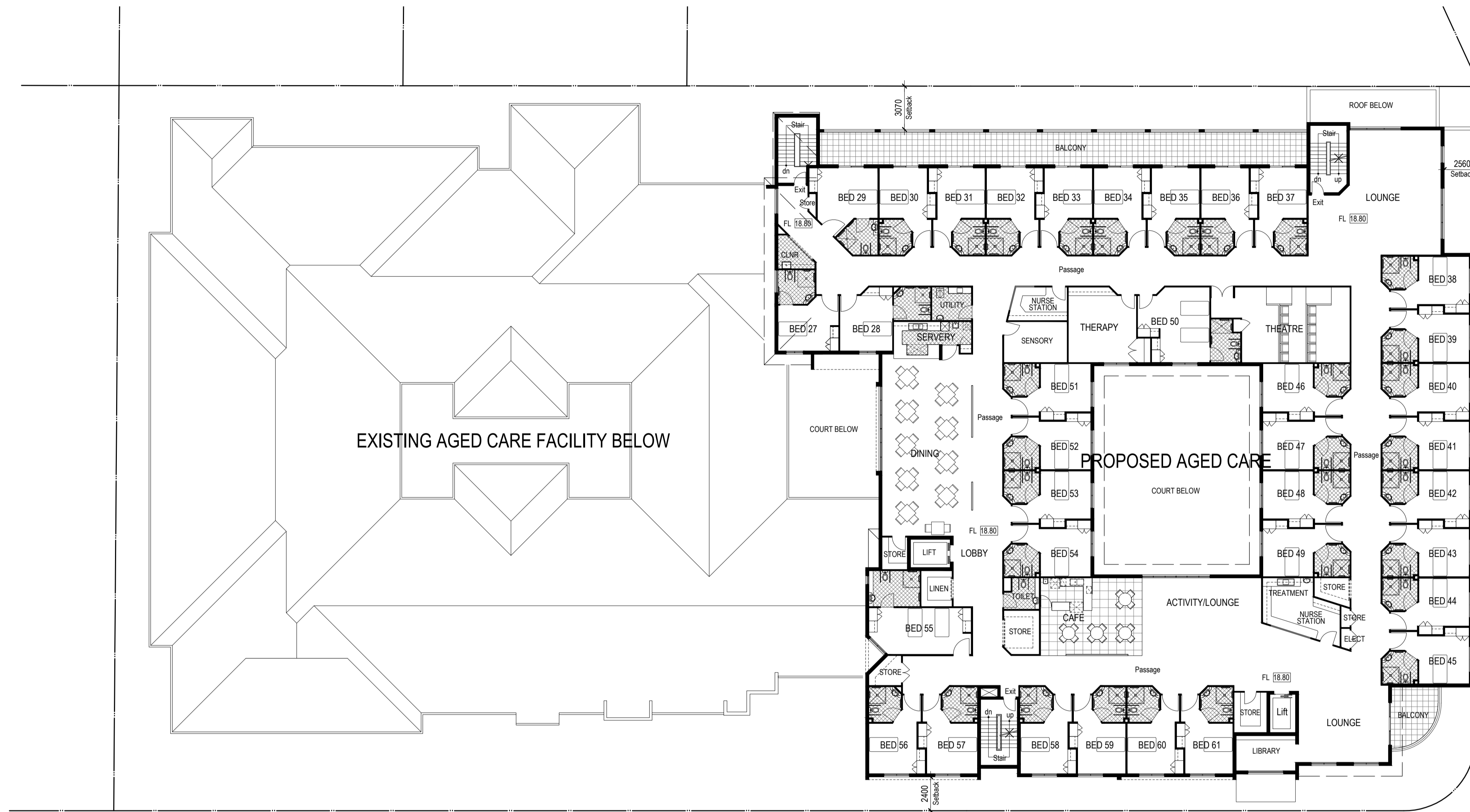


LOWER GROUND FLOOR 1:200



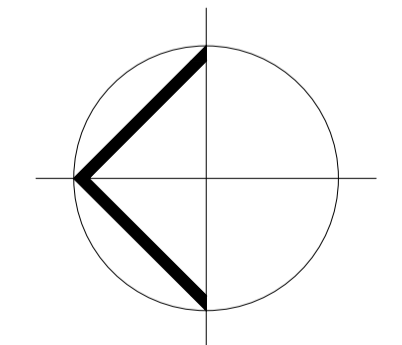


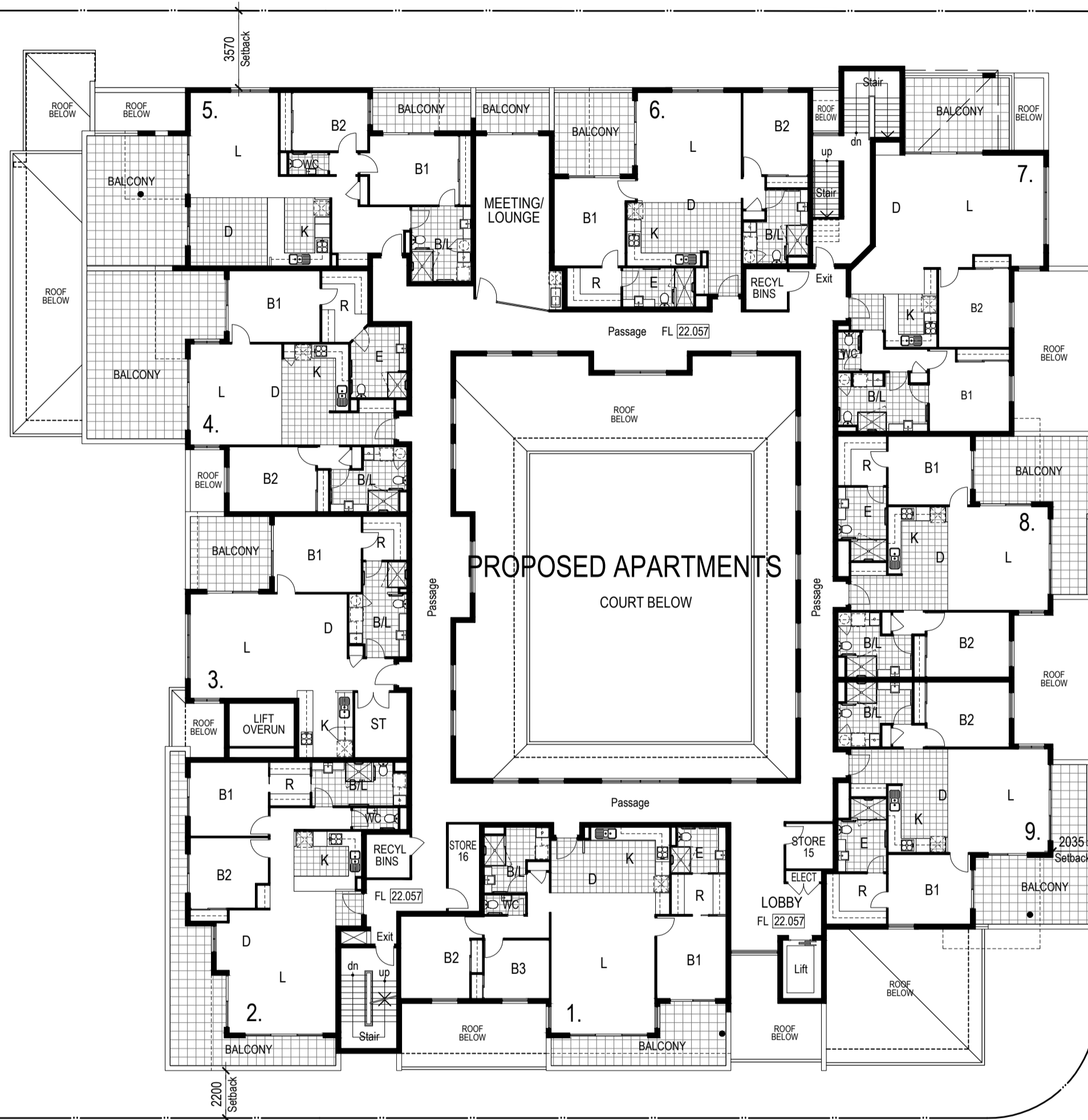
UPPER GROUND FLOOR 1:200



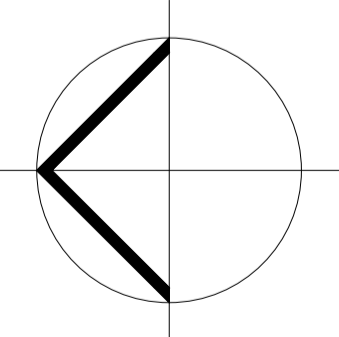
FIRST FLOOR PLAN

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SECOND FLOOR PLAN 1:200



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LOTS 54, 84 & 85 OLD PERTH ROAD
BASSENDEAN
TOWN OF BASSENDEAN

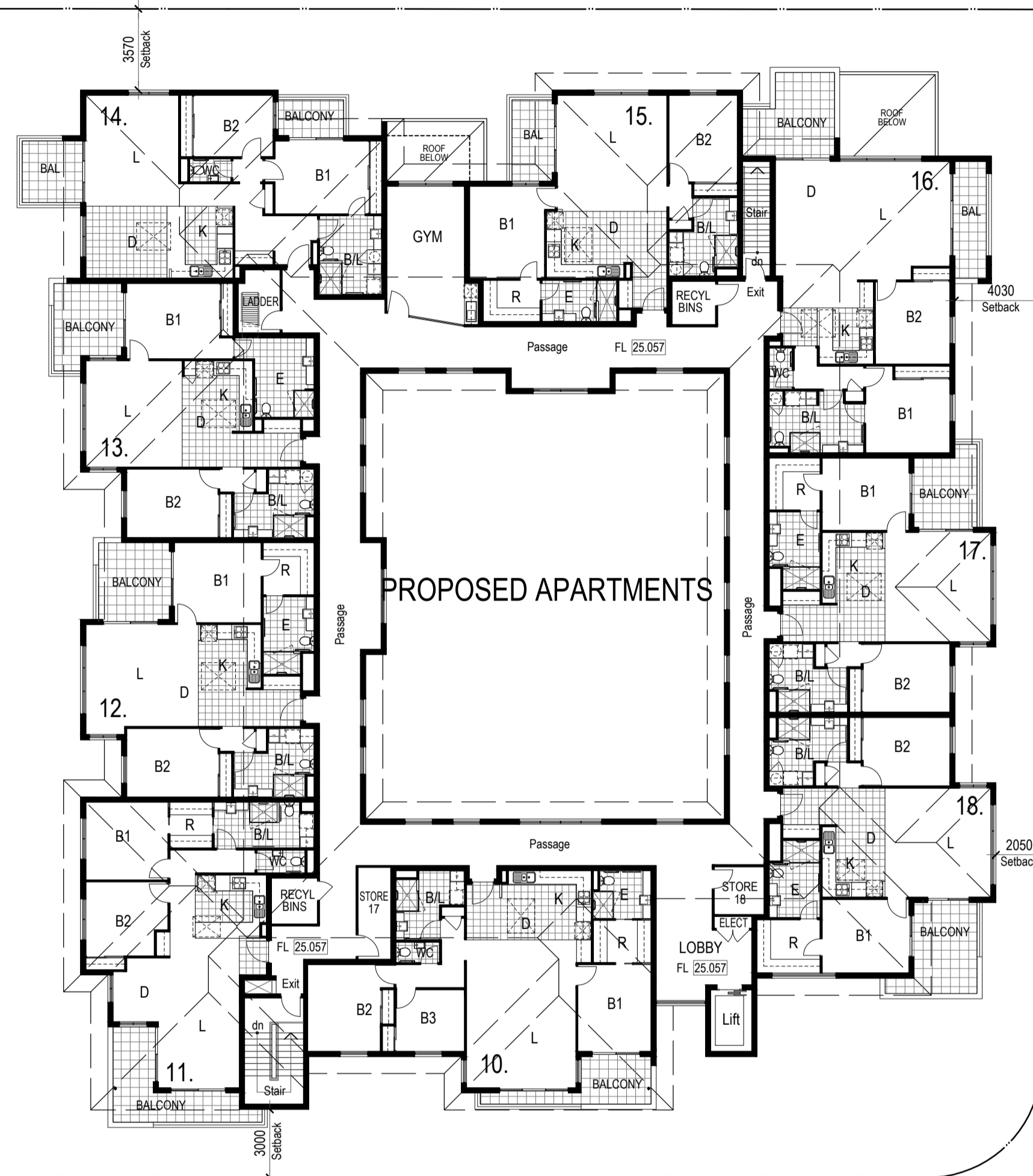
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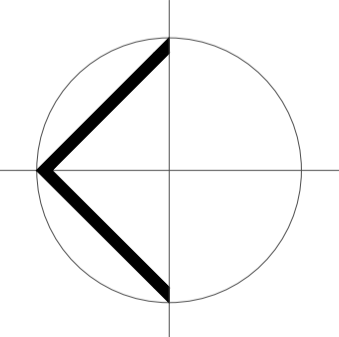
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THIRD FLOOR PLAN 1:200



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ANNEXURE 9

Traffic Impact Statement (Transcore)



Proposed Aged Care Facility Extensions
27 Hamilton Street & 68-70 Old Perth
Road, Bassendean
Transport Impact Statement

PREPARED FOR:
Aegis Aged Care Group

February 2018

Document history and status

Author	Revision	Approved by	Date approved	Revision type
Paul Gbantous	r01	P Gbantous	09/09/17	Final
Paul Gbantous	r01a	P Gbantous	31/10/17	Final
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File name: t17234pgr01b

Author: Paul Gbantous

Project manager: Behnam Bordbar

Client: Aegis Aged Care Group

Project: Aegis Bassendean

Document revision: r01b

Project number: t17.234

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1.0 Introduction

This Transport Impact Statement has been prepared by Transcore on behalf of Aegis Aged Care Group with regards to the proposed Aged Care Facility (ACF) extensions, located at Lot 54 (27) Hamilton Street & Lots 84-85 (68-70) Old Perth Road, Bassendean, in the Town of Bassendean.

The subject site is located at the north-east corner of the intersection of Old Perth Road and Hamilton Street, as shown in Figure 1.

As shown in Figures 1 & 2, the existing ACF is bound by Hamilton Street to the west, residential properties to the north, existing development to the east and vacant land to the south. The existing land to the south previously accommodated a car sales yard.

The proposed development entails a five (5) storey building, with a basement car park, three (3) shop tenancies at street level with primary frontages to Old Perth Road, two (2) levels of aged care accommodation providing a total of 64 beds and two (2) upper floor levels of residential Over-55's apartments (18 multiple dwellings). The new development incorporates a connection to the existing Aged Care Facility at the upper ground level.

The existing Aged Care Facility at Lot 54 Hamilton Street includes 46 aged care beds which will be reduced to 39 aged care beds when the construction of the new aged care extension begins.

In the post development situation, 39 aged care beds will be accommodated in the existing facility, with 64 new aged care beds being accommodated in the extension (total 103 aged care beds).

The key issues that will be addressed in this report include the traffic generation and distribution of the proposed development, access and egress movement patterns, and access to the site for alternative modes of transport.



Figure 1: Location of the subject site

2.0 Proposed Development

The proposal for the subject site is for extension of the aged care facility (ACF), comprising:

- ✚ Three new shop tenancies on the lower ground level (total floor area of 219m²);
- ✚ Lower ground level car park providing a total of 52 car bays, 4 motorcycle bays and 4 bicycle racks;
- ✚ Net addition of 57 care beds in the new building upper ground and First floor levels (total of 103 beds post-development);
- ✚ Integration with the existing facility on the upper ground level; and,
- ✚ 18 over 55's residential apartments on the second and third floors.

The existing ACF crossover on Hamilton Street serving the existing 11 car bays and loading area is proposed to be retained. Construction of the ACF extensions will require the removal of the 11 existing car parking bays on the ground level, however the existing location of the Hamilton Street crossover and loading area will be retained.

Waste collection, delivery and other service vehicle activity for the ACF will be accommodated within the site in the loading area accessed from the existing Hamilton Street crossover, similar to existing arrangements.

Pedestrians will access the development from the external footpath network abutting the site.

The proposed development plans are included for reference in Appendix A.

3.0 Vehicle Access and Parking

3.1 Access

Vehicular access to the existing ACF is provided via an existing crossover on Hamilton Street (Figure 3). This crossover is currently used to access 11 car bays and the loading / waste collection area. The crossover is proposed to be retained as part of the development for service vehicle and waste collection access only. The 11 existing car bays will be removed as part of the proposal.



Figure 3: Existing Hamilton Street crossover

Vehicle access to the existing vacant car sales yard is via one crossover at the corner of Hamilton Street and Old Perth Road (Figure 4) and one crossover on Old Perth Road at the eastern end of the site (Figure 5).



Figure 4: Existing crossover on Hamilton Street/Old Perth Road



Figure 5: Existing crossover on Old Perth Road

It is proposed to close the existing Old Perth Road crossover located at the eastern end of the site.

The crossover at the intersection of Hamilton Street / Old Perth Road is also proposed to be closed and relocated on Hamilton Street further north of the intersection. The proposed relocated crossover on Hamilton Street will provide access to the proposed new lower ground level car park as detailed on the development plans.

3.2 *Parking Demand and Supply*

The existing 11 on site car bays are proposed to be removed as part of the development. A new lower ground floor car park is proposed to be constructed providing a total of 52 car bays allocated as following:

- 18 bays for 18 residential apartments;
- 5 bays for residential visitors;
- 1 general visitor bay;
- 1 ACROD bay; and,
- 27 shared use bays for ACF and shop staff and visitors.

It is also proposed to provide four (4) motorcycle bays and four (4) bicycle racks in the lower ground floor car park.

Three (3) on-street bays are currently in place on Old Perth Road adjacent to the site.

The information in Table 1 has been extracted from the planning application report prepared by Peter Webb & Associates (document reference - C2062appln3DA) regarding the parking requirements as set out in the Local Planning Scheme:

The existing ACF and post development extensions will result in a total calculated parking requirement of 61.5 bays.

A total of 55 bays will be available within the site and on-street adjacent to the site on Hamilton Street and Old Perth Road. The proposed development will entail a minor shortfall from the LPS parking requirement.

Table 1: LPS parking assessment

Use Class	Ratio	Calculation	Proposed
Nursing Home	1 bay per 5 beds	103 beds = 21 bays	
Shop	8 bays per 100m ² GFA	219m ² GFA = 17.5 bays	
Multiple Dwellings	1 bay per dwelling plus 0.25 visitor bays per dwelling	18 dwellings = 18.5 bays 18 dwellings = 4.5 visitor	
Total Required		61.5	
TOTAL PROVIDED			52

Source: Peter Webb & Associates, 31 July 2017

4.0 Provision for Service Vehicles

Waste collection for the Aged Care Facility will be by a private contractor as per the existing situation.

Collection will occur at the existing crossover location to Hamilton Street in the designated “delivery bay”. A bin store is adjacent to that delivery bay.

Waste collection trucks will reverse into the bay as per existing operations since 2003.

Service trucks will also use the delivery bay crossover and driveway only. No trucks will be required to access the site via the proposed new lower ground level car park crossover. A service/goods lift is provided from the delivery bay down to the lower ground level to service deliveries to the shops and bring bins up from the basement waste management room.

The existing crossover and delivery bay driveway has accommodated service vehicles satisfactorily since the ACF was developed in 2003.

Swept path analysis has been undertaken to confirm satisfactory truck movements and is presented in Appendix B of this report.

Waste collection for the Over 55's Apartment component will be from Old Perth Road, undertaken by the Town's Waste Collection team. A caretaker of the facility will ensure that general waste and recycling bins are placed onto the street verge on collection day.

Waste collection for the Shop tenancies will be by the Town's Waste Collection team, through the use of conventional rubbish and recycling bins. Tenants will have access to the bin store. The caretaker will be responsible for placing the shop bins onto the Old Perth Road street verge on collection days.

5.0 Hours of Operation

Based on Transcore's experience with multiple aged care facilities, the afternoon staff changeover typically occurs at around 3:00pm, with the morning care staff departing the site and evening care staff arriving.

There are several schools and other community facilities in the locality. Therefore, the peak traffic period is anticipated to occur sometime between 2:00pm and 4:00pm, when school traffic and the Aged Care Facility staff changeover overlaps.

Transcore traffic surveys at the intersection of Old Perth Road / Hamilton Street undertaken on 5 September 2017 confirmed that the afternoon peak hour on Hamilton Street adjacent to the site occurs between 2:45pm and 3:45pm.

6.0 Daily Traffic Volumes and Vehicle Types

6.1 Existing Traffic Flows

A traffic turning movement survey was undertaken at the intersection of Old Perth Road / Hamilton Street on Tuesday 5 September 2017. The survey was undertaken between the hours of 2:00pm and 4:00pm, and established that the afternoon peak hour occurs between 2:45pm and 3:45pm.

The surveyed existing peak our traffic volumes are detailed in Figure 6.

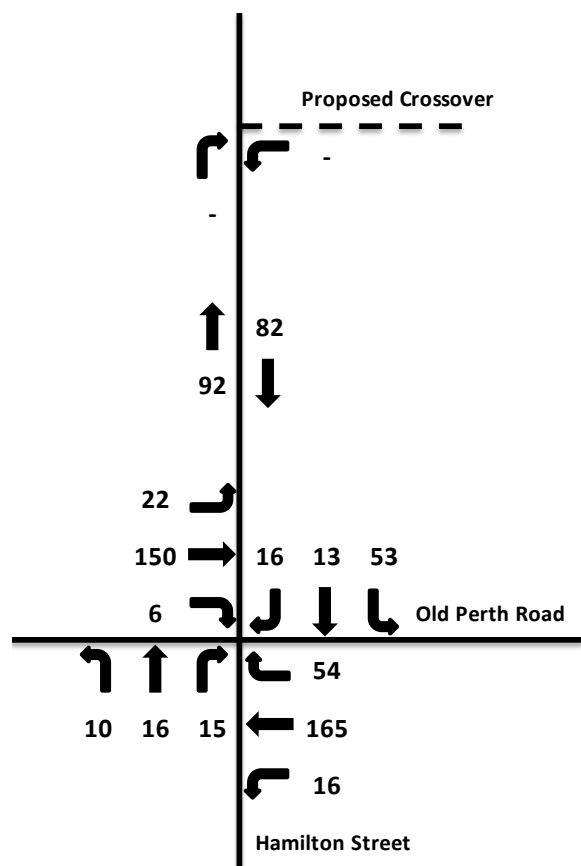


Figure 6: Existing traffic flows near subject site (survey results) – Weekday PM peak hour

6.2 Traffic Generation

6.2.1 Proposed Development Traffic Generation

The traffic volume that will be generated by the proposed residential apartments, additional care facility beds and shop land uses has been estimated using trip generation rates derived from the Roads and Traffic Authority of New South Wales Guide to Traffic Generating Developments (2002) and the updated trip rates in the RTA TDT 2013/ 04a.

As detailed in Table 2, the proposed development is estimated to generate an additional 417 daily vehicle trips and 45 trips during the PM peak hour.

These trips include both inbound and outbound vehicle movements. It is anticipated that most of the vehicle types would be passenger cars and to a lesser extent 4WDs.

Table 2 is based on the following directional split assumptions:

✚ PM peak split estimated at 50%/50% inbound/outbound.

Table 2. Additional peak hour trips generated by the proposed development

Land use	Quantity	Daily Rate	PM Peak Rate	Daily Trips	PM Trips	PM Peak Trips	
						IN	OUT
Residential Units	18	2.1	0.4	38	7	4	3
Additional ACF Beds	57	2	0.2	114	11	5	6
Shop - Retail <10,000m ²	219	1.21	0.125	265	27	14	13
Total				417	45	23	22

The distribution of traffic has been modelled based on the existing PM peak hour traffic flows at the intersection of Old Perth Road / Hamilton Street.

The distribution of the additional proposed development traffic is detailed in Figure 7. All traffic shown in Figure 7 is assumed to enter and exit the subject site via the proposed development crossover on Hamilton Street.

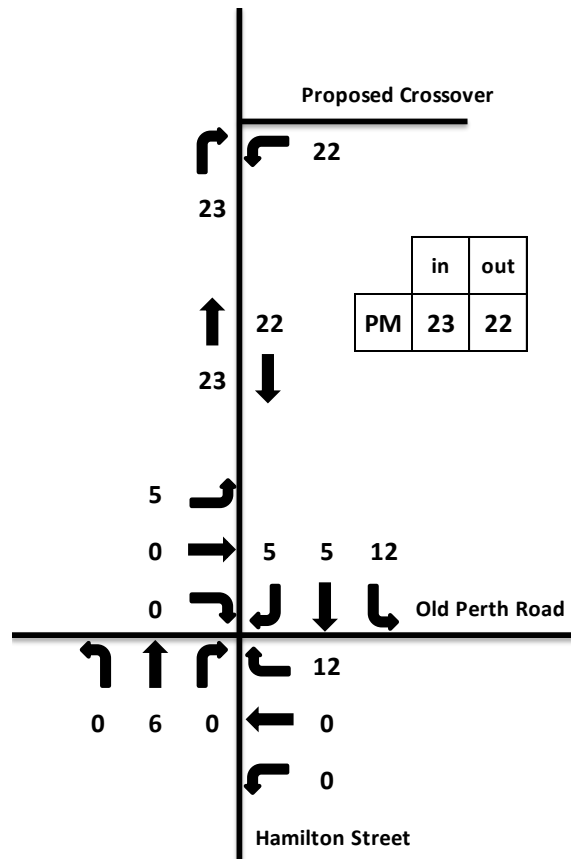


Figure 7: Additional traffic generated by the proposed development – Weekday PM peak hour

6.3 Impact on Surrounding Roads

The WAPC *Transport Impact Assessment Guidelines for Developments* (2016) provides the following guidance on the assessment of traffic impacts:

“As a general guide, an increase in traffic of less than 10 percent of capacity would not normally be likely to have a material impact on any particular section of road, but increases over 10 percent may. All sections of road with an increase greater than 10 percent of capacity should therefore be included in the analysis. For ease of assessment, an increase of 100 vehicles per hour for any lane can be considered as equating to around 10 percent of capacity. Therefore, any section of road where development traffic would increase flows by more than 100 vehicles per hour for any lane should be included in the analysis.”

The proposed aged care facility extensions will not increase traffic flows on any roads adjacent to the site by the quoted WAPC threshold of +100vph to warrant further analysis.

Therefore, the impact on the surrounding road network is minor.

7.0 Traffic Management on the Frontage Streets

Hamilton Street near the subject site is an approximately 6.7m wide, two-lane undivided road. A combination of 90-degree and parallel on-street parking bays are marked on the road.

Hamilton Street is classified as an *Access Road* in the Main Roads WA *Functional Road Hierarchy* and operates under a default built-up area speed limit of 50km/h. A 40km/h school zone is in place between the hours of 7:30 am to 9:00 am and 2:30 pm to 4:00 pm on school days.

Footpaths are provided on both sides of the road. Traffic counts undertaken by Transcore on 5 September 2017 indicated that Hamilton Street carried 221 vehicles (two-way trips) during the peak afternoon period between 2:00pm and 4:00pm.

It is estimated that Hamilton Street carries average weekday traffic flows of around 1,500 vehicles per day.

Old Perth Road near the subject site is an approximately 15m wide, two-lane divided road with a raised, kerbed and vegetated central median. Parallel on-street parking bays are provided on both sides of the road and the road surface is treated with red asphalt.

Old Perth Road is classified as a *Local Distributor Road* in the Main Roads WA *Functional Road Hierarchy* and operates under a sign posted speed limit of 40km/h.

Footpaths are provided on both sides of the road. Traffic counts undertaken by Transcore on 5 September 2017 indicated that Old Perth Road carried 752 vehicles (two-way trips) during the peak afternoon period between 2:00pm and 4:00pm.

It is estimated that Old Perth Road carries average weekday traffic flows below 4,000 vehicles per day.

8.0 Public Transport Access

The subject site has access to the following bus services:

- Bus Service 55: Perth – Bassendean via Guildford Rd & Lord St.

Bus service 55 runs along Old Perth Road adjacent to the subject site. The nearest bus stop is located near the intersection of Old Perth Road / Hamilton Street. This bus service also provides connectivity to the rail network at Bassendean Train Station.

Nearby public transport services are shown in Figure 8.

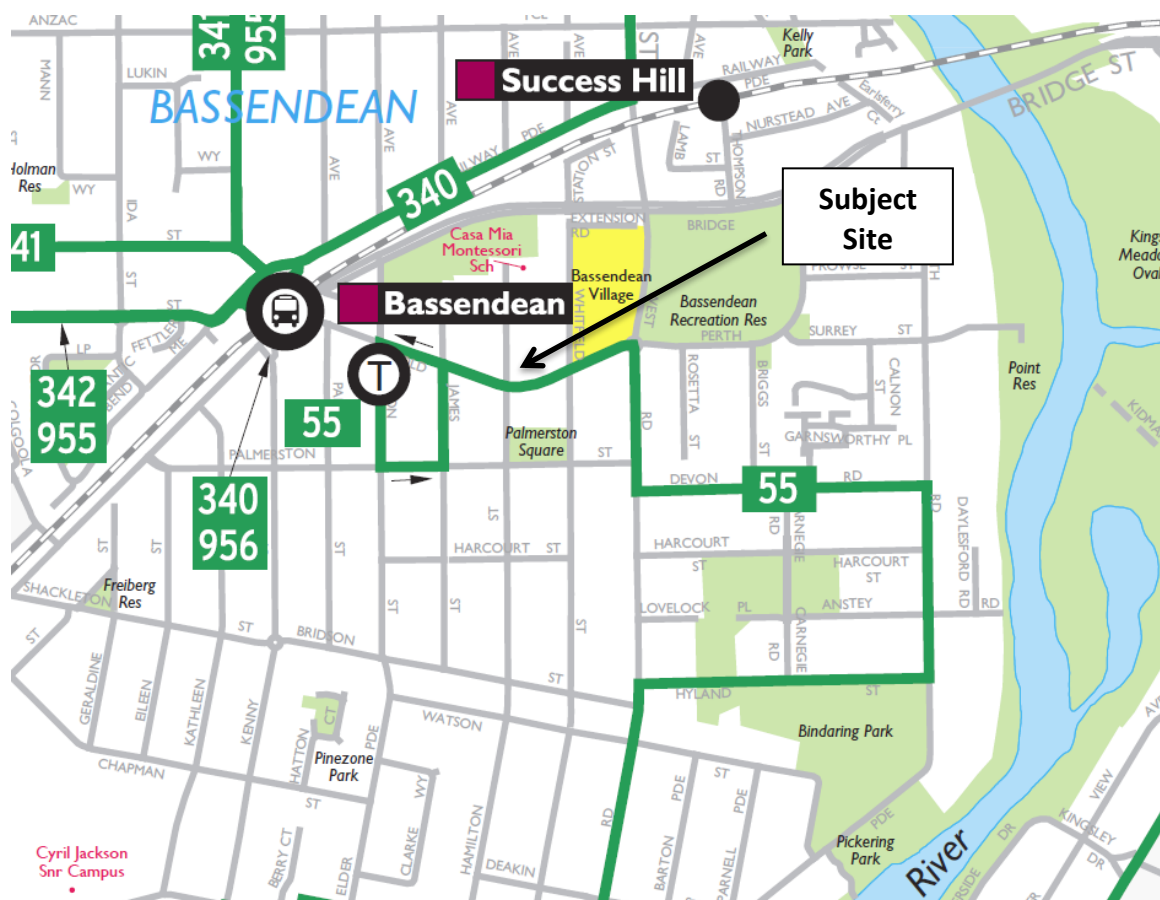


Figure 8: Public transport services (Transperth Maps)

9.0 Pedestrian Access

Pedestrian access to the proposed development is via the existing external footpath network running along the road frontages of the site.

10.0 Cycle Access

The Perth Bicycle Network Map (see Figure 9) shows the existing cyclist connectivity to the subject site.

The PSP running alongside the rail line is accessible a short distance to the north and west. Old Perth Road forms part of a walking trail through Bassendean.

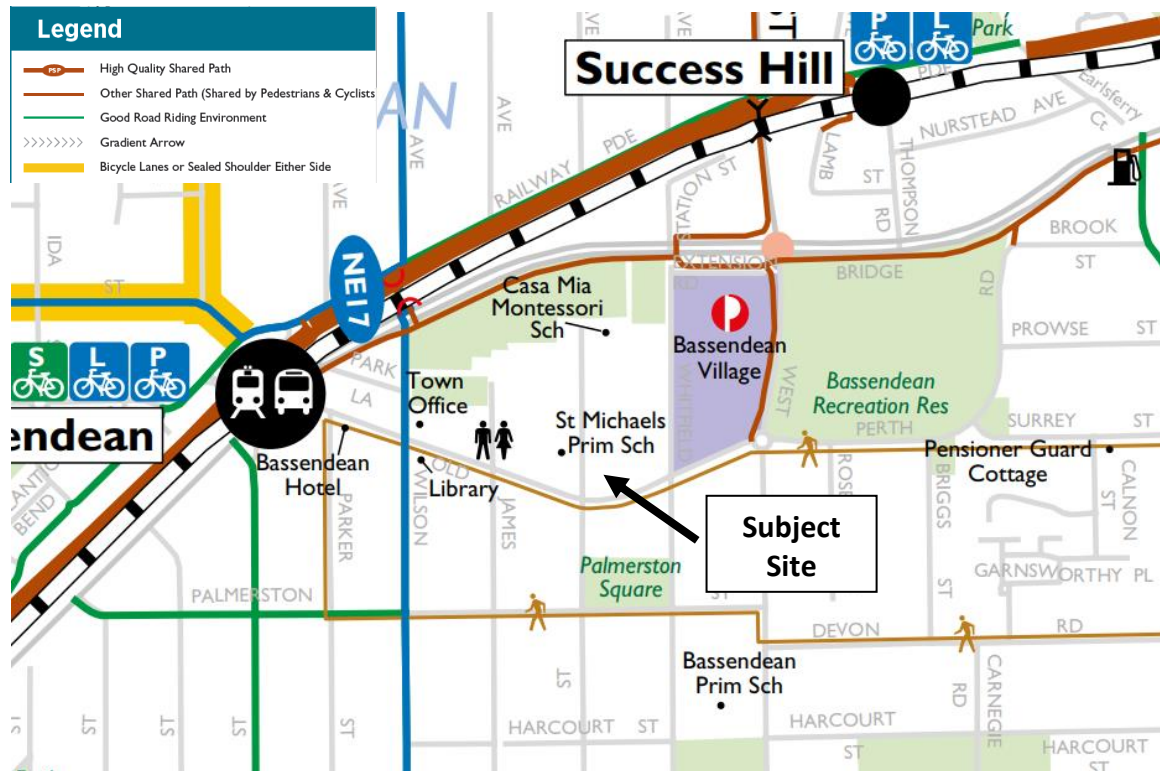


Figure 9: Extract from Perth Bicycle Network (Department of Transport)

11.0 Site Specific Issues

No site specific issues were identified within the scope of this assessment.

12.0 Safety Issues

No safety issues were identified within the scope of this assessment.

13.0 Conclusions

This Transport Impact Statement has been prepared by Transcore on behalf of Aegis Aged Care Group with regards to the proposed Aged Care Facility (ACF) extensions, located at Lot 54 (27) Hamilton Street & Lots 84-85 (68-70) Old Perth Road, Bassendean, in the Town of Bassendean.

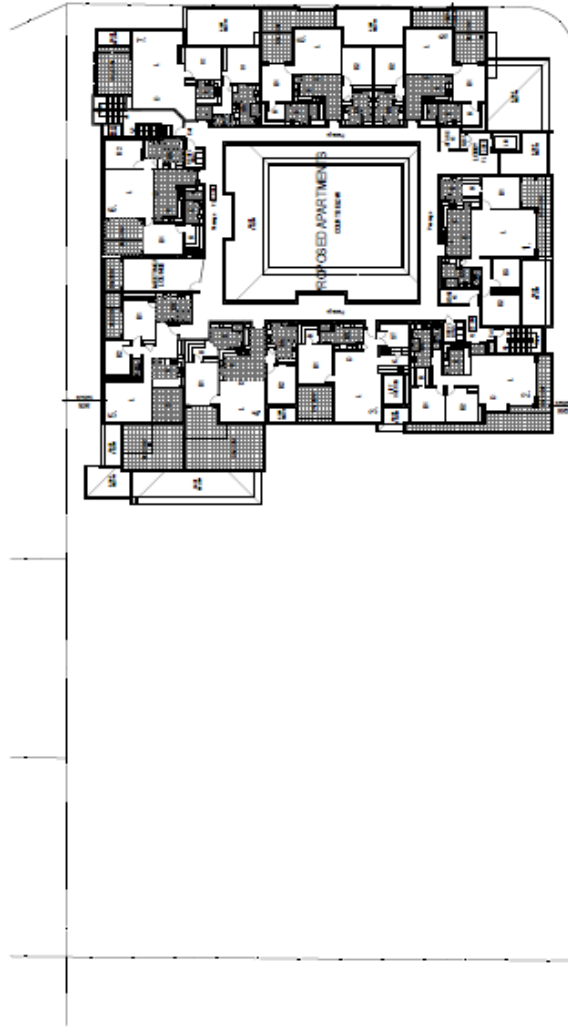
The site features good connectivity with the existing road and pedestrian network. There is good public transport coverage through nearby bus services.

The traffic analysis undertaken in this report shows that the traffic generation of the proposed development is minimal (less than 100vph on any lane) and as such would have insignificant impact on the surrounding road network.

It is concluded that the findings of this Transport Impact Statement are supportive of the proposed aged care facility extensions.

Appendix A

PROPOSED DEVELOPMENT PLANS



SECOND FLOOR PLAN 1/200

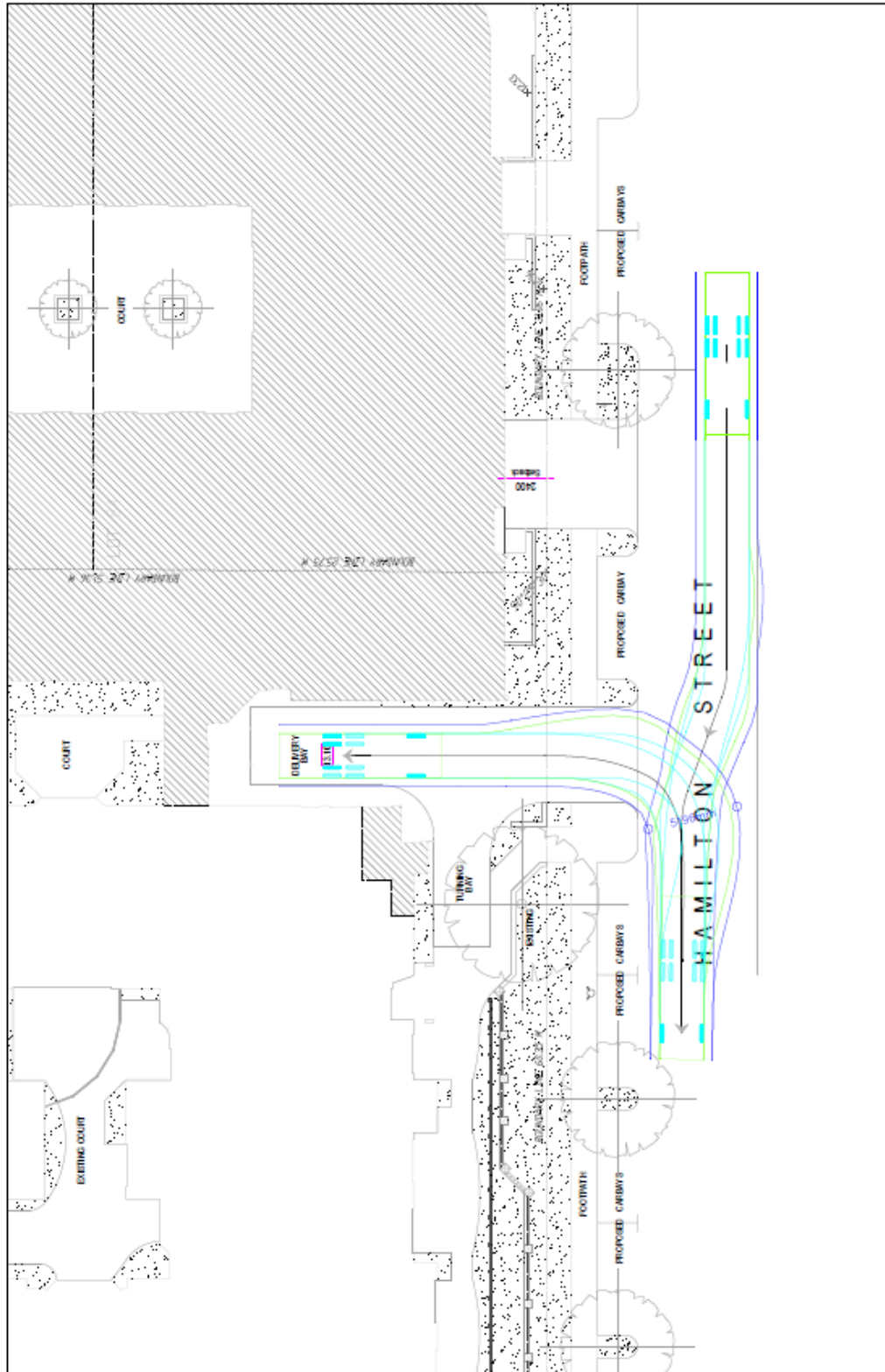


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 DRAWING NO. 1000-02
 DATE: 10/10/10
 BY: MGA
 CHECKED: MGA
 APPROVED: MGA
 SCALE: 1/200
 SHEET NO. 1000-02
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Appendix B

SWEPT PATH ANALYSIS



Aegis Bassendean

Turn Path Analysis - 9.25m Suez Waste Truck
Truck Reverse Entry into Loading Area

LEGEND

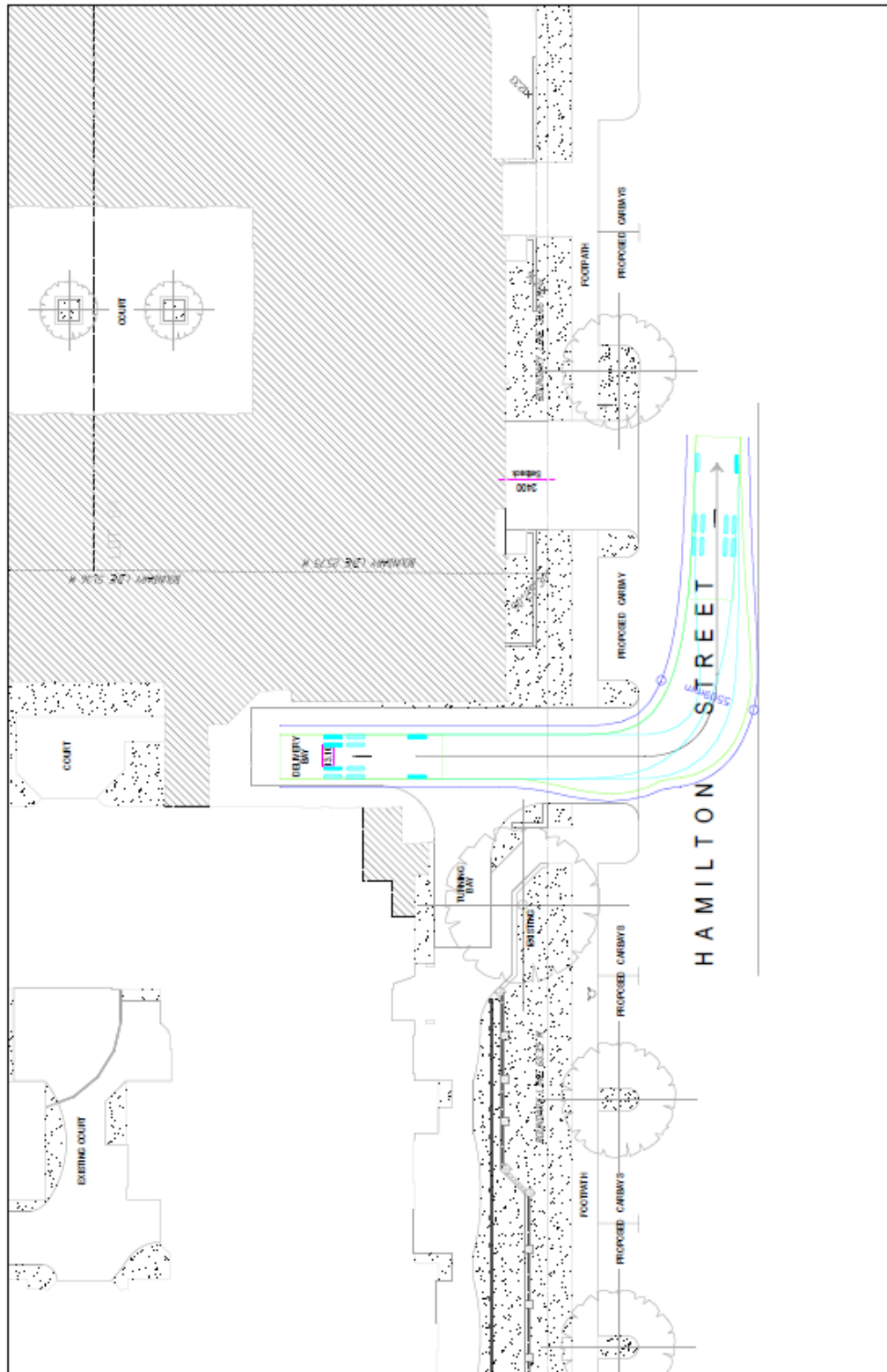
- Vehicle Body
- Wheel Path
- 500mm Clearance

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06/09/2017

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Aegis Bassendean

Turn Path Analysis - 9.25m Suez Waste Truck
Truck Forward Exit from Loading Area

LEGEND

- Vehicle Body
- Wheel Path
- 500mm Clearance

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06/09/2017

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ANNEXURE 10

Contaminated Site Audit (Senversa)

11 January 2016

Michael Cross
Aegis Aged Care Group
90 Goodwood Parade,
Burswood,
WA 6100

Dear Michael,

Re: Status of Contaminated Site Audit
Lots 84 & 85 Old Perth Road, Bassendean, Western Australia

1. Introduction

Aegis Aged Care Group (the 'Client') has engaged myself (Vanessa Bryant) to undertake a contaminated sites audit and produce a Mandatory Auditors Report (MAR) for the site located at Lots 84 & 85 Old Perth Road, Bassendean, WA (hereafter referred to as "the Site").

The site has historically been used as a service station, car workshop and more recently a car yard. A Development Approval (DA) has been issued by the Western Australian Planning Commission (WAPC), with the lots to be combined in to one land parcel.

Condition 2 of the planning approval states:

"Prior to commencement of subdivision works, investigation for soil and groundwater contamination is to be carried out to determine if remediation is required" and that "if required , remediation, including validation of remediation , of any contamination identified shall be completed prior to the issuing of titles to the satisfaction of the Western Australian Planning Commission on advice from the Department of Environment Regulation, to ensure that the lots created are suitable for the proposed use. Investigations and remediation are to be carried out in compliance with the Contaminated Sites Act 2003 and current Department of Environment Regulation Contaminated Sites Guidelines".

In accordance with regulation 31(1)(c) of the Contaminated Sites Regulations 2006, a Mandatory Auditor's Report, prepared by an accredited contaminated sites auditor, will need to be submitted to the Department of Environment Regulation in order to "sign off" that the above mentioned condition has been met

2. Works Completed

Strategen were engaged to conduct environmental assessments for the site. I have reviewed the following reports prepared by Strategen.

- Strategen Environmental (July 2015) Preliminary Site Investigation, Lots 84 & 85 Old Perth Road, Bassendean



- Strategen Environmental (December 2015) Detailed Site Investigation, Lots 84 & 85 Old Perth Road, Bassendean

Following my review of the two above mentioned reports, I confirm the following.

- The Auditor is satisfied that the information contained in the reviewed reports are generally complete, accurate and compliant with the requirements of the Department of Environment Regulation (DER) Contaminated Sites Guidelines, National Environment Protection (Assessment of Site Contamination) Measure and other relevant published technical guidance.
- The assessments were sufficient to define the potential extents and types of contaminated media with an appropriate level of confidence.
- Investigation methodologies were sufficient to assess risk.
- Based on the results of investigation there is soil and groundwater contamination which requires remediation and management to ensure that the site is suitable for the proposed development.

3. Nature and Extent of Contamination

Investigations conducted confirmed the following.

- Presence of surficial ACM fragments and asbestos fines in soil.
- Concentrations of heavy metals (nickel, lead and zinc) and total recoverable hydrocarbons (TRH) above the adopted assessment criteria in soil.
- Concentrations of dissolved heavy metals across the site (aluminium, copper and zinc), VOCs (benzene, toluene, ethylbenzene, styrene [vinyl benzene] and vinyl chloride) and naphthalene above adopted groundwater criteria within a perched groundwater zone.
- Soil and groundwater contamination is unlikely to pose a risk to human health or the environment in the context of the current use (commercial/industrial purposes), however remediation would be required to ensure that the site is suitable for the proposed use.

4. Works Required

Strategen make the following recommendations, which I concur with.

- Further investigation of groundwater should be undertaken before developing a groundwater management plan for implementation during construction.
- Soil remedial works and/or management of asbestos, heavy metal and hydrocarbon impacted soils are required.
- Remedial works will require the preparation of a Remedial Action Plan (RAP), which will detail the approach and methodology for the remediation/management of the impacted soil and groundwater.
- Following the successful remediation and/or management of the impacted soils in accordance with the approved RAP, a Site Remediation and Validation (SRV) report will need to be prepared.

Note that the soil remediation works are best conducted as part of development works as access to site soils beneath existing infrastructure is required.



It is therefore my recommendation that these works be allowed to be completed prior to issue of the MAR and approval and reclassification of the site (subject to their review) by DER. The remediation will allow the intent of the condition (i.e. ensuring the site poses no unacceptable risk to human health in the context of the proposed use) to be met.

5. Concluding Remarks

I trust that this information is suitable for your purposes at this time. If you (or any other relevant party) have any questions or would like to discuss further, please do not hesitate to contact me on 0419 951 532 or vanessa.bryant@senversa.com.au.

Yours sincerely,

Vanessa Bryant

Principal
Contaminated Sites Auditor (WA)

VB/CS

ANNEXURE 11

Stormwater Drainage Management Plan

(BPA Engineering)



Bassendean Aged Care

Stormwater Drainage Management Plan

September 2017

PREPARED FOR

*Montague Grant
Architects*

Document Information

Project Name	Bassendean Aged Care
BPA Project	M09417
Document Title	Stormwater Drainage Management Plan
Client	Montague Grant Architects

Document Control

Revision	Description	Date	Prepared	Checked	Approved
A	Draft issued for information	15/09/2017	AB	ARW	ARW

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1. Executive Summary

BPA Engineering (BPA) was commissioned by Montague Grant Architects (MGA) on behalf of Aegis Aged Care Group (Aegis) to produce a stormwater management plan for a new aged care facility proposed to be built on Lots 84 and 85 Old Perth Road, Bassendean. The lots are under the jurisdiction of the Town of Bassendean (ToB).

The Town drainage policy no. 14 requires managing the critical 1 in 20-year storm event. Initial geotechnical investigation suggests the site is unsuitable for soakage of stormwater.

To cater to council requirements, a detention system and pump unit was proposed to be installed under the lower ground floor parking. Detention storage is provided to attenuate flows prior to discharge to the council system. The total storage volume provided in the detention tank to cater for critical storm events was approximately 27m³.

2. Introduction

BPA have been commissioned to undertake a stormwater drainage management plan for the proposed development at Lot 84 (#68) and Lot 85 (#70) Old Perth Road, Bassendean 6054. The site is within the jurisdiction of the Town of Bassendean.

Based on schematic design by Montague Grant Architects, the development is a 4 storey + lower ground floor aged care development for Aegis. Please refer to Appendix A for supplied architectural drawings.



Figure 1: West Elevation, Received Design Drawings (Montague Grant Architects 2017)

This plan outlines the water quantity and quality management measures required to satisfy Town of Bassendean relevant stormwater drainage policies for the proposed development.

3. Existing Conditions

3.1. Site Features and Location

The site is bounded by Hamilton Street (West), Existing Bassendean Aged Care site (North), Lot 45 (East), and Old Perth Road (South).

Lot 84 is currently mostly gravel surfaced with half the lot area being asphalt paving. Lot 85 features include an existing commercial building and a storage shed with asphalt paving for access. ToB drainage information shows an existing side entry pit on Old Perth Road, south of Lot 85. The site area is approximately 1845 m². The site is located approximately 1km west of the Swan River. Department of Water flood maps (Appendix E) suggest that the site is outside the 100-year flood fringe.

Survey information supplied the site surface generally falls from North to South along Hamilton Street, and West to East along Old Perth Road. Site surface levels are between 12.8 m (North-western corner of lot 84) and 11.2 m AHD (South-eastern corner of lot 85).



Figure 2: Site Aerial August 2017

3.2. Site Geology

The Perth Metropolitan Region Geological Atlas (WA 1985) indicates the area is characterised as:

- "SAND - as S8 over sandy clay to clayey sand of the Guildford Formation of eolian origin".

Initial geotechnical investigation by ATC Williams on 15/09/2017 (Appendix F) indicates the possible presence of clayey soils at shallow depth, and mentions that the site is unlikely to be suitable for stormwater disposal on site.

Site excavation by BPA (September 2017) found perched groundwater approximately 300mm below the surface.

Based on the geotechnical investigation and site excavation by BPA the infiltration of stormwater on site is not a practical solution, therefore discharge to the council system is recommended.

3.3. Site Hydrology

Based on correspondence with the geotechnical engineer ATC Williams (Appendix F) we understand that previous geotechnical investigations conducted on the nearby sites in 2012 and 2013 reported the groundwater levels at the site to be between 0.6m and 4.2m below ground level: approximately 10.9m AHD and 7.8m AHD respectively. BPA site excavation in September 2017 found perched groundwater 0.3m below natural surface.

3.4. Existing Drainage Infrastructure

A site visit by BPA in September 2017 indicates no existing dedicated stormwater drainage for impervious areas, it is assumed that the entire lot runoff currently discharges to road reserve.

Based on ToB as constructed information, drainage pits and pipe alignments in Old Perth Road run towards the east.

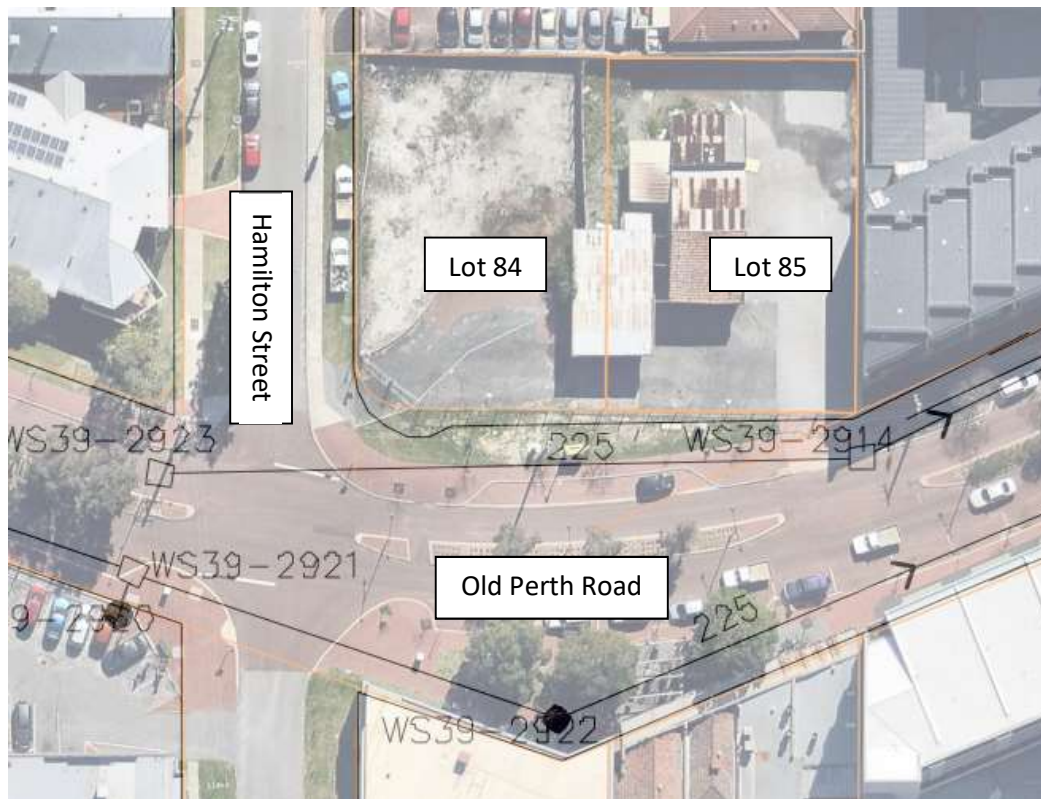


Figure 3: Site Aerial and Town of Bassendean stormwater drainage overlay

Existing side entry pit (SEP) WS39-2914 is located south of the existing Lot 85 crossover. The SEP is on an alignment which flows from west to east, assumed to discharge towards the Swan River. No existing pit and pipe infrastructure is shown in Hamilton Street. Refer Appendix D for existing stormwater drainage information received from ToB.

4. Proposed development

4.1. Proposed Works

The proposed development is a four storey plus lower ground car parking aged care facility. The building has one main courtyard with rooves generally falling towards the exterior perimeter of the building. Access to the lower ground floor parking is from Hamilton Street. The proposed development is over the entire area of Lots 84 and 85.

4.2. Catchment Information

Roof areas and hard landscaping are proposed over approximately 99% of the site area. Catchment information is outlined in Table 1 Below.

Description	Runoff Coefficient (C)	Pre-Development		Post-Development	
		Equivalent Impervious Area ($A_{imp,pre}$)		Equivalent Impervious Area ($A_{imp,post}$)	
		m ²		m ²	
Roof	1	310	310	1464	1464
Hard Landscaping	0.9	845	761	379	341
Soft Landscaping	0.3	690	207	2	0.6
Total	Site area: 1845m ²		1278		1806

Table 1: Catchment Information

5. Stormwater Quantity Management

The purpose of this management plan is to satisfy Town of Bassendean stormwater drainage criteria, protect public using the facilities from flooding, and provide an efficient and maintainable stormwater drainage management solution.

Rainfall runoff from critical storm events must be kept away from habitable areas. Runoff is conveyed away from the proposed buildings and structural and non-structural controls are used to meet design requirements below.

5.1. Council Drainage Criteria

Town of Bassendean stormwater drainage criteria is outlined in local planning policy number 14. The first preference is for onsite disposal of stormwater via infiltration into the subgrade. It is our understanding the town will consider connection to the council stormwater drainage system if the site is in clayey soils or high groundwater.

Based on council correspondence (Appendix C) the 1 in 20-year event is required to be contained on site. BPA recommends the detention of stormwater prior discharge to council system in lieu of on-site infiltration, due to evidence of perched groundwater and clayey soils.

5.2. Stormwater Detention

There is an array of stormwater detention systems which can be employed to manage stormwater on-site however are dependent on hydrological, geometrical, geotechnical and cost constraints.

Based on the proposed building layout, levels, and existing ground conditions we recommend the use of an in-situ cast concrete detention tank below the proposed lower ground parking. Due to height and layout restrictions and position of the council system connection point, we recommend a pump unit is used to convey stormwater to a silt pit within the site boundary. The silt pit will trap any sediment prior to gravity discharge to the council pit.

5.3. Hydrological Data and Inflow

Intensity-Frequency-Duration (IFD) data was obtained from the Bureau of Meteorology (BOM). Please refer Appendix B for BOM IFD data.

An assessment was carried out to determine peak flows and resulting stormwater volumes due to runoff from impervious areas.

5.4. Hydraulic Design

Based geotechnical information the hydraulic conductivity (k_r) of the subgrade was assumed to be very low. As such, a system providing detention storage only was chosen for the site. The system assumes no infiltration is possible in the in-situ soil.

ToB provided a standard calculation spreadsheet using the modified COPAS equation to determine the required on-site storage. Based on council correspondence (Appendix C), this is the preferred method of calculation for council submission.

The modified COPAS Equation (Appendix D) was used to calculate the critical storm and required detention. The total impervious area was 1806 m². For a 1 in 20-year ARI, the critical event was the 30-min storm. Based on an obtained pre-development flow rate of 11.6 l/s, the calculated restrictive orifice diameter was 100mm. The calculated required storage was 26.6m³. The tank system capacity was based on the allowable inflow volume during the critical storm event. Detention tank inlets from roof and hard catchments are to be confirmed during detailed design. The pump unit is to be sized to cater for the required detention volume of 27m³ and consider the capacity of the restricting device inside the silt pit.

5.5. 100 Year Flood Management

Overland flow paths are provided around the site. Natural surface falls are maintained along the building envelope. Trapped courtyards are provided with a pit and pipe system which allows excess stormwater to overflow to the lower ground floor stormwater detention tank. A high-level gravity overflow pipe is provided to the boundary silt pit.

The Department of Water flood data shows both Lot 84 and Lot 85 are outside the 100-year flood fringe. Refer Appendix E for the 100-year Swan River flood map received 14/09/2017.

5.6. Structural Controls

To attenuate flows prior to discharge to the council system, detention is provided in an underground concrete tank below the parking surface. A silt pit is provided within the site boundary to trap sediment prior to discharge to the council system. A 100mm diameter 'T' piece is fitted inside the silt pit to restrict outflows to the council system. To increase the safety factor of the system and decrease risk of overflow during the 20-year event, the volume in the pit and pipe system is not considered for detention.

Detention volumes are outlined in Table 2 below:

Description	Approximate Detention Volume Provided
	m ³
Concrete detention tank	27
Pits and pipes	Not included

Table 2: Site detention

Events higher than the 20-year storm are conveyed via a high-level overflow pipe from the detention tank to the boundary silt pit and bubble up in the Old Perth Road verge.

5.7. Non-Structural Controls

Site maintenance staff will be responsible for maintaining any litter filters / traps that are needed for management of gross pollutants. The waste will be picked up on a regular basis.

6. Stormwater Quality Management

Stormwater is routed via a silt pit to capture any sediment and gross pollutants. The 1 in 1-year or the "first flush" event is captured via the on-site detention system and routed via the detention tank and pump unit. Silt pits are provided prior discharge to the detention tank for parking and roof catchments. Pump outflow is routed via the boundary silt pit to capture any remaining sediment.

There is no significant runoff expected from the lower ground parking, the proposed pits will mostly capture nuisance water.

Stormwater detention systems will be designed for storm intensities up to the 20-year ARI to manage quantity, this means the 1-year 1-hour storm is included in the capture flow rate, and

provided periodic maintenance is conducted, pollutants (if present) will be removed from the system prior to disposal into the council system and downstream catchments.

7. References

Town of Bassendean. 2017. *TOWN OF BASSENDEAN POLICY MANUAL*.

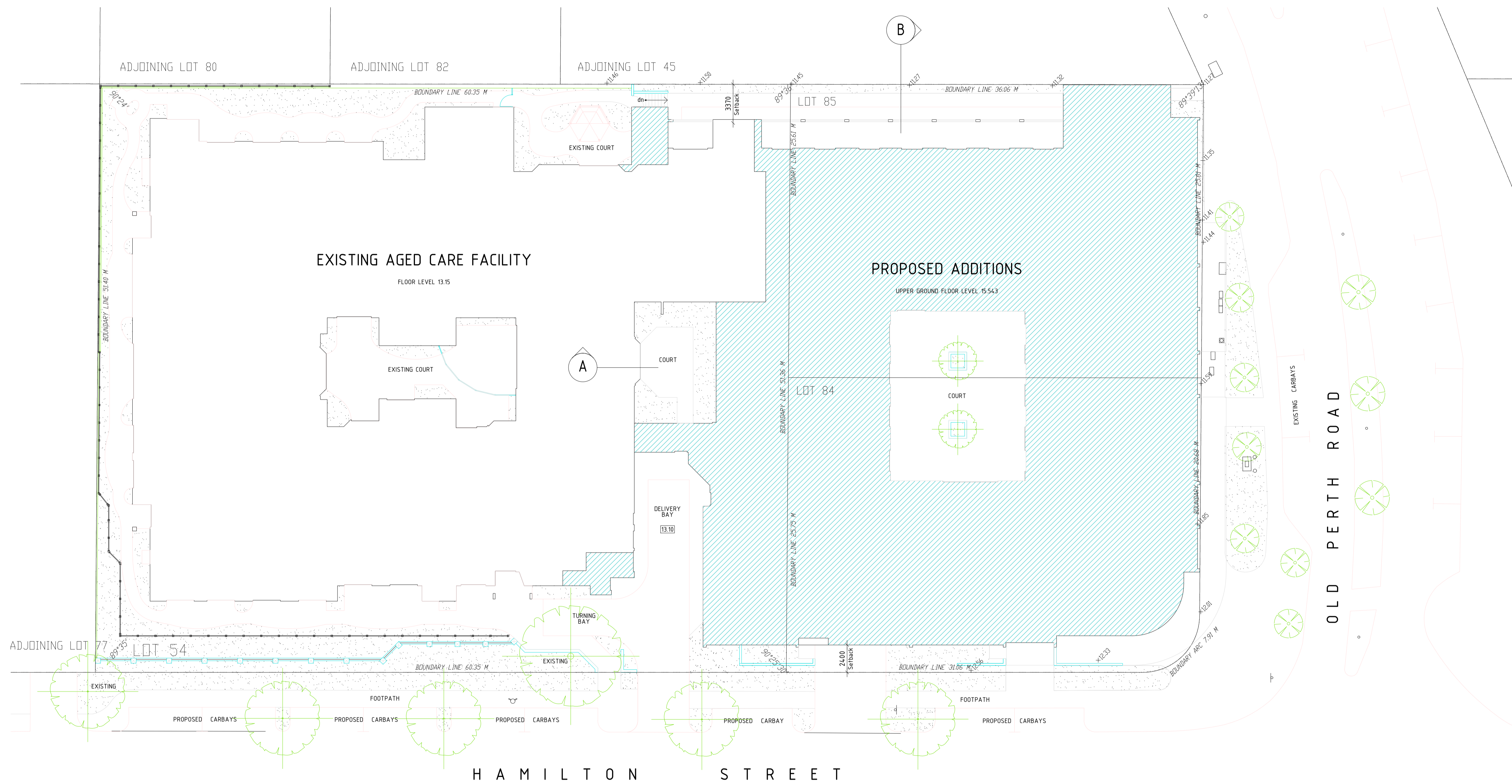
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—. 2017. *Perth Groundwater Map*.

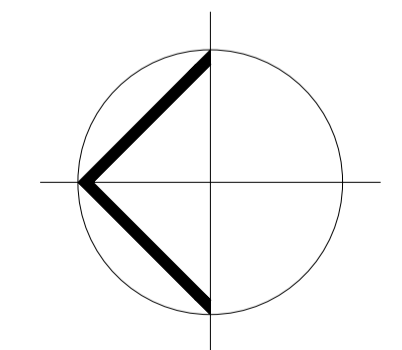
WA. 1985. *Perth Metropolitan Region Geological Atlas*.

Appendix A – Architectural Drawings



SITE PLAN 1:200

AEGIS BASSENDEAN ALTERATIONS & ADDITIONS



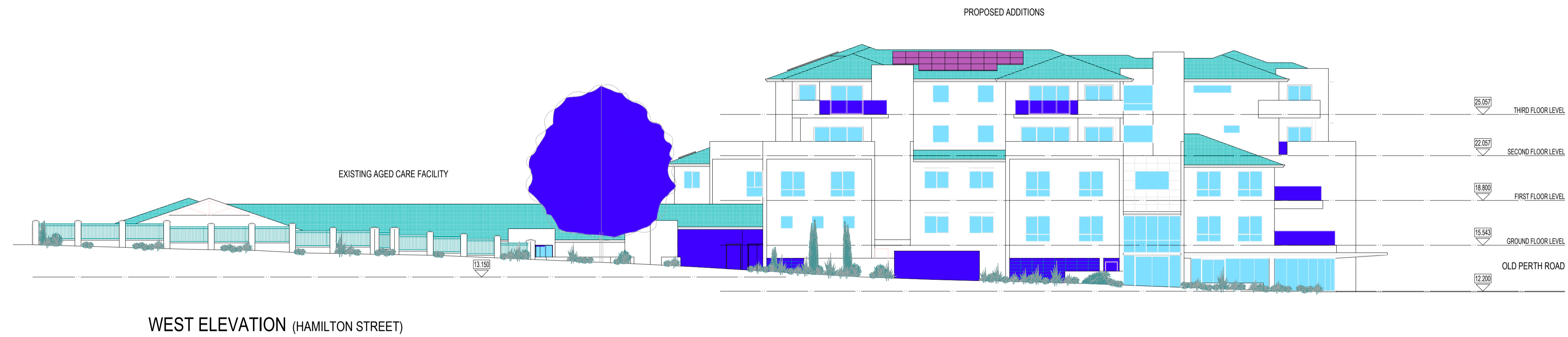
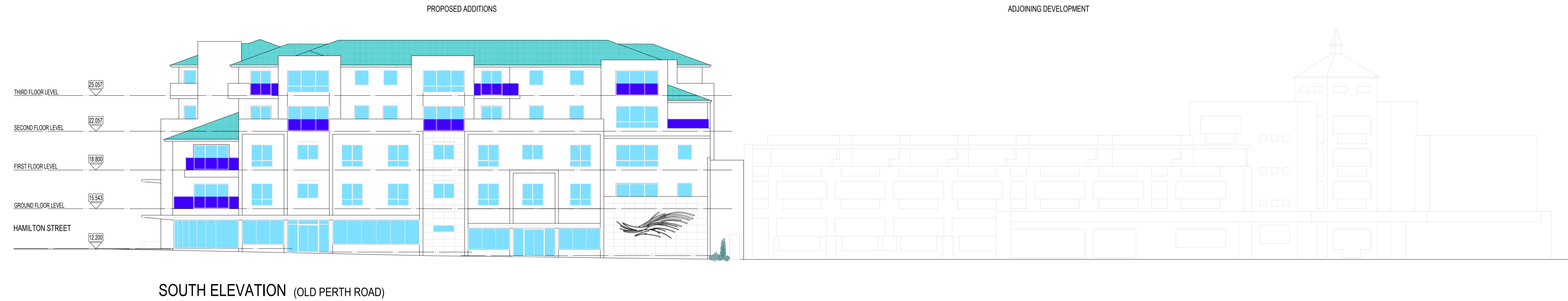
MONTAGUE GRANT ARCHITECTS PTY LTD
26 BRISBANE ST, PERTH WA 6000 TELEPHONE: 9328 2233 FAX: 9227 6346

DRAWING SITE PLAN
CLIENT AGED CARE GROUP PTY LTD
JOB BASSENDEAN AGED CARE, ALTERATIONS AND ADDITIONS
SITE LOTS 54, 84 & 85 OLD PERTH ROAD
BASSENDEAN
TOWN OF BASSENDEAN

JOB NO 14.11
DRAWN MGA
DATE 10/08/17
ISSUE DA

Contractor must verify all Dimensions before commencing Work or Shop Drawings
DRAWINGS MUST NOT BE SCALED
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DRG NO SK1.



Appendix B – BOM Data

IFD Design Rainfall Intensity (mm/h)

Issued: 14-Sep-17

Location

Label: Bassendean

Requested Latitude -31.9049 Longitude 115.9517

Nearest gri Latitude 31.9125(S) Longitude 115.9625(E)

		Annual Exceedance Probability (AEP)						
Duration	Duration in	63.20%	50%#	20%*	10%	5%	2%	1%
1 min	1	97.8	108	143	168	193	229	258
2 min	2	84.9	93.4	121	141	162	191	216
3 min	3	76	83.8	109	128	147	174	196
4 min	4	69.1	76.3	99.9	117	135	160	180
5 min	5	63.6	70.2	92.3	108	125	148	167
10 min	10	46.4	51.5	68.1	80.2	92.5	110	123
15 min	15	37.4	41.5	54.9	64.6	74.4	88.1	99.1
30 min	30	24.9	27.5	36.2	42.5	48.9	57.9	65.1
1 hour	60	16.1	17.7	23.2	27.1	31.3	37.2	42
2 hour	120	10.3	11.3	14.7	17.3	20	24.1	27.5
3 hour	180	7.95	8.71	11.3	13.3	15.5	18.8	21.6
6 hour	360	5.12	5.6	7.29	8.64	10.1	12.4	14.4
12 hour	720	3.3	3.61	4.71	5.58	6.56	8.04	9.35
24 hour	1440	2.1	2.31	3	3.53	4.1	4.97	5.71
48 hour	2880	1.33	1.46	1.87	2.17	2.46	2.9	3.26
72 hour	4320	1.01	1.11	1.42	1.62	1.81	2.1	2.32
96 hour	5760	0.838	0.92	1.17	1.32	1.47	1.69	1.85
120 hour	7200	0.728	0.798	1.01	1.14	1.27	1.45	1.58
144 hour	8640	0.652	0.714	0.902	1.02	1.14	1.3	1.42
168 hour	10080	0.596	0.652	0.826	0.942	1.05	1.21	1.32

Appendix C – Council Correspondence and Criteria

Alex Briscan

From: Nicole Baxter <nbaxter@bassendean.wa.gov.au>
Sent: Monday, 11 September 2017 1:36 PM
To: Alex Briscan
Cc: Trent Macpherson (tmacpherson@bassendean.wa.gov.au)
Subject: Town's Storm Water Drainage Lot 68 and 79 Old Perth Road
Attachments: Modified COPASEQ5 Rev01.xls; STD-13.pdf; ASSET SERVICES - Application for Permits 2017.pdf

Follow Up Flag: Follow up
Flag Status: Flagged

Dear Alex

Town of Bassendean stormwater connection and the procedure.

Not all properties within the Town can connect to the Towns drainage network.

The Towns first preference is for onsite disposal of stormwater where appropriate ie. properties are to contain stormwater on site in soak wells. (**sandy soils**)

If stormwater infiltration is not achievable within the property (the property has **clay, high water table, other**) the following process is to be followed:

Town of Bassendean has a Stormwater policy, this shall be adhered to . Planning policy No 14 *link provided*
http://www.bassendean.wa.gov.au/profiles/bassendean/assets/clientdata/document-centre/policies/section_1.pdf

- Application form to be completed and returned with supporting documents, being;
- Geotechnical report
- Drainage design. Being and not limited to;
a site plan indicating roof/paved area, proposed soakwell locations and sizes, indicating containing 1:20yr stormwater event, proposed silt pit –within the property boundary and indicating the restrictive orifice ‘T’ piece as per COPAS calculator, proposed new manhole where the private drainage connection meets the Towns existing drainage infrastructure.
- Completed COPAS calculation sheet

Asset Services will review their design and supporting documents.

If the application is approved, a conditional approval letter is returned to applicant advising of the conditions and the following shall be paid prior to construction.

- Stormwater Drainage Connection Security Deposit - (Refundable) \$ 995.00 (as per financial year fees and charges)
- Stormwater Drainage Assessment to Connect to the Town’s Drainage Network -Administration Fee(Non Refundable) \$ 1,275.00(as per financial year fees and charges)
- Drainage Infrastructure Contribution Fee – (Non Refundable) \$ 2,231.00(as per financial year fees and charges)

Nicole Baxter

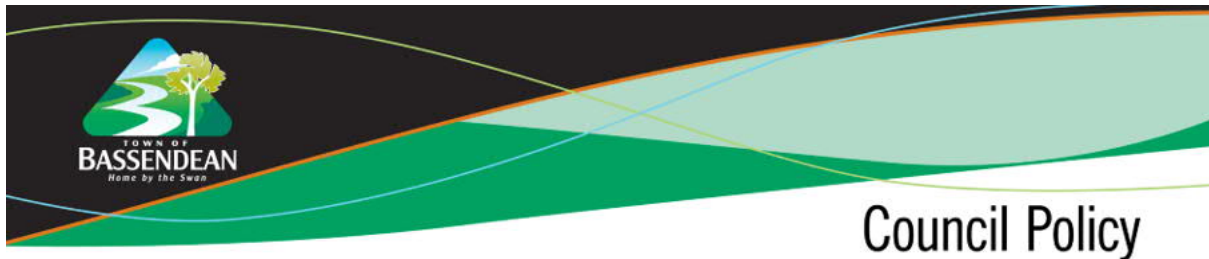
Engineering Design Officer
Town of Bassendean

Phone (08) 9377 9000
Direct Line (08) 9377 9025
Facsimile (08) 9279 5416

Email: nbaxter@bassendean.wa.gov.au
Web: www.bassendean.wa.gov.au

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LOCAL PLANNING POLICY NO. 14 - ON-SITE STORMWATER POLICY

1.0 OPERATION OF THIS PLANNING POLICY

This planning policy has been prepared in accordance with Part 2 of the Town Planning Amendment Regulations 1999.

2.0 PURPOSE OF THIS POLICY

The purpose of this policy is to:

1. Clearly outline the circumstances in which the Town will permit a connection to the Town's drainage system.
2. State the design standards that the Town will have regard to in assessing applications to connect to the drainage system; and
3. Outline the conditions that will be imposed on any approval to connect to the drainage system.

3.0 APPLICATION OF THE POLICY

This policy applies to any application for new development that proposes to connect to the Town's drainage system.

4.0 BACKGROUND

Urbanisation leads to changes in both the quantity and quality of water that is delivered to receiving waters. The built environment has many sources of pollutants that can contaminate stormwater as it passes through the catchment, including metals, oils, petrol, organic debris, litter, silt and dust, fertilisers, animal waste, pesticides and detergents.

Within the Town of Bassendean, there are areas which have soils that are largely clay in nature. As a result, stormwater runoff may pool on the surface of properties due to reduced capacity to infiltrate the soil. Traditionally, Council has permitted this stormwater to be discharge into the stormwater system via a silt trap and temporary on site storage system.

Increases in housing density and infill development have increased demand from developers to have private stormwater disposed via the Town's street drainage system. However, this system was designed several decades ago for road stormwater runoff only. Even with over capacity margins built into the system there is likely to be increasing pressure on the Town's drainage systems and its ability to effectively drain the area during storm events.

There is also concern about the quality of stormwater discharging into the drainage system and into water bodies, such as the Swan and Canning Rivers, particularly from industrial areas. Stormwater runoff from urban areas carries sediments and pollutants, such as nutrients and heavy metals from impervious surfaces. Unmanaged, the cumulative impact of these pollutants can result in considerable damage to the environment.

To address this issue, the Town of Bassendean proposes that all new drainage applications for connection and drainage to the Town's stormwater system be assessed against Sections 5 and 6 of this policy.

5.0 ASSESSMENT PROCEDURE

The Town will only permit applications to connect to the Town's stormwater system, in the following circumstances:

- a) all on-site stormwater retention options have been investigated and exhausted;
- b) only developments in areas where the natural soil is high in clay content, and deemed unsuitable for on-site disposal via infiltration, shall be considered for connection to the Council's stormwater system. This should be verified as part of the geotechnical investigation in addition to the site classification and it can be demonstrated by a qualified civil engineer to the Town's satisfaction that on site disposal is not feasible ;
- c) if connection to the Town's stormwater system is necessary in industrial areas, that the stormwater discharging from the area be independently tested, in accordance with the Unauthorised Discharge Regulations 2004 enacted under the *Environmental Protection Act 1986*.

6.0 Design Requirements

6.1 Off-Site Drainage System

For pre and post development discharge calculation, the required discharge design storm shall be the minor system design ARI (Average Recurrence Interval) of the municipal drainage system, to which the storage will be connected. This is the 1 in 5 year ARI. The design storm for calculating the total storage volume above and below ground and for overall design of the on-site detention facility shall be the 1 in 20 year ARI.

A standard pre-development runoff coefficient of $C=0.35$ applies over the whole of the development area. Considering the post-development site conditions, a respective runoff coefficient appropriate for the development over the whole of the lot area will have to be found and applied. The underlying factor for the specification of this runoff coefficient is that the post-development site discharge is reduced to pre-development levels and is estimated on the basis, that flow rates within the downstream stormwater drainage and conveyance system will not be increased. For calculation of the PSD, the roof-to-gutter time of concentration shall be taken as 9 minutes for residential areas and 5 minutes to on-site facilities for commercial and industrial sites. The designer will then have to determine the permissible site discharge value, e.g. by using the Rational Method combined with a Hydrograph Estimation Method, and a suitable outflow regulating device will have to be designed to meet this requirement. Alternatively, the attached standard design can be utilised in accordance with the site discharge values and subsequent site storage requirements to be determined

Required Storage Volume:

Given the aforementioned, a respective storage volume appropriate for the development and the layout of the lot area will have to be found. Regarding the respective design storm durations, typically the critical storm duration that produces the largest required storage volume is longer than the time of concentration used for peak flow estimation. Therefore, corresponding storage volumes must be determined for a range of storm durations to find the maximum storage required. This value will have to be logically comprehensible from the hydraulic calculations.

Depth of Underground Storage:

The base level of any underground storage system must be such that the flow stormwater into the Town's adjacent street stormwater system is possible. The applicant must be able demonstrate this as part of the design process.

Point of Discharge:

The point of discharge into the municipal drainage system will have to be determined through consultation with Council. In some cases, an extension of the municipal drainage system may be required at the developer's cost and to the specification and satisfaction of the Town of Bassendean.

Application Procedure

Applicants wishing to connect to the Town's drainage system are required to complete the modified COPAS equation for stormwater retention which is available on the Town's website, and an example of which is shown on Appendix 1.

The onus is on the property owner to fully design the internal stormwater system and submit a comprehensive stormwater drainage plan to Council, for approval by the Director Operational Services, prior to the commencement of works. All surveys for existing invert levels and pipe alignment etc are the responsibility of the owner to obtain. This design be carried out and certified by a consulting engineer. These plans and specifications for this system must be to the Town's satisfaction.

A comprehensive stormwater plan is to detail sizes and types of all materials, invert levels, pit levels – top and bottom, design return period, site retention capacity and outlet capacity for the design return period and grades of all pipes.

Where there is an existing manhole, gully or side entry pit within the verge and within the extent of the frontage of the property, a connection from the silt pit may be made directly to that structure (provided levels are suitable). If there is no manhole, gully or side entry pit within the property frontage, and a stormwater pipe exists within the verge.

Where the Town has no drainage infrastructure accessible from the property the Town may extend the Town's network or provide an outlet structure on the kerb at the owner's cost. Where an outlet structure is provided the stormwater exiting at the kerb will then flow down the road to the nearest road gully at the same cost.

The Town may construct a manhole over the pipe as per the sketch detailed on appendix 2. The property owner shall be responsible for all costs associated with the construction of the manhole.

Conditions to be imposed on approvals to connect to the Town's Drainage System

The owner of the land, will be required to place a notification under section 70A of the Transfer of Land Act. 1893 as amended, to be placed on the Certificate(s) of Title advising of the stormwater detention system installation, the restrictions, drainage limitations and the requirement for the current and future property owners to maintain the detention system in good working order.

All works associated with connecting the internal system to the street drainage system are to be carried out by the property owner.

Prior to backfilling of trenches, the works are to be inspected by the Engineering Officer. All pipes and connection points to pits are to be easily visible by the inspecting Council Officer.

A security deposit of \$750 is to be lodged with Council prior to the commencement of works within the road reserve. This deposit is fully refundable at the completion of the works, provided that the site has been left in a clean and tidy state to the standard which existed prior to works commencing. Council will retain part or all of the deposit held should reinstatement works not be to the satisfaction of the Director Operational Services.

The Director Operational Services reserves the right to vary the deposit in line with the extent of the proposed works.

A fee is payable for connection to the Town's drainage network where all stormwater is disposed of into the Town's drainage system. Details of the fee is included in the Town's Schedule of Fees and Charges.

Permits for connection to the drainage system will be valid for a period of 2 years. If the works are not undertaken in this time a new approval will be required.

Regular maintenance of an on-site detention system is required to keep the system fully functioning and is the responsibility of the property owner. The required maintenance schedule and drawings will identify the key components of the system, their locations and will provide a tool to ensure that ongoing maintenance is carried out as required, including cleaning of accumulated debris from screens and removal of sediment from the base of the pit or tank.

Applicants are advised:

In the event of a severe stormwater or flooding event, that the Town of Bassendean drainage system may not have sufficient capacity to manage the stormwater from the subject lot. It is therefore essential that property owners make necessary

enquires to obtain suitable and adequate private insurance coverage for such events.

It is an offence under the Environmental Protection Act 1986 (WA) to discharge contaminants or discharge waste that will cause harm to the environment. Applicants are responsible for ensuring that they do not allow any contaminants to enter the retention system as overflow discharged water from the subject lot will subsequently enter the Swan River.

The uncertain and often inexact nature of stormwater management and flood mitigation, together with the increased level of liability and litigious potential of flooding, can pose an increased and unknown level of risk to property owners. The Town of Bassendean, its employees, servants and agents, shall not be held responsible for any loss, damage or injury (fatal or otherwise), whether to property or person, howsoever suffered by the Applicant, unless such loss is shown to have occurred due to the direct negligence of the Town of Bassendean.

APPENDIX 1

Worked example

Lot area = 800m²

Total roof and paved area = 500m²

Natural surface level = 7.5

Council stormwater system invert level = 6.1

From spreadsheet:

	M	N	O	P	Q	R	S	T
1	MODIFIED COPAS EQUATION FOR STORMWATER RETENTION							
2	Town of Bassendean							
3								
4	Lot Area (ha)				= 0.08			
5	Roof & Paved Area (ha)				= 0.0500			
6	Time of Concentration (mins)				= 5			
7	Predevelopment Flow (l/s)				= 5.04			
8	Orifice diameter (mm)				= 66			
9								
10			1 in 2yr	1 in 5yr	1 in 10yr	1 in 20yr	1 in 50 yr	1 in 100yr
11			cu.m	cu.m	cu.m	cu.m	cu.m	cu.m
12								
13	Maximum Storage Requ		1.24	2.50	3.45	5.03	7.63	9.82
14	T I M E							
15	minutes /hours							
16	5	5	0.94	1.80	2.47	3.44	4.94	6.23
17	6	6	1.07	2.05	2.81	3.88	5.54	6.95
18	10	10	1.24	2.50	3.45	4.81	6.88	8.73
19	20	20	0.52	2.10	3.29	5.03	7.63	9.82
20	30	30	-0.91	0.87	2.20	4.14	7.06	9.55
21	1	60	-6.66	-4.55	-3.00	-0.72	2.74	5.73
22	2	120	-20.37	-18.05	-16.25	-13.57	-9.60	-6.16
23	3	180	-35.26	-32.80	-30.90	-28.00	-23.61	-19.89
24	6	360	-82.43	-79.71	-77.60	-74.40	-69.28	-65.00
25	12	720	-181.09	-178.11	-175.71	-171.80	-165.81	-160.52
26	24	1440	-384.38	-381.09	-378.21	-373.50	-365.90	-359.35
27	48	2880	-799.49	-796.35	-793.09	-787.47	-777.73	-769.19
28	72	4320	-1218.99	-1216.94	-1213.88	-1208.00	-1197.82	-1188.06

Total storage volume = 5.03m³

Maximum tank depth = 7.5 – 6.1 = 1.4m

Use 1.2m dia x 1.2m deep tanks each with a volume of 1.36m³

Use 4 tanks (total volume) = 5.44m³

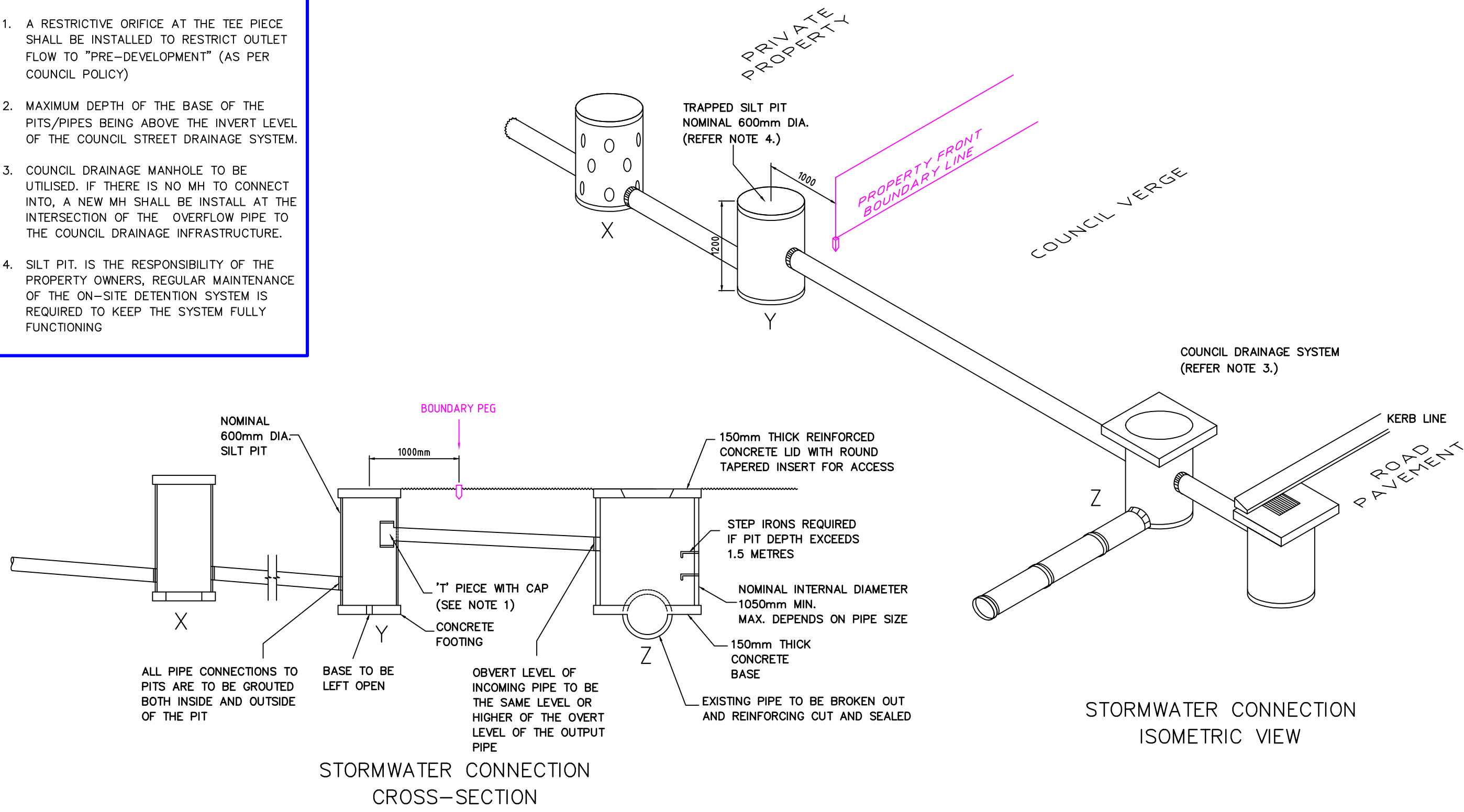
Outlet orifice diameter = 66mm (max)

Interactive Stormwater Retention Calculator (Modified COPASEQ5 Rev01.xls)
can be found on the Town's website.

The Appendix 2 Standard Stormwater Connection Details is currently draft, the updated drawing will be provided shortly.

NOTES:

1. A RESTRICTIVE ORIFICE AT THE TEE PIECE SHALL BE INSTALLED TO RESTRICT OUTLET FLOW TO "PRE-DEVELOPMENT" (AS PER COUNCIL POLICY)
2. MAXIMUM DEPTH OF THE BASE OF THE PITS/PIPES BEING ABOVE THE INVERT LEVEL OF THE COUNCIL STREET DRAINAGE SYSTEM.
3. COUNCIL DRAINAGE MANHOLE TO BE UTILISED. IF THERE IS NO MH TO CONNECT INTO, A NEW MH SHALL BE INSTALL AT THE INTERSECTION OF THE OVERFLOW PIPE TO THE COUNCIL DRAINAGE INFRASTRUCTURE.
4. SILT PIT. IS THE RESPONSIBILITY OF THE PROPERTY OWNERS, REGULAR MAINTENANCE OF THE ON-SITE DETENTION SYSTEM IS REQUIRED TO KEEP THE SYSTEM FULLY FUNCTIONING



							DATE	TITLE
						DRAWN		
						CHECKED		
						DESIGNED		
						APPROVED		
MODIFIED TO REFLECT COUNCIL POLICY ADOPTED NOV 2012	1	NOV'12	NB	KC				
REVISIONS	No	DATE	DRN	CHK	APP			

STANDARD DRAWING

STORMWATER CONNECTION



TOWN OF BASSENDEAN
ASSET SERVICES

48 OLD PERTH RD
BASSENDEAN WA
6054
ABN 20 347 405 108

Telephone: (08) 9377 9000
Facsimile: (08) 9279 5416
Email: mail@bassendean.wa.gov.au
www.bassendean.wa.gov.au

SCALE: N.T.S

DRG. NO. **TOB -STD-13**

SHT. REV.

A3

Appendix D – Stormwater Drainage Design Calculations and Site Plans

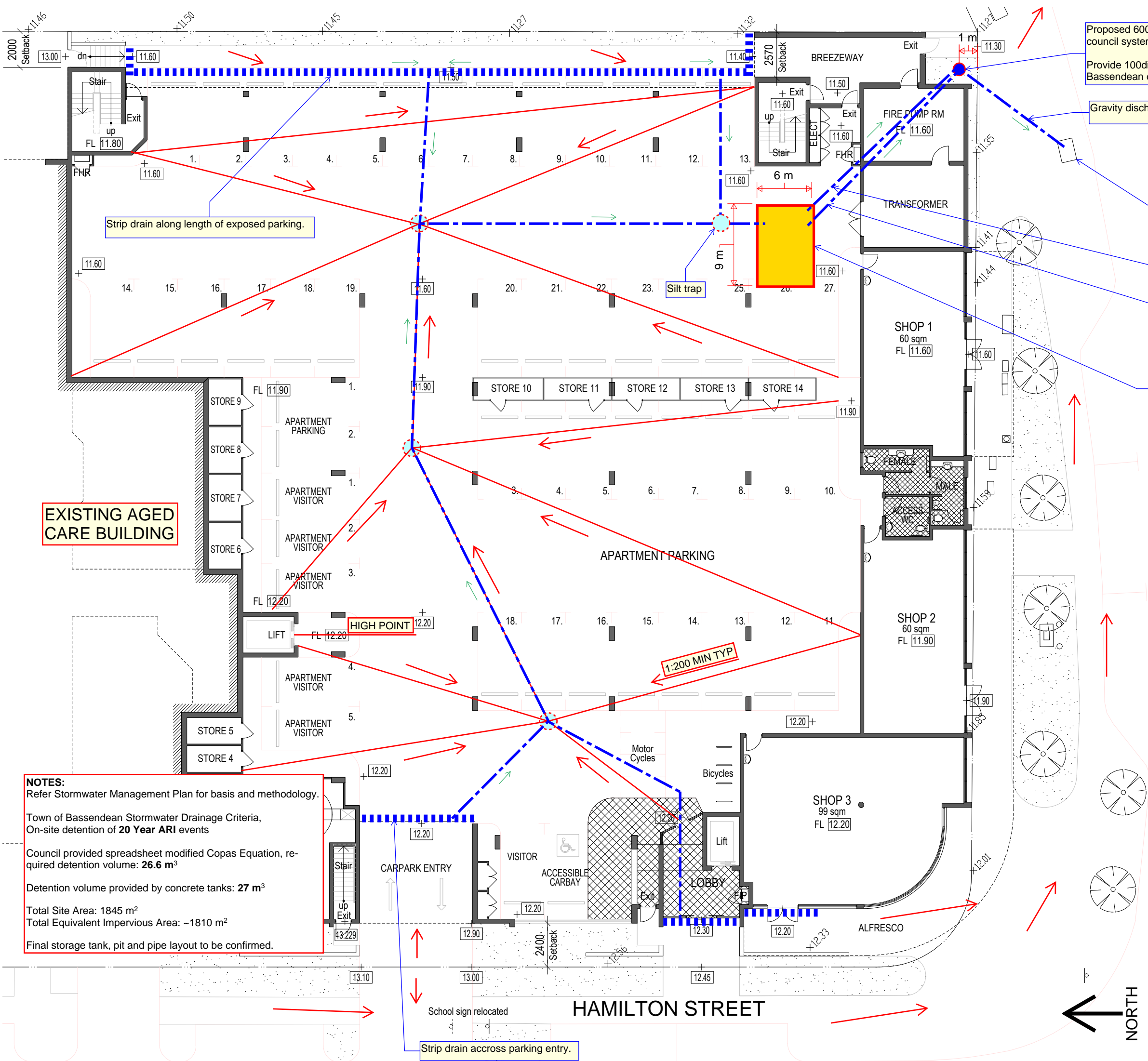
MODIFIED COPAS EQUATION FOR STORMWATER RETENTION

Town of Bassendean

Lot Area (ha)	= 0.1845
Roof & Paved Area (ha)	= 0.1806
Time of Concentration (mins)	= 5
Predevelopment Flow (l/s)	= 11.6235
Orifice diameter (mm)	= 101

	1 in 2yr cu.m	1 in 5yr cu.m	1 in 10yr cu.m	1 in 20yr cu.m	1 in 50 yr cu.m	1 in 100yr cu.m
Maximum Storage Required	8.83	15.19	19.80	26.64	37.56	46.79

T I M E							
minutes /hours							
5	5	5.83	9.31	11.90	15.55	21.16	25.91
6	6	6.60	10.52	13.45	17.48	23.68	28.85
10	10	8.39	13.42	17.06	22.21	29.88	36.72
20	20	8.83	15.19	19.80	26.39	36.10	44.17
30	30	6.85	14.07	19.23	26.64	37.56	46.79
1	60	-4.04	4.73	10.86	19.66	32.80	43.93
2	120	-33.06	-23.01	-15.65	-5.07	10.19	23.17
3	180	-65.84	-54.83	-46.90	-35.24	-18.19	-4.05
6	360	-171.69	-158.63	-149.43	-136.11	-115.73	-99.16
12	720	-396.05	-380.36	-369.26	-352.32	-327.85	-306.96
24	1440	-861.77	-842.03	-827.79	-806.48	-774.48	-748.16
48	2880	-1818.88	-1794.23	-1776.09	-1748.80	-1706.22	-1671.06
72	4320	-2789.90	-2764.54	-2744.64	-2713.64	-2667.07	-2625.75



- Proposed 600dia silt pit prior to connection to council system.
- Provide 100dia 'T' piece with cap as per Town of Bassendean drawings no. TOB-STD-13.
- Gravity discharge to council system.
- Existing Town of Bassendean side entry pit.
- Provide lot connection to the Town's standard drawings and specifications.
- High level gravity overflow pipe.
- Pumped outflow pipe.
- Proposed in-ground concrete stormwater drainage detention tank with trafficable lid. Volume provided **27m³**.
- Pump unit size and details to be confirmed. Pump stormwater to silt pit, gravity discharge from silt pit to council system.
- Final tank location and layout to be confirmed.

EXISTING AGED CARE BUILDING

NOTES:
Refer Stormwater Management Plan for basis and methodology.

Town of Bassendean Stormwater Drainage Criteria, On-site detention of **20 Year ARI** events

Council provided spreadsheet modified Copas Equation, required detention volume: **26.6 m³**

Detention volume provided by concrete tanks: **27 m³**

Total Site Area: 1845 m²
Total Equivalent Impervious Area: ~1810 m²

Final storage tank, pit and pipe layout to be confirmed.

- LEGEND**
- Proposed stormwater drainage pipe.
 - Proposed 100dia subsoil pipe with aggregate surround. Location to be confirmed.
 - Overland flow path
 - Proposed finished surface level
 - Existing surface level from survey
 - Proposed grated gully pit
 - Piped flow

OLD PERTH ROAD

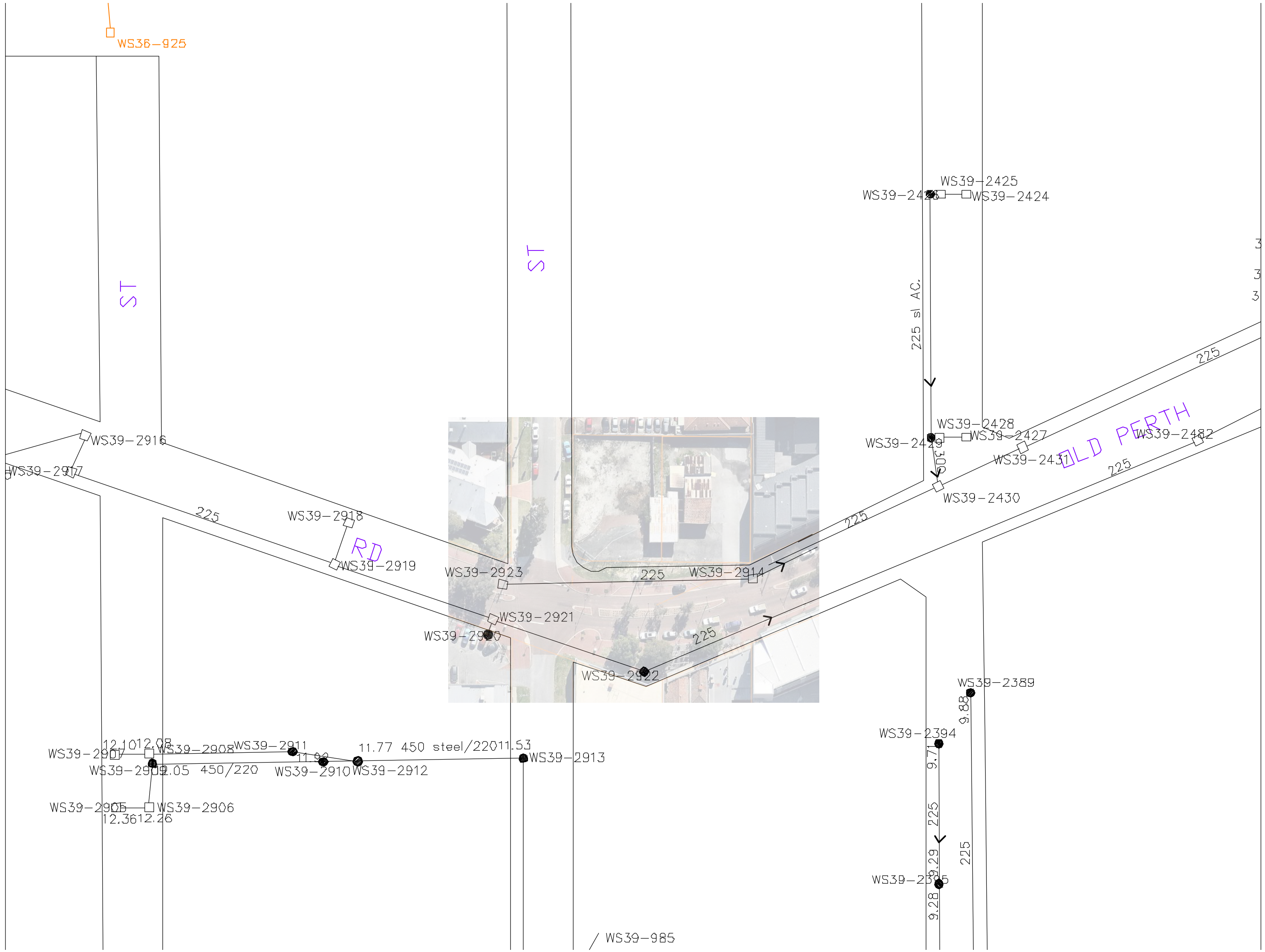


M09417
BASSENDEAN AGED CARE

STORMWATER DRAINAGE MANAGEMENT
SITE PLAN
11/09/2017
REV A

HAMILTON STREET

NORTH



Appendix E – WA Department of Water 100-Year Flood Map

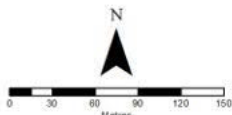
Lots 84 & 85 **Old Perth Road** **BASSENDAN**

LOCALITY MAP



LEGEND

- Lots 84 & 85 Old Perth Rd
- Stormwater Drains
- 1 in 100 (1%) AEP flood levels (m AHD)
- Floodway
- Flood fringe
- Floodway limit
- Extent of 1 in 100 (1%) AEP flooding
- Roads



Datum and Projection Information

Vertical Datum: AHD71
 Horizontal Datum: GDA94
 Projection: MGA Zone 50
 Spheroid: GRS80

Project Information

Client: Alex Briscan
 Map Author: Lidia Boniecka
 Task ID: B1305
 Compilation date: 14/09/2017
 Edition: Version 1

SOURCES

The Department of Water and Environmental Regulation acknowledges the following datasets and their custodians in the production of this map:

Railways - Landgate - 09/02/2016
 Road Centrelines, DU - Landgate - 01/02/2016
 Spatial Cadastral Database (SCDB) - Landgate - 01/05/2017
 SwanCoastPlain Central Feb 15cm Orthomosaic - Landgate15 - 23/03/2015



Government of Western Australia
 Department of Water and Environmental Regulation

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Appendix F – Geotechnical Investigation

**Excerpt from initial geotechnical investigation by ATC Williams, correspondence received 15.09.2017 below:
Final geotechnical investigation is in progress.**

" The available geological map for the area indicates the site to be underlain by thin Bassendean sand over clayey soils of the Guildford Formation. The Perth groundwater atlases (1st and 2nd editions) indicate groundwater levels at the site to be between 11.5 m AHD and 2.7 m AHD respectively.

The previous geotechnical investigations conducted on the nearby sites in 2012 and 2013, reported the groundwater levels at the site to be between 0.6 m and 4.2 m below ground level which corresponds to elevations of between approximately 10.9 m AHD and 7.8 m AHD.

The site surface slopes to the east from approximately 13 m AHD at the northwest corner to approximately 11.5 m AHD at the southeast corner of the site.

Due to the possible presence of clayey soils at shallow depth it is very unlikely that the site will be suitable for the stormwater disposal at the site.

The stormwater will likely be discharged into the public stormwater system using subsoil drains installed at the site perimeter to prevent accumulation of groundwater on the top of the low permeability clayey soils. "



Town of Bassendean
35 Old Perth Road
Bassendean WA 6054
Phone: 9377 8000
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Email: mail@bassendean.wa.gov.au

Disclaimer: The Town Of Bassendean accepts no responsibility for the accuracy of this image or the results of any actions taken when using this image. This map is based on information provided by and with the permission of the Western Australian Land Information Authority.

Aerial Photo / Location Plan
Red Border around Lots
Comprising Development Site

12/04/2018

Scale: 1:1000





Form 1 - Responsible Authority Report

(Regulation 12)

Property Location:	14 Cecil Avenue, Cannington (Lot 301 on P70653)
Development Description:	Nine storey mixed development comprising 53 multiple dwellings, two restaurant/cafes and four offices
DAP Name:	Metro Central JDAP
Applicant:	Dynamic Planning and Developments Pty Ltd
Owner:	Abundance Australia Investment Pty Ltd
Value of Development:	\$9,000,000 excl. GST
LG Reference:	15/18677
Responsible Authority:	City of Canning
Authorising Officer:	Kelly Vilkson, Executive Manager Statutory Planning
Department of Planning File No:	DAP/18/01356
Report Due Date:	4 May 2018
Application Receipt Date:	2 January 2018
Application Process Days:	90 Days
Attachment(s):	1: Location Plan 2: Development Plans, Elevation and other Details 3: Landscape Plans 4: Public Art Concept 5: Environmentally Sustainable Design (ESD) Report (14 December 2017) 6: Acoustic Engineering Brief (15 March 2018) 7: Cross-ventilation Report (13 April 2018)

Officer Recommendation:

That the Metro Central Joint Development Assessment Panel resolves to:

Approve DAP Application reference DAP/18/01356 and accompanying plans contained in Attachment 2 in accordance with Clause 68 of the *Planning and Development (Local Planning Schemes) Regulations 2015* and the provisions of the City of Canning Town Planning Scheme No. 40, subject to the following conditions as follows:

Conditions

1. Prior to the submission of an application for a building permit, the proposed area of Right-of-Way (RoW) shown on approved plan A06.01 is to be created on a diagram or plan of survey (deposited plan), be endorsed by the Western Australian Planning Commission, and be transferred free of cost and without any payment of compensation to the City of Canning.
2. Prior to occupation or use of the development, the applicant/owner is to remove the public access easement which is located along the southern boundary of

the subject lot as annotated on Deposited Plan 70633, to the satisfaction of the City and at the applicant/owner's cost.

3. Prior to occupation or use of the development, a notification pursuant to Section 70A of the *Transfer of Land Act 1893* is to be registered on the Certificate of Title of the land the subject of the proposed development, at the cost of the owner and to the satisfaction of the City's Solicitors, that states:

"The property is situated in the vicinity of Perth Airport, and is currently affected, or may in the future be affected, by aircraft noise. Noise exposure levels are likely to increase in the future as a result of increases in numbers of aircraft using the airport, changes in aircraft type or other operational changes. Further information about aircraft noise, including development restrictions and noise insulation requirements for noise-affected property, are available on request from the relevant local government offices."
4. Prior to occupation or use of the development, the Right-of-Way butting the rear boundary of the development site is to be constructed, kerbed and drained to the satisfaction of the City. The design and construction of the Right-of-Way is to be to the City's Standards & Specifications. Design and construction shall be borne by the proponent.
5. Prior to occupation or use of the development, lighting to illuminate that portion of the Right-of-Way adjacent to the subject land is to be provided at vehicle and pedestrian entry points.
6. Prior to the submission of an application for building permit, a pre-works geotechnical report is to be submitted to the City to certify that the land is suitable for the approved development to the City's satisfaction. In the event that remedial works are required, prior to construction, the landowner/applicant is to provide a post geotechnical report certifying that all remedial works have been carried out in accordance with the pre-works geotechnical report.
7. Prior to the submission of an application for building permit, a Stormwater Plan is to be submitted to and approved in writing by the City. Stormwater from all roofed and paved areas must be collected and discharged to Council drain via a silt trap. Stormwater must not affect or be allowed to flow onto or into any other property. Drainage systems must be in accordance with the Building Code of Australia and AS/NZS 3500.3 or Section 5 of AS/NZS 3500.5.
8. Prior to commencement of any site works the applicant/owner is to pay \$3,063 to the City of Canning for engineering head-works associated with the existing Council stormwater drainage network.
9. Prior to occupation of the development, existing crossovers which are not used as part of the development or redevelopment must be removed. All kerbing is to be reinstated in accordance with the City's "Extruded Kerbing Standard Details," refer to Plan No. C1630, and verges are to be reinstated to match the levels of the existing verge and to be left free of builders rubble. The design and construction cost of the verge area shall be borne entirely by the proponent to the satisfaction of the City.
10. Prior to occupation of the development, all approved car and bicycle parking spaces together with their aisles shall be clearly paved, sealed, marked and

drained. All parking and bicycle bays and access aisles shall thereafter be maintained to the satisfaction of the City. To permit access for both cars and light vans, the height between the floor and an overhead obstruction shall be a minimum of 2200mm.

11. Prior to the submission of an application for a building permit, a Construction Management Plan shall be submitted to and approved in writing by the City. Construction works shall take place in accordance with the approved Construction Management Plan at all times.
12. Prior to the submission of an application for a building permit, the recommendations within the following submitted reports are to be implemented to the satisfaction of the City.
 - a) Waste Management Plan (23 March 2018)
 - b) Environmentally Sustainable Design (ESD) Report (14 December 2017)
 - c) Acoustic Engineering Brief (15 March 2018)
 - d) Cross-ventilation report (13 April 2018)
13. Prior to the submission of an application for a Building Permit, the applicant/owner is to pay the City for the cost of the:
 - a) Removal of the two street trees within the Cecil Avenue verge (Council Ref: 5533 and 5534);
 - b) Provision and installation of new replacement street trees in an alternative location on the verge abutting the subject property; and
 - c) Should the City determine that there is insufficient room on the verge to replant replacement street trees then the trees will be planted in a nearby area of public open space.
14. Prior to occupation or use of the development, landscaping is to be installed in accordance with the approved Landscape Plans (L01, L02) received 30 April 2018. The landscaping is to be maintained thereafter to the satisfaction of the City.
15. Prior to the submission of an application for a building permit, statements from relevant qualified professionals are required to ensure:
 - a) Structure design takes into consideration additional load from the proposed trees at maturity and saturated soil in the planter areas on the podium level; and
 - b) The safety of personnel undertaking plant maintenance activities on the podium level will be guaranteed.
16. Prior to the submission of an application for a building permit, detailed design of the required public art, generally in accordance with the submitted Concept Design (dated 29 March 2018), is to be approved by the City.
17. Prior to occupation or use of the development, the required public art is to be installed and maintained thereafter to the satisfaction of the City.
18. Prior to the submission of an application for a building permit, full details of finishes and treatment of boundary walls to be provided to the satisfaction of the City. Any exposed portions of boundary wall which will be visible from

adjoining properties or public spaces shall be finished with sacrificial anti-graffiti paint and articulated to the satisfaction of the City.

19. The location and size of all future signage are to be in accordance with approved plan A09.01. Any variation from the approved plans may require development approval from the City.
20. Clothes drying facilities are to be screened from view from public realm.
21. A suitable bin enclosure shall be provided with a water supply; have impervious walls and floor, a floor graded to a floor waste gully connected to sewer, have a gate and be of sufficient size to accommodate all receptacles used on the premises, but in any event having a floor area not less than a size approved by the Manager of Waste Services or an Environmental Health Officer.
22. No commercial deliveries or commercial waste collection services are to attend the property outside the hours of 7:00am to 7:00pm Monday to Saturday, and not at all on Sundays.
23. Prior to the submission of an application for a building permit, details to be provided on lockers to be provided for the proposed restaurant/cafe and office units at a rate of one locker per unit, and maintained thereafter.
24. Prior to the submission of an application for a building permit, details to be submitted and approved regarding the final design of the proposed awning within Cecil Avenue.
25. Prior to the submission of an application for a building permit, details to be submitted so that at least one (1) electric recharging point is provided per each 5 bike parking bays.

Advice Notes

1. If the development the subject of this approval is not substantially commenced within a period of 2 years, or another period specified in the approval after the date of the determination, the approval will lapse and be of no further effect.
2. Where an approval has so lapsed, no development must be carried out without the further approval of the local government having first being sought and obtained.
3. This approval does not authorise the demolition of the existing buildings on site. A Demolition Permit must be obtained from the City prior to the removal/demolition of the existing buildings.
4. This approval does not authorise the commencement of any building works. The applicant is advised that a building permit must be obtained prior to the commencement of any works. To obtain a building permit it will be necessary to submit documentation in compliance with the Building Regulations, including plans incorporating all conditions of this approval, specifications and structural drawings.
5. The provision of sanitary facilities is to be in accordance with Part F2 of the Building Code of Australia.

6. The new works and affected parts of the proposed building works must comply with the requirements of the Disability (Access to Premises – Buildings) Standards 2010.
7. The Development is to comply with the requirements of the National Construction Codes relevant at the time of lodgment of the Building Permit.
8. The proponent is to submit a set of the approved plans to the Fire and Emergency Services Authority of Western Australia (FESA) for assessment. For further information in this regard contact FESA on 9336 9300.
9. Compliance with Food Act 2008, the Food Regulations 2009, the Australia New Zealand Food Standards Code and the Australian Standard AS4674:2004 Design, construction and fit-out of food premises.
10. A completed 'Food Business Notification and Registration Form' and detailed fit out plans, including elevations, are to be submitted to the City following development approval showing all fixtures, fittings and finishes. Contact the City's Environmental Health Services on 9231 0503 or visit the City's website for a 'Food Business Notification and Registration Form'.
11. All waste water generated by the development is to be discharge to sewer to the satisfaction of the Water Corporation. Contact the Water Corporation for further information on 13 13 95.
12. Premises to be operated in compliance with the Environmental Protection (Noise) Regulations 1997. Operators should ensure noise from the premises does not impact neighbouring properties.

Stormwater Plan

13. In relation to Condition 7, the silt trap and stormwater connection must be constructed in accordance with the City's "Standard Stormwater Connection Construction Details", refer to Plan No STD 03. Contact the City's Customer Services Officer - Construction on 9231 0654 for inspection prior to backfill. The City's records show that the stormwater connection point is located within the Right-of-Way. This should be confirmed on site prior to the commencement of any works. Any drainage works within the road reserve must to be approved by the City's Engineering Services. The maximum discharge to the Council drainage system is 4 litres per second. The design of the internal drainage system is to provide adequate compensation within the site and must be designed by a suitably qualified person

Construction Management Plan

14. In relation to Condition 11, the Construction Management Plan should include the route that construction vehicles will take to and from the site, the temporary realignment of pedestrian access ways, vehicular access to the site during construction, unloading and loading areas, waste disposal, the location on site of building materials to be stored, safety and security fencing, sanitary facilities, cranes and other details as required by the City.

Environmental/health Reports

15. In relation to Condition 12, the applicant/owner is to submit a statement to demonstrate how compliance with each report is achieved, or will be achieved

throughout future operation of the building. Where required, the reports are to be updated to reflect the final approved plans.

Public Art, Materials and Finishes

16. In relation to Conditions 16 (public art) and 18 (materials and colours), the City may refer the submitted details of the public art to the City's Design Advisory Committee for review.

Awning to Cecil Avenue

17. In relation to Condition 24, in case the widening of Cecil Avenue is substantially commenced prior to the development being constructed, the awning depth may be increased to minimum 2.5m in accordance with the Canning City Centre Activity Centre Plan, subject to review and confirmation by the City.

Details: outline of development application

Insert Zoning	MRS:	Central City Area
	TPS:	Centre
Insert Use Class:		Mixed Development 'D'
Insert Strategy Policy:		Canning City Centre Activity Centre Plan (CCCACP) 'Preferred Use' within the 'Cecil Other' precinct
Insert Development Scheme:		N/A
Insert Lot Size:		1127 m ² (1069m ² after ceding land for RoW)
Insert Existing Land Use:		Health Centre (Chiropractor)

The application proposes a nine-storey mixed development which comprises:

- Two (2) restaurant/cafe tenancies with Net Lettable Areas (NLA) of 89m² and 112m² on the Ground Level facing the primary street;
- Four (4) office tenancies, with a total NLA of 240m² on Level 1;
- 53 multiple dwellings on Levels 2 to 8;
- Four (4) levels of car parking to be accessed from the right-of-way (ROW) located at rear of the property. Parking consists of 13 visitor bays on Ground Level including 6 bays for exclusive use of residential visitors and 7 to be shared between residential and commercial visitors;
- 56 secure parking bays for residents on Upper Ground Level, Level 1 and Level 2;
- Bicycle parking spaces on the Ground Level including 8 spaces for visitors and 18 secure spaces for residents;
- A Communal Open Space (COS) area of 222m² on Level 4 (podium) and an additional 50m² of enclosed communal space; COS is inclusive of a 76m² total area of planting with a soil depth of 0.8m; and
- Spaces designated for waste storage, utility services and other ancillary uses.

Background:

The subject site abuts the northern boundary of Cecil Avenue road reserve and is located opposite the main food court entrance of the Westfield Carousel Shopping Centre (refer to Attachment 1). It is located within approximately 870m walking distance of the Canning Train Station.

The site currently contains an existing building used for Health Centre purposes (chiropractor) and two mature trees. There are two street trees in the adjacent verge.

The lot abutting the north-eastern boundary of the subject site contains a recently constructed mixed development building. The lot abutting the south-western boundary of the subject site contains an office and warehouse building.

Land to the north-west of the subject site is owned by the City of Canning which is designated as a future Right-of-Way (RoW) pending land to be ceded from the subject site. Apart from the portion abutting the subject site, the other parts of the Right-of-Way have already been constructed.

Legislation & policy:

Town Planning Scheme No. 40

The site is zoned Centre under Town Planning Scheme No. 40 (TPS 40). Table 2 - Zone Objectives of TPS 40 state that land within the Centre zone is designated for future development as a town centre or activity centre in accordance with *State Planning Policy 4.2: Activity Centres for Perth and Peel* (SPP 4.2). In this respect, the subject site is within the Cannington Strategic Metropolitan Centre under SPP 4.2 which requires the preparation of an activity centre plan.

A copy of TPS 40 may be downloaded from the City's website via the following weblink:

<https://www.canning.wa.gov.au/en/Residents/Plan-and-Build/Planning-Services---Checklists-Forms-and-Policies>

A copy of the SPP 4.2 may be downloaded from the Department of Planning, Lands and Heritage website via the following weblink:

<https://www.planning.wa.gov.au/State-planning-framework.aspx>

Canning City Centre Activity Centre Plan

On 24 October 2017, the Western Australian Planning Commission (WAPC) adopted the Canning City Centre Activity Centre Plan (CCCACP) which applies to the subject site. A copy of the CCCACP may be downloaded from the City's website via the following weblink:

<https://www.canning.wa.gov.au/Residents/Plan-and-Build/Strategic-Planning/Activity-Centre-Plans-Local-Structure-Plans-and-Local-Development-Plans>

Under Clause 67 of Schedule 2 of the *Planning and Development (Local Planning Schemes) Regulations 2015* (Deemed Provisions), the City is required to consider the provisions of the CCCACP in the assessment of this application.

State Government Policies

The following state planning policies are applicable to this application:

- SPP 4.2 – Activity Centres for Perth and Peel
- SPP 3.1 – Residential Design Codes (R-Codes) (to the extent not overridden by CCCACP)
- SPP 5.1 – Land Use Planning in the Vicinity of Perth Airport
- Draft Design WA SPP 7.3 – Apartment Design Policy (used as guide only)

These policies may be downloaded from the Department of Planning, Lands and Heritage website via the following weblink:

<https://www.planning.wa.gov.au/State-planning-framework.aspx>

Local Policies

The following City of Canning local planning policies are applicable to this application:

- SRS 227 – Residential Development
- LP.03 – Developer Funded Public Art
- LP.07 – Advertising Signs
- LP.09 – Tree Retention and Planting – Development
- LP.06 – Design Advisory Committee and Assessment of Significant Developments

These policies may be downloaded from the City's website via the following weblink:

<https://www.canning.wa.gov.au/en/Residents/Plan-and-Build/Planning-Services---Checklists-Forms-and-Policies>

Consultation:

Design Advisory Committee

Prior to lodgement, the application was presented to the City's Design Advisory Committee (DAC) at its meeting on 17 August 2017. A number of comments and recommendation were made in relation to the following key matters:

- Cross ventilation
- Enclosed balconies
- Layout of apartments
- Deep soil zone/ communal space
- Street presence of the proposal
- Overall design strategy for the site
- Consideration of the Design WA guidelines

Subsequent to formal lodgement, the application along with the officer's preliminary assessment were referred to DAC at its meeting on 8 February 2018. DAC's major comments related to:

- Design of communal open space
- Cross ventilation
- Landscaping/soil space
- Internal design of apartment units
- Balcony size and configuration
- Public art and building interface

The advice from DAC was considered in the assessment and informed the City's request to applicant for amended plans.

Public Consultation

No public consultation was undertaken for this proposal.

The originally submitted application provided insufficient information and proposed multiple non-complying elements such as setbacks, visual privacy, access and public

realm issues that would have triggered neighbour/public advertising. Following the City's initial assessment and receiving advice from the DAC, it was determined that the accumulative impact of all non-complying elements was so significant, and that key information was missing, that the City could not support the application for the purpose of public advertising.

Subsequently the applicant submitted amended plans and additional information. The amended proposal which is being presented to JDAP does not propose any variations to the planning framework that trigger public or neighbour consultation.

Consultation with other Agencies or Consultants

The City engaged traffic engineering consultants to undertake a review of the design of car parking spaces and manoeuvring areas in terms of compliance with AS 2890 and the amount of flexibility that may be applied without compromising useability for future residents and visitors. The consultant's recommendations have informed the final development plans and the supporting traffic report and have been reflected in the recommended conditions of approval.

Planning assessment:

The originally submitted application proposed a number of variations to multiple provisions of TPS 40, CCCACP, the R-Codes and the City's Local Planning Policies. The proposal was also missing a number of management plans that are required to be submitted with a development application under the CCCACP. The City did not support the proposal in its initial form and requested amended plans and additional information.

Subsequently, the applicant has submitted amended plans with key modifications as summarised below:

- Development yield has been reduced from 54 multiple dwellings to 53;
- Visual privacy issues have been resolved by additional setback to balconies and removing a number of major openings;
- Major improvements to façade design in particular the rear elevation;
- Improvements to building entrances and pedestrian circulation;
- The design of the communal open space on Level 4 has been modified to provide more openness, natural lighting, conversation with Cecil Avenue and internal useability;
- Reconfiguration of planting areas and provision of soil depth on Level 4;
- Modified landscaping plan and additional detail about planting areas, tree and vegetation species and soil volumes;
- Amendments to internal apartment layout including bedroom dimensions, balconies and location of mechanical equipment;
- Amendments to bicycle and car parking and manoeuvring areas to achieve AS2890 compliance;
- Additional plans submitted including roof plan, street awning and designated signage locations; and
- Five adaptable units are provided.

The applicant has also submitted additional information including:

- Waste Management Plan
- Acoustic Report
- Public Art Concept

- Amended cross-ventilation report (amended methodology)
- Statement from a building certifier regarding future fire compliance;
- Engineering advice regarding the substation indicated on the Ground Level plan;
- Landscaping details and information; and
- Further justification regarding the variations sought.

The amended submission has been assessed against the legislation and policies listed previously and is considered to generally comply with the primary controls. The proposal includes a number of non-complying elements that are either supported as a variation, or recommended to be addressed through conditions of approval. The key matters that require JDAP's consideration are discussed below.

SPP 5.1 – Land Use Planning in the Vicinity of Perth Airport

The site is subject to 20-25 ANEF noise levels.

Under Schedule 1 of SPP 5.1 the development is “conditionally acceptable” which means no insulation is required but a notification on title is required. No notification exists on the current title – hence a condition is recommended to place a notification on title.

Under clause 6.4 of SPP 5.1, no referral to Perth Airport Pty Ltd was required.

City of Canning Town Planning Scheme No. 40 (TPS 40)

The proposal is generally consistent with TPS 40, with the following considerations:

Car parking

Under requirements of Clause 4.11 of TPS 40 and co-sharing provisions under clause 5.7.4 of the CCCACP, the development is required to provide 14 visitor bays, out of which 6 are to be for the exclusive use of residential visitors.

The application proposes 13 visitor bays, 6 of which are marked for the exclusive use of residential visitors. The proposed shortfall of one shared bay is supported in this instance as:

1. The site is in walking distance to commercial uses and public transport including the Cannington train station; and
2. The proposal includes two motorcycle bays near the vehicular entrance which are additional to planning requirements.

Bicycle end of trip facilities

TPS 40 at 4.12 (d) requires 1 male and 1 female shower for the commercial units, or 2 unisex. The application proposes 1 unisex shower on Level 1 to be shared among all commercial units. This is supported as a variation.

TPS 40 at 4.12 (e) requires one locker for each restaurant and office tenancy. These have not been indicated on the plans. A condition is recommended so that lockers are provided.

Canning City Centre Activity Centre Plan

The proposal is within the ‘Cecil Other’ precinct of the Canning City Centre Activity Centre Plan (CCCACP). The application is generally consistent with the CCCACP.

The key applicable provisions are discussed in the table below and additional comments are provided following the table.

Item		Requirement	Proposal	Compliance
Table 4: Preferred Land Uses per Precinct		A list of preferred uses is provided.	Restaurant/cafes, Offices and Multiple Dwellings	Complies.
Table 5: Documents to be submitted by Developers		<ul style="list-style-type: none"> - Justification report - Landscape plan - Noise attenuation report - Stormwater calculations - Waste management report - Sustainability report - Modelling of water use and pressure - Public art report (if applicable) 	<p>All reports have been submitted.</p> <p>Further information on stormwater management and public art is required prior to building permit.</p>	<p>Complies subject to conditions requiring compliance with the submitted management reports.</p> <p>Further detail on stormwater management and public art will also be conditioned.</p>
Table 9 Development Requirements by Precinct	Minimum Plot Ratio	2:1	3.7:1	Complies
	Minimum Communal Open Space (COS) including Deep Soil Zone (DSZ)	<p>20% of Site (214m²) of COS</p> <p>10% of site as DSZ (107m²) (included in COS)</p>	<p>222m² of COS provided.</p> <p>76m² of planting on Level 4 is proposed in lieu of the required 107m² of DSZ</p>	<p>COS Complies</p> <p>DSZ is recommended to be accepted as a variation. Refer to comments</p>
	Minimum/ Maximum street setback (up to 13 metres / 4 storeys)	0/3 metres	0-1.2m	Complies
	Minimum/ Maximum side setback (up to 13 metres / 4 storeys)	0/0 metres	0m	Complies

	Minimum/ Maximum side and front setbacks above 13 metres / 4 storeys	3/5 metres	Front setback ranges between 3.01m and 2.1m. Zero setback to rear RoW proposed on Levels 3+	Variation The proposed variation to front setback is supported as the encroachment is mostly by balconies which provide articulation and do not detract from the streetscape. Regarding the proposed variation to RoW setback. Refer to comments
	Minimum/ Maximum storeys	6/9 storeys	9	Complies
	Ground floor height (floor-floor)	4m	4m	Complies
5.4.2 Activated Ground Floor Uses		Activated uses, integration with public realm, glazing, and visible entrances.	Restaurant/cafes with considerable glazing and well- defined entrances.	Complies.
5.4.3 Development Application / Design Review		Assessment by DAC is required	Application was referred to DAC on 8 February 2018.	Complies. DAC advice has informed amended plans.
5.4.6 Communal Open Space (COS)		<ul style="list-style-type: none"> - 20% of the site (213.8m²) is required as COS. - 10% of the COS (106m²) is required as deep soil zone (DSZ) with min 1.5m depth. - COS design to provide outlook, surveillance, safety and accessibility. 	<p>222m² of COS proposed</p> <p>COS design has been improved to achieve improved amenity and outlook.</p> <p>76m² of planting area on the podium level in lieu of deep root zone.</p>	<p>COS Complies</p> <p>DSZ Supported as a variation.</p> <p>Refer to comments</p>

5.4.11 Crime Prevention Through Environmental Design (CPTED)	<ul style="list-style-type: none"> - Lighting is to provide visibility and enable pedestrian use of public spaces. 	Lighting to illuminate that portion of the right-of-way adjacent to the subject land is not shown on the plans.	Complies subject to a condition requiring lighting to the rear RoW.
5.4.15 Awnings and Verandas	<ul style="list-style-type: none"> - Min 2.5 cantilever required along the full frontage. - Clearance of minimum 3.2m and maximum 4m from the ground level. - Min 2.7m clearance to structures, signage and lighting. 	<p>Proposed awning depth ranges between 1.6m and 1.9m due to existing verge being small.</p> <p>Proposed awning ground clearance ranges between 2.7m to 3.7m. (Refer drawing A09.01).</p>	<p>Supported as a variation.</p> <p>A condition is recommended to provide for the potential for the awning to be extended to a minimum depth of 2.5m if Cecil Avenue is widened prior to construction.</p>
5.1.17 Signage	<ul style="list-style-type: none"> - Compliance with the City's signage policy required - Limitations on the number of signage for each tenancy - Min 2.7m ground clearance - Illumination at night required 	Drawing A09.01 provides details on the location and dimensions of future signage for the two restaurant tenancies below the awning with a minimum ground clearance of 2.7. The proposal provides for design consistency across all signage.	<p>The proposed size/location of signage is acceptable.</p> <p>A condition has been recommended to provide for future signage to comply with the approved plans.</p> <p>Refer to comments</p>
5.4.21 Flexible and Universal Design / Accessible Housing	<p>Five adaptable dwellings are required.</p> <p>The applicant was referred to use the "Essential" design features checklist of the WA Liveable Homes universal design standards which is used in the draft Design WA policy.</p>	<p>Amended plans have provided 5 adaptable units:</p> <ul style="list-style-type: none"> • U3 (studio) on Levels 2, 3 • Type D (two-bedroom) on Levels 6-8 	Complies.
5.4.22 Noise	All mixed use	An acoustic report	Complies subject

Attenuation	<p>developments are to provide a noise attenuation report at the DA stage.</p> <ul style="list-style-type: none"> - Reduce noise impacts typically associated with apartment living. - Minimise noise transference between commercial and residential uses. - Demonstrate where noise insulation and/or additional features are required. - All plant equipment and services are to be located to minimise noise and emission. 	<p>has been submitted to the Satisfaction of the City.</p> <p>The location of mechanical equipment is acceptable.</p>	<p>to a condition requiring the implementation of the Acoustic Report.</p>
5.4.26 Air Conditioners and Water Heaters	<ul style="list-style-type: none"> - Visual screening - Space taken on balconies to be excluded from balcony size. 	<p>Additional area of 0.7sqm for hot water units and air condenser has been indicated on all balconies.</p>	<p>Variation supported in relation to the visibility of equipment's on balconies fronting Cecil Avenue.</p> <p>Refer to comments</p>
5.4.28 Waste Management	<p>A Waste Management Plan (WMP) is required</p>	<p>A WMP has been submitted to the satisfaction of the City.</p>	<p>Complies subject to a condition to implement the WMP.</p>
5.5.1 Passive Design	<p>Multiple requirements</p> <p>Refer to comments</p>		<p>Variation</p> <p>Refer to comments</p>
5.5.3 Energy Efficiency	<ul style="list-style-type: none"> - 25% reduction in energy use from the standard benchmark is required - Report is required using life cycle assessment, Green Star or a 	<p>An Environmentally Sustainable Design (ESD) report was submitted with the original application which has been prepared by a</p>	<p>Complies subject to a condition requiring updating the ESD report to reflect the final approved plans and the implementation of the ESD</p>

	similar methodology.	professional accredited by the Green Building Council of Australia. The ESD report advises that the development will achieves a 25% reduction in energy use, subject to recommendations in the report.	afterwards.
5.5.4 Water and Drainage	<ul style="list-style-type: none"> - Scheme Water Use of 80kl / person / year - Scheme Water Max Pressure of 35 metres - Select minimum flow taps, shower heads, fixtures and appliances 	The ESD report advises that the development will comply, subject to recommendations in the report.	Complies subject to a condition requiring updating the ESD report to reflect the final approved plans and the implementation of the ESD afterwards.
5.6 Public Art Requirements	Compliance with the City's Local Planning Policy LP.03 Developer Funded Public Art is required.	Refer to comments	Complies subject to a condition.
5.7.3 Bicycle End of Trip Facilities	<ul style="list-style-type: none"> - Bike racks to be located in close proximity to building entrances. - Lockers as per TPS 40 requirements - Min 1 electric recharging point per 5 bays 	<p>All bicycle bays are located on the Ground Floor level with good access to entrances.</p> <p>Lockers and electric charging points not shown.</p>	Complies subject to a condition imposed to ensure lockers and electric charging points are provided.

Additional Comments in relation to CCCACP

Table 9 and 5.4.6 Deep soil zone

The application proposes a total planter area of 76m² on Level 4 (0.8m depth), in lieu of the required 107m² of Deep Soil Zone (1.5m depth). In this respect the following are considered:

- a) The CCCACP at clause 5.4.6 (e) encourages roof gardens and states that they can contribute towards COS requirements;
- b) The application generally complies with the recommendations under clause 4.15 – Planting on Structures of the draft Design WA Apartment Design policy. This includes the provision a soil depth of 0.8m which is consistent with minimum soil depth recommendations for small trees;
- c) Details of landscaping, tree species and soil volume requirements for the tree species have been submitted to the City's satisfaction;
- d) Adequate conditions are recommended to ensure future maintenance and structural design requirements; and
- e) Overall, it is considered that the proposed planting areas provide for the healthy growth of vegetation and are well integrated with the COS to provide amenity outcomes.

Table 9 Rear Setback (RoW)

The application proposes zero setback to the rear RoW on Levels 3 and above, whereas 3-5m setback is required under the CCCACP. The proposed variation is supported for the following reasons:

- a) The setback is consistent with the approved and constructed development on the adjoining site at 16-18 Cecil Avenue which has zero setback to the same RoW. Therefore the proposal does not compromise streetscape consistency; and
- b) Considering the development is located to the south of the RoW, there are no over-shadowing impacts on the neighbouring properties or the RoW.

5.1.17 Signage

The original application did not provide information on signage. Considering the unique design of the awning, there were concerns about how future signage will be accommodated.

In addition, considering there are more than one commercial tenancies in the building, it is essential that all future signage are designed in integration.

The applicant has now submitted details of location and size of future signage. The proposal complies with the City's Local Planning Policy LP.07 – Advertising Signs and will provide for high quality signage. A condition is recommended to ensure future signage complies with the approved plans.

5.4.26 Air Conditioners and Water Heaters

With regard to the proposed mechanical equipment on balconies, some visual impact is expected from the studio units as these balconies have a shallower depth and are located on lower levels (Levels 2-3). However in this instance requiring additional screening is not recommended for the following reasons:

- a) There are concerns that additional screening would negatively impact solar access to these units which is already constrained due to their southern orientation; and
- b) The actual visibility from the street will be minimal as these smaller dwellings require smaller condensers and water heater units.

5.5.1 Passive design

The application proposed variations to the following requirements of the CCCACP:

Under 5.5.1 (c), a minimum 50% direct sunlight is required to the principal useable part of the Communal Open Space (COS) for a minimum of 4 hours between 9.00am and 3.00pm on the 21 June. The application achieves 6% of solar access.

In this respect, it is noted that the applicant's original proposal was for a roof garden which would have achieved this requirement. However, following the pre-lodgement DAC meeting, the City recommended that the COS be moved to the podium level to increase interaction with Cecil Avenue. Considering the southern orientation, it is impossible to achieve the required solar access outcomes in this location. Also it is noted that the applicant has amended the plans to provide the eastern portion of the COS with a double-storey ceiling height, which allows for some eastern/morning sunlight. It is considered that the COS area achieves a reasonable balance of solar access, internal amenity and contribution towards the Cecil Avenue streetscape.

SPP 3.1 – Residential Design Codes (R-Codes)

Clause 5.4.1 of the CCCACP specifies the provisions of the R-Codes that are varied or replaced by the CCCACP. Part 6 of the R-Codes applies to the application, to the extent not overridden by the CCCACP. The proposal generally complies with the R-Codes, subject to the matters discussed below.

Clause 6.3.5 Vehicular access

The RoW to the rear of the property is required to be ceded, constructed and drained to provide vehicular access to the development. Conditions have been recommended accordingly.

Clause 6.3.8 Stormwater management

Conditions have been recommended to ensure stormwater will be management to the satisfaction of the City. Due to the ground water levels in this area stormwater cannot be retained on site and has to be dispersed via the Council drainage network. The City's engineering department has recommended a condition be imposed to provide for adequate drainage head-works contributions.

Clause 6.3 Utilities and facilities

Clothes drying areas are to be screened from the primary street and the RoW. A condition has been recommended accordingly.

Local Planning Policy LP.03 - Developer Funded Public Art

LP.03 requires that equivalent to 1% of the cost of development be provided as public art. The application has provided for the artwork to be integrated into the front façade and a concept design report by a professional artist has been submitted.

The proposed artwork budget is \$100,000 which is over the 1% required.

LP.03 allows for the artwork to cover walls or be an integral element of the building design. The proposed location of the artwork on the front façade is acceptable.

The concept report provides an acceptable concept for the artwork which has been well integrated with the façade and has influenced the design of the entire building.

A condition is recommended requiring detailed design of the artwork to be reviewed by the City (with advice from DAC) and be installed afterwards.

Local Planning Policy LP.09 - Tree Retention and Planting - Development

The policy requires a minimum of 11 small trees (3-6m height at maturity) for this development. The application proposes 9 small trees to be planted within the COS on Level 4. The proposed variation is supported for the following reasons:

- a) The policy at 6.14 allows for planting on structures where the objectives of the policy are achieved and future maintenance is guaranteed;
- b) Information has been submitted on the species of the trees, their appropriateness for this elevated podium location with limited solar access and the required soil space for each tree;
- c) A condition is recommended to ensure future maintenance of the trees;
- d) Overall it is considered that the proposal has potential to achieve the objectives of LP.09 including those related to aesthetics, recreation, health, and heat island effect.

Officer Comments

The proposal generally complies with the planning framework. The proposed variations that have been discussed in this report are justified against the relevant design principles and/or policy objectives. It is considered that the proposal achieves the intent of the relevant planning framework.

In accordance with Clause 68 of the Deemed Provisions it is recommended that the development be approved subject to conditions as provided in the Officer Recommendation section.

Options/Alternatives:

N/A

Council Recommendation:

N/A

Conclusion:

It is considered that the development proposal meets the relevant planning requirements. The proposed mixed development at 14 Cecil Avenue, Cannington provides for a range of housing and commercial uses in line with the City's objectives for the Canning City Centre. The City recommends that the development application be approved subject to conditions, as listed in the Officer Recommendation section.



City of
CANNING

The City of Canning does not warrant the accuracy of information in this publication and any person using or relying upon such information does so on the basis that the City of Canning shall bear no responsibility or liability whatsoever for any errors, faults, defects or omissions in the information.

Location Plan

14 (Lot 301)
Cecil Avenue,
Cannington

3/05/2018

1:1500



CITY OF CANNING
30/04/2018
AMENDED PLAN

PROJECT SUMMARY

SITE AREA	1127 m² (1069 m² AFTER LAND CEDED FOR R.O.W.)	
APPLICABLE TOWN PLANNING SCHEME/PLANNING POLICY/STRUCTURE PLAN	TPS NO 40/ CANNING CITY CENTRE LP08	
	REQUIRED	PROPOSED
PLOT RATIO AREA	2138m² (min.2:1)	3878m² (3.6:1)
COMMUNAL OPEN SPACE	20% = 214 m²	21% = 225 m²
DEEP SOIL ZONE	10% = 106 m²	(7.2%) = 76 m² (VARIATION WITH JUSTIFICATION)
CROSS VENTILATION UNITS	60% = 32UNITS	75% = 40UNITS (SEE SUHO REPORT MEMO)
50% DIRECT SUNLIGHT TO PRINCIPLE USABLE PART OF COMMUNAL OPEN SPACE FROM 9AM-3PM (4HOURS) MID-WINTER	50%	AVERAGE 6% (VARIATION WITH JUSTIFICATION)

CARBAYS

APARTMENT RESIDENT	UNITS		
3X2	4	5	7
2X2	24	24	24
STUDIO / 1X1	25	25	25
TOTAL	53	54	56

VISITOR

RESTAURANT (201SQM)	(2BAY/100SQM NLA)	4.02	7 (SHARED INCL. 1 DISABLED BAY & 1 LOADING/UNLOADING BAY)
OFFICE (239SQM)	(1.5BAY/100SQM NLA)	3.59	
APARTMENT	0.1+0.15 CO-SHARED	5.3+8 CO-SHARED	6
TOTAL		12.91	13

MOTORBIKE BAYS

APARTMENT RESIDENT		3
VISITOR		2 (SHARED)
TOTAL		5

STORES

	53	53 (INCL. 5 STORES AT LEVEL 4-8)
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BICYCLE BAYS

APARTMENT RESIDENT	(1BAY/3 DWELLINGS)	17.6	18
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VISITOR

COMMERCIAL	(RESTAURANT =0.5BAY/100SQM)	1	1
	(OFFICE =0.6BAY/100SQM)	1.4	2
APARTMENT	(1BAY/10 DWELLINGS)	5.3	5
TOTAL		7.7	8

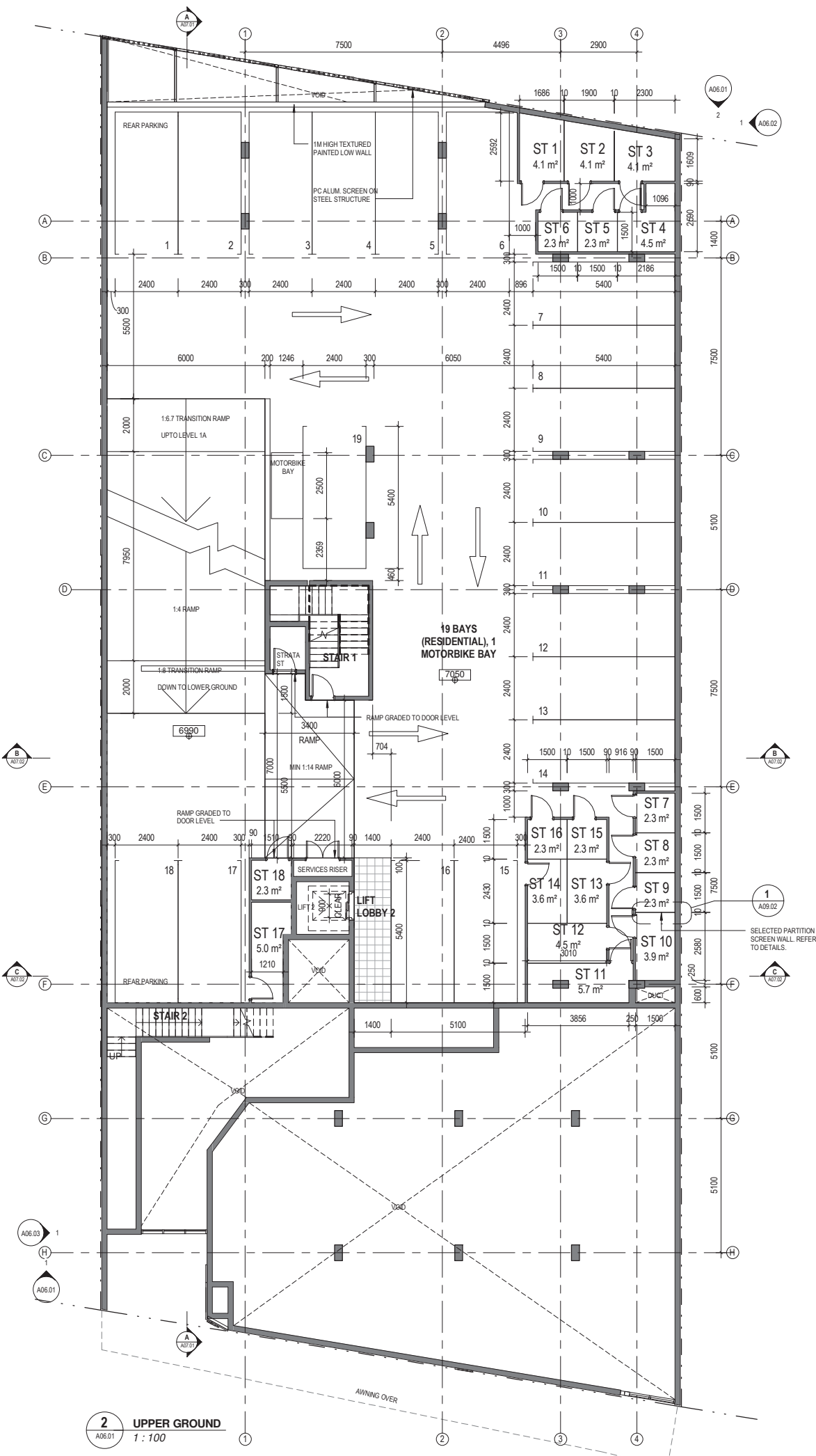
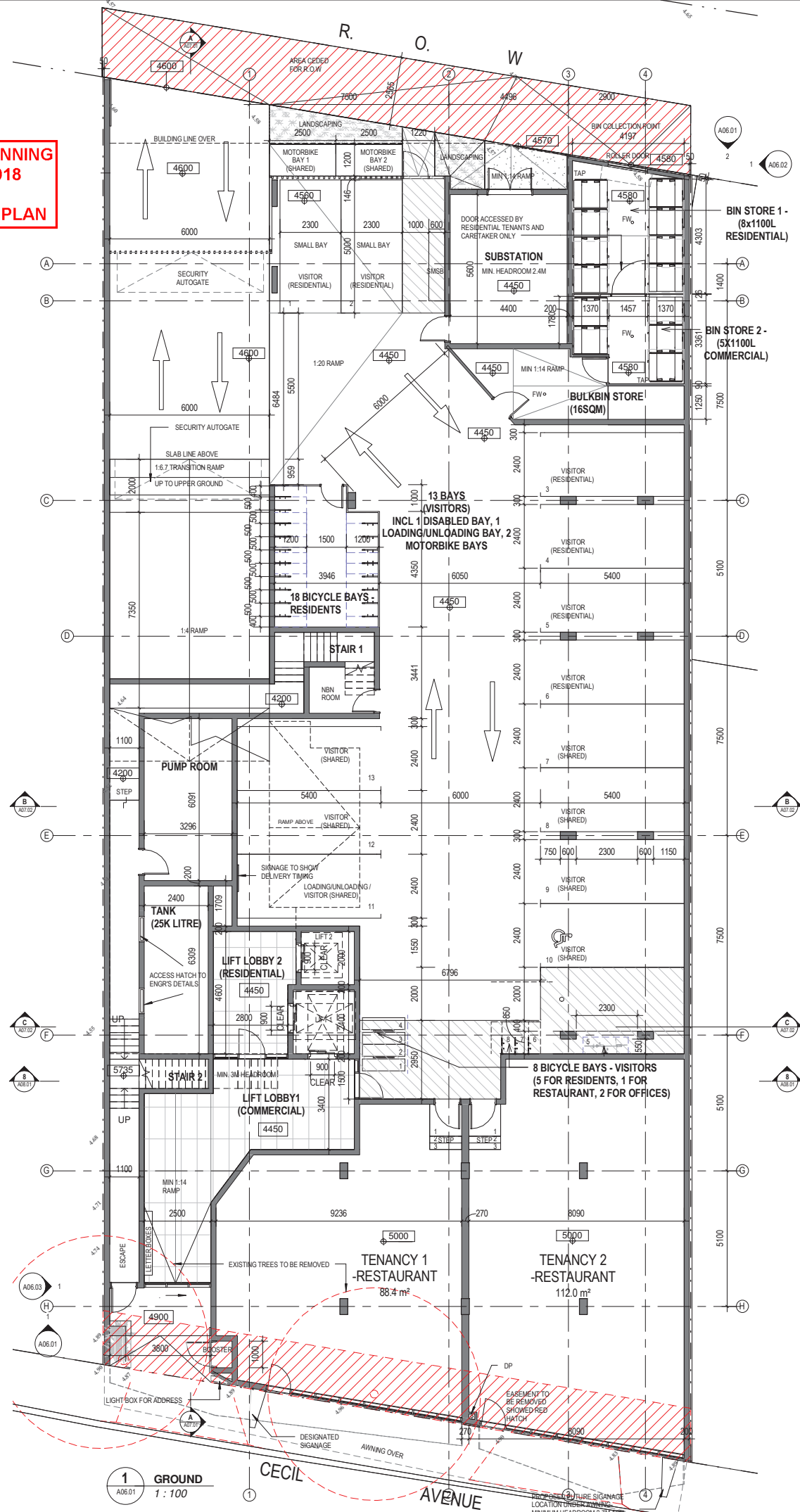
PROPOSED COMMERCIAL

LEVEL	TYPE	PLOT RATIO AREA (m²)	STRATA AREA (m²)
GROUND	RESTAURANT TENANCY 1	94	89
	RESTAURANT TENANCY 2	120	112
LEVEL 1	OFFICE - TENANCY 3	71	65
	OFFICE - TENANCY 4	52	48
	OFFICE - TENANCY 5	49	45
	OFFICE - TENANCY 6	85	82
TOTAL PROPOSED		471	441

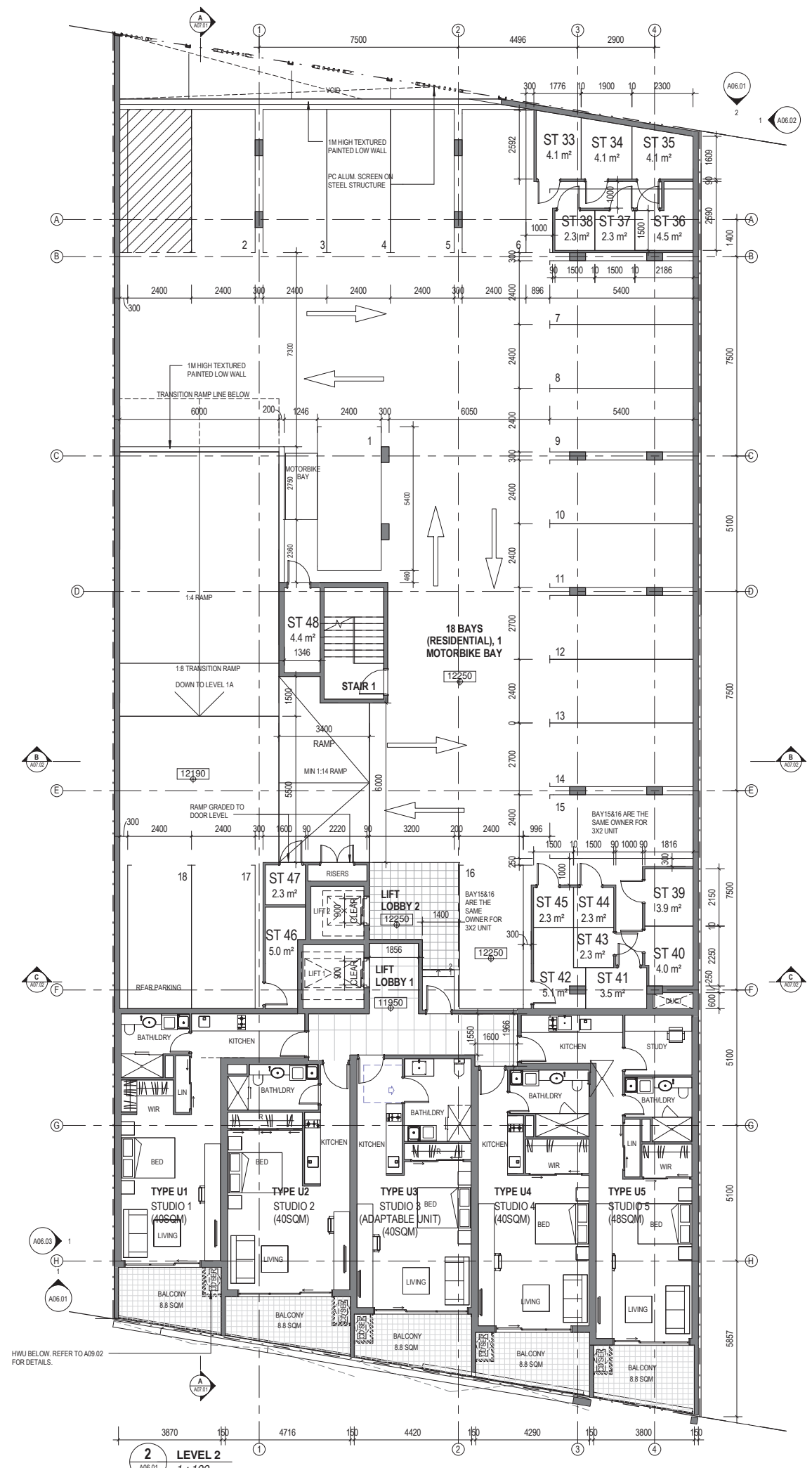
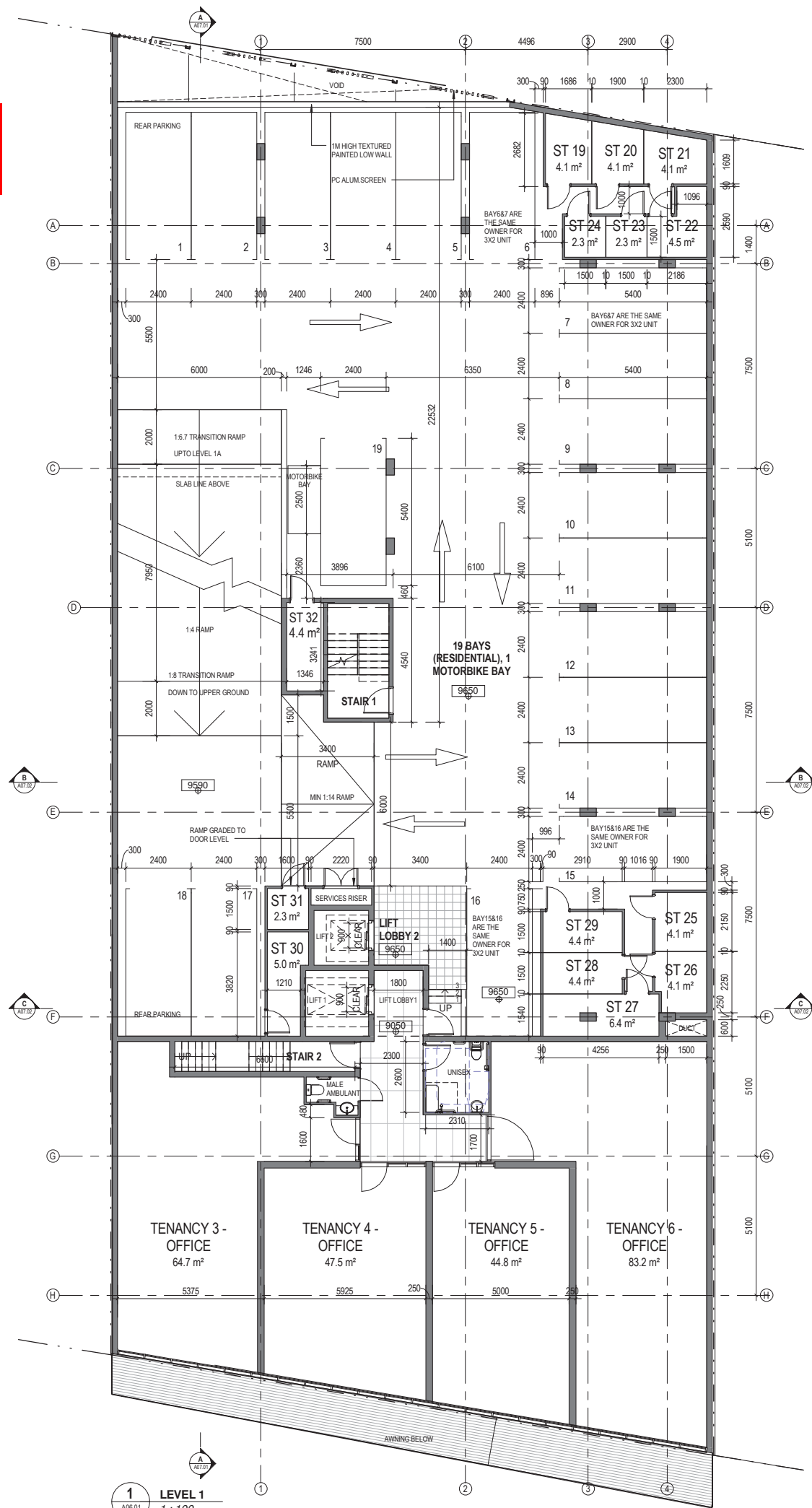
PROPOSED APARTMENT

LEVEL	TYOLOGY	UNIT TYPE	PLOT RATIO AREA (m²)	STRATA AREA (m²)	NO. OF UNITS	1BED/ STUDIO%	2BED%	3BED%
LEVEL 2	STUDIO	U1,U2,U4,U5	46,44,44,55	40,40,40,48	4	4		
		U3 (ADAPTABLE UNITS)	45	40	1	1		
LEVEL 3	3BED 2BATH	J,L,P,Q	91,103,99,105	83,94,90,96	4			4
	2BED 2BATH	K,M	75,80	68,73	2		2	
	STUDIO	U1,U2,U6,U7	46,44,46,50	40,40,40,44	4	4		
		U3 (ADAPTABLE UNITS)	45	40	1	1		
LEVEL 4	2BED 2BATH	A,H	75,75	68,67	2		2	
	2BED 1BATH	B	66	58	1		1	
	1BED 1BATH	C,F,G	53,49,54	48,43,47	3	3		
LEVEL 5	2BED 2BATH	A,E,H	75,73,75	68,65,67	3		3	
	2BED 1BATH	B	66	58	1		1	
	1BED 1BATH	C,F,G	53,49,54	48,43,47	3	3		
LEVEL 6-8	2BED 2BATH	A,E,H	75,73,75	68,65,67	9		9	
		D (ADAPTABLE UNITS)	79	70	3		3	
	2BED 1BATH	B	66	58	3		3	
	1BED 1BATH	C,F,G	53,49,54	48,43,47	9	9		
TOTAL PROPOSED			3407	3040	53	(25UNITS)47.2%	(24UNITS)45.3%	(4UNITS)7.5%
(INCL. 5 ADAPTABLE UNITS)								

CITY OF CANNING
30/04/2018
AMENDED PLAN



CITY OF CANNING
30/04/2018
AMENDED PLAN



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Scale: 1 : 100 (A1)

PROJECT

PROPOSED 9 STOREY MIXED USE DEVELOPMENT

14 Cecil Avenue, Cannington

SUBJECT TO COUNCIL APPROVAL

LEVEL 1 AND LEVEL 2 PLAN

DESIGNED BY

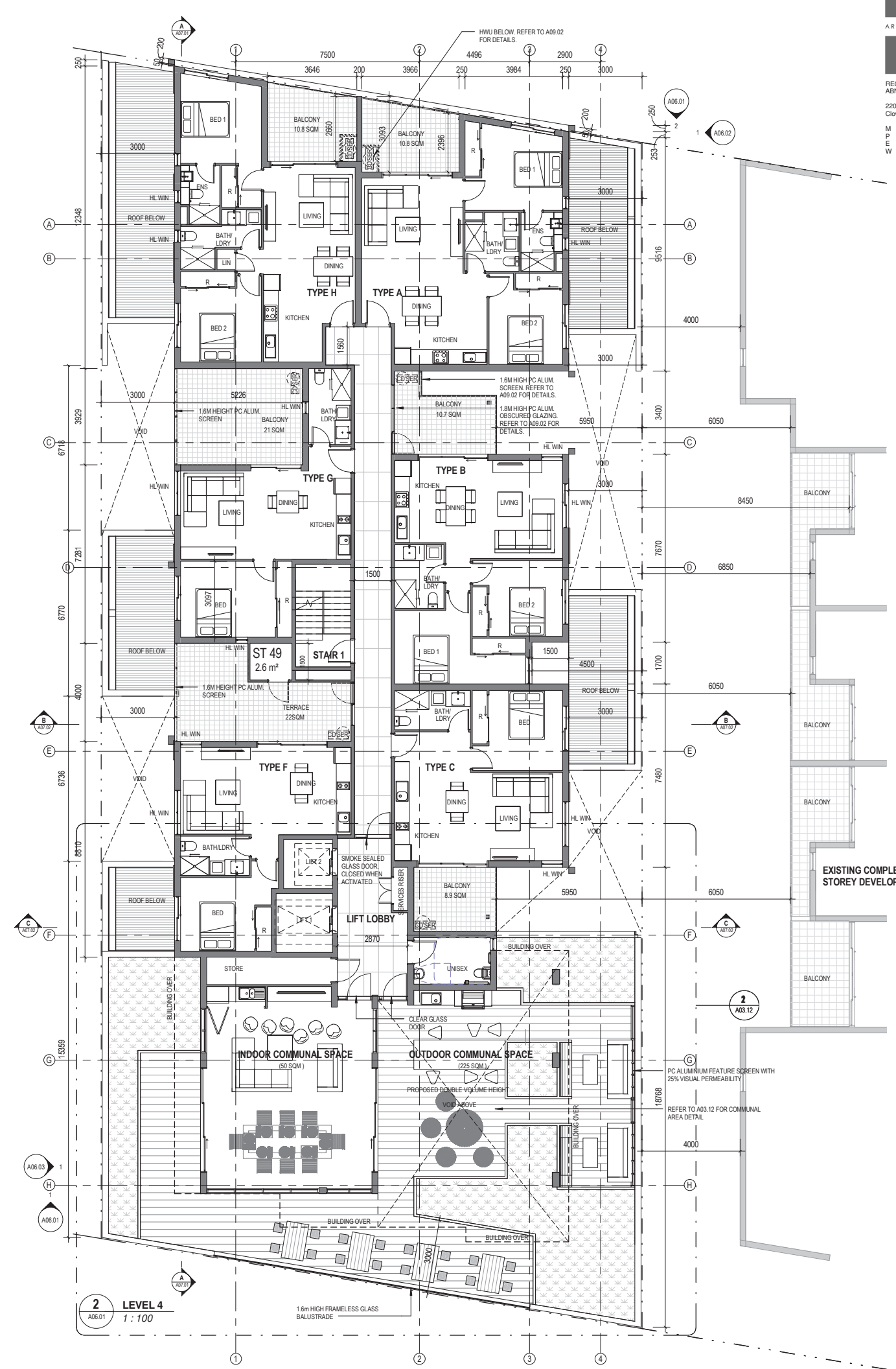
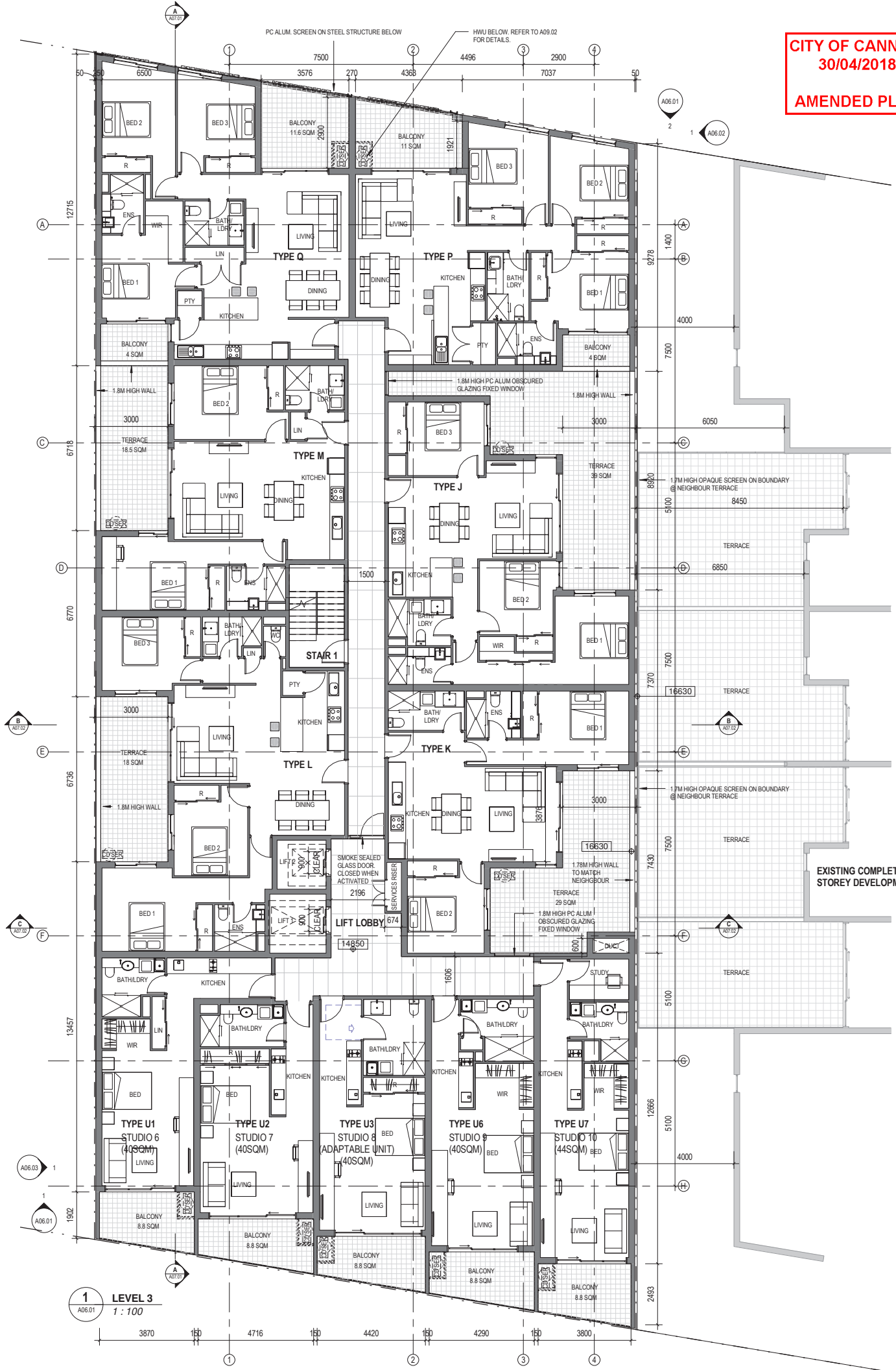
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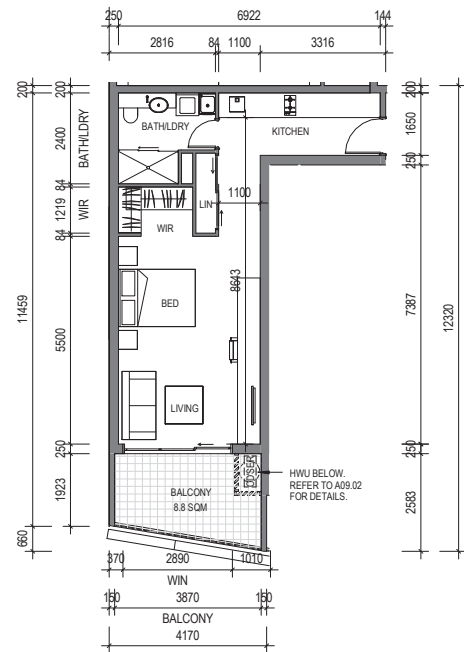
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CITY OF CANNING
30/04/2018
AMENDED PLAN

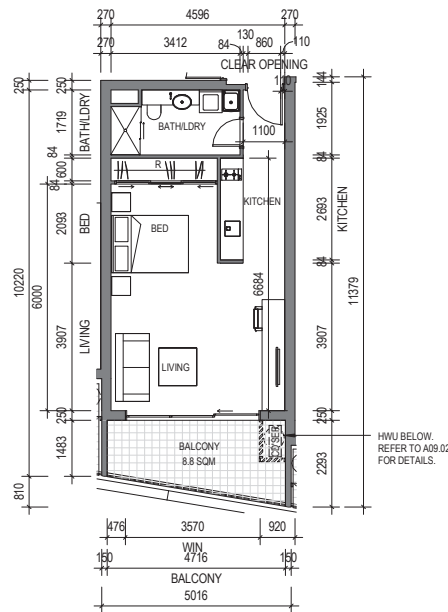




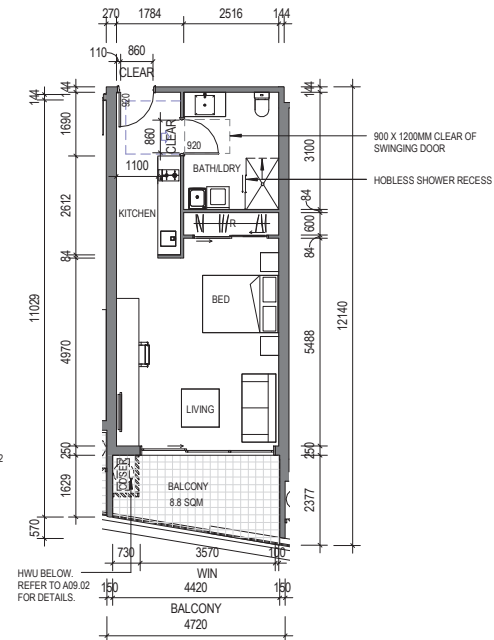
CITY OF CANNING
30/04/2018
AMENDED PLAN



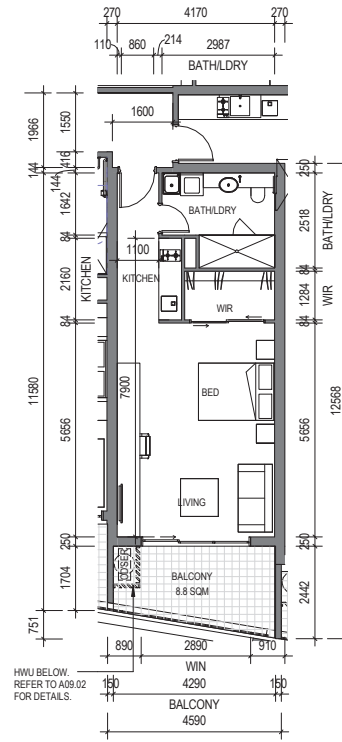
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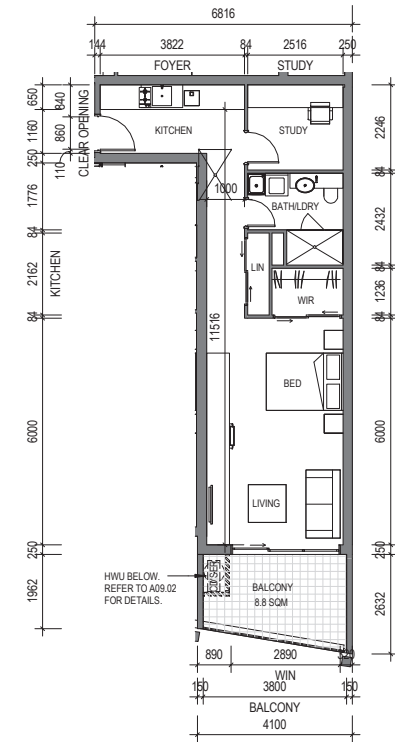
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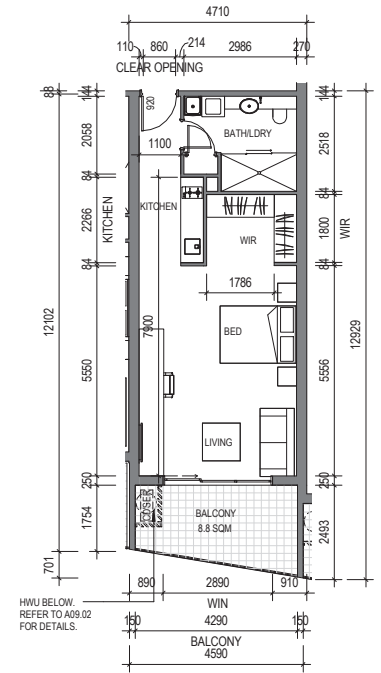
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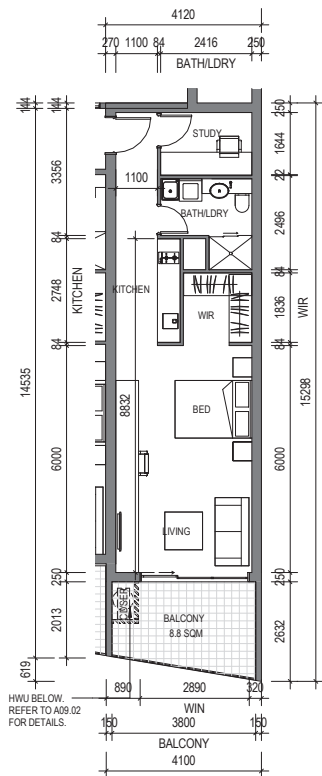
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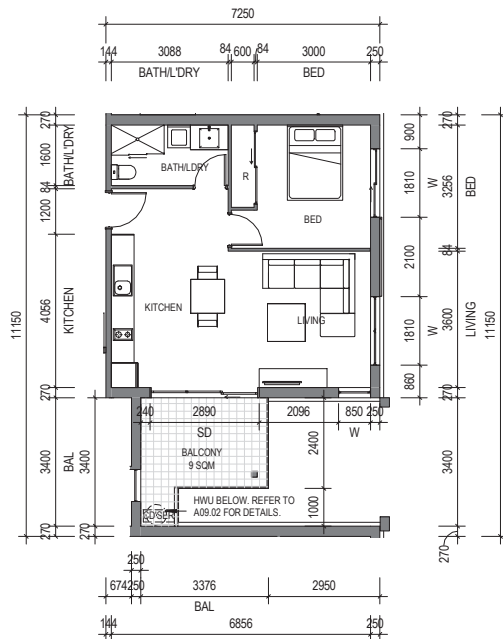
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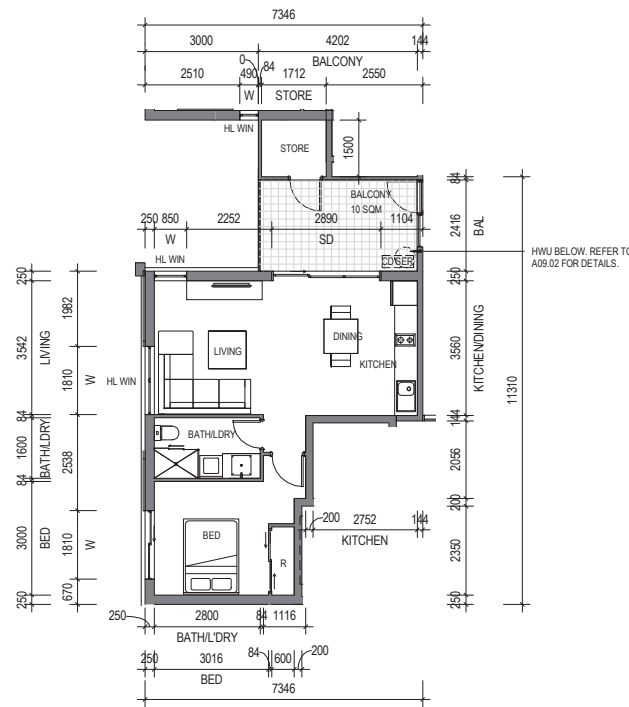
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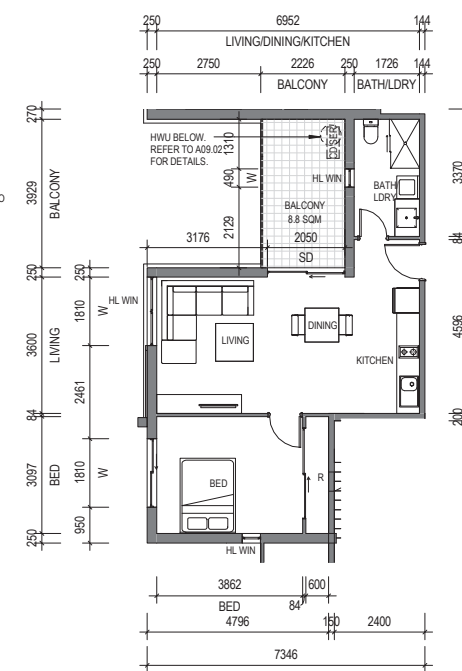
7 TYPE U7 - STUDIO
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8 TYPE C - 1X1
1 : 100



9 TYPE F - 1X1
1 : 100



10 TYPE G - 1X1
1 : 100



Scale: 1 : 100 (A1)

PROJECT

PROPOSED 9 STOREY MIXED USE DEVELOPMENT

14 Cecil Avenue, Cannington

SUBJECT TO COUNCIL APPROVAL

PLAN - STUDIOS & ONE BEDROOM
TYPE

DESIGNED BY

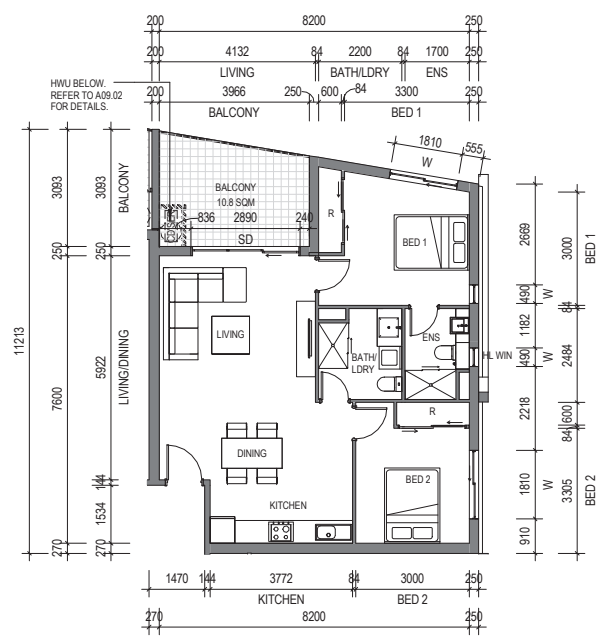
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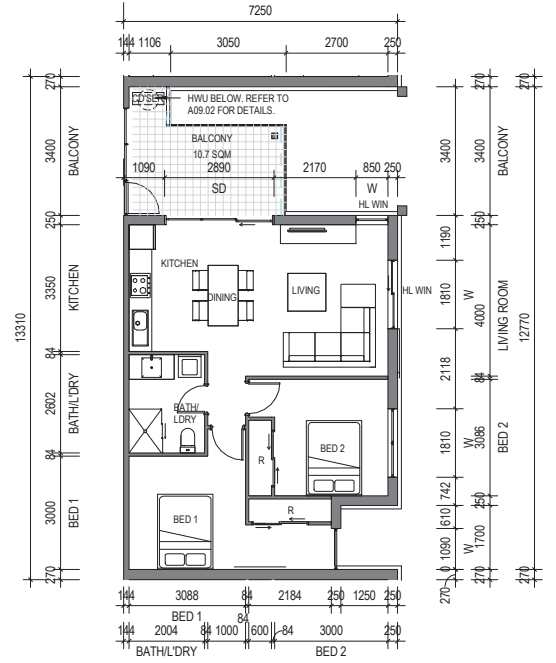
LC 27/04/2018

A03.09

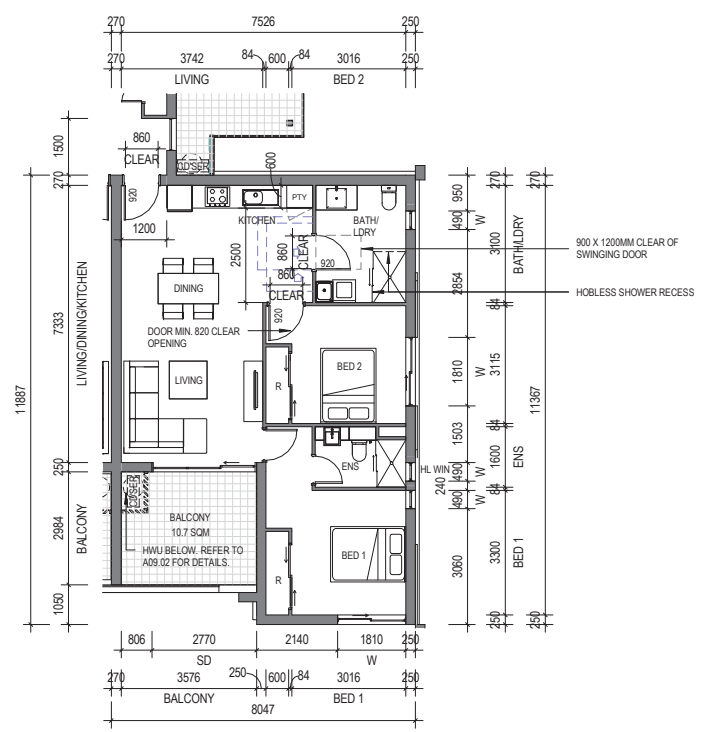
CITY OF CANNING
30/04/2018
AMENDED PLAN



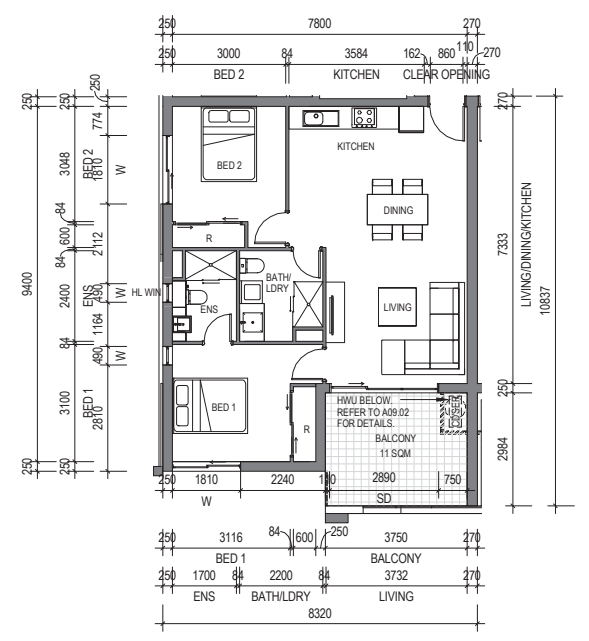
1 TYPE A - 2X2
1 : 100



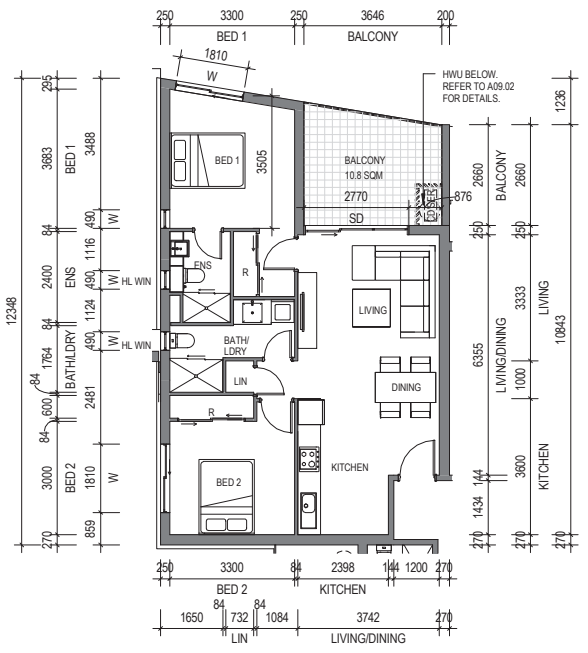
2 TYPE B - 2X1
1 : 100



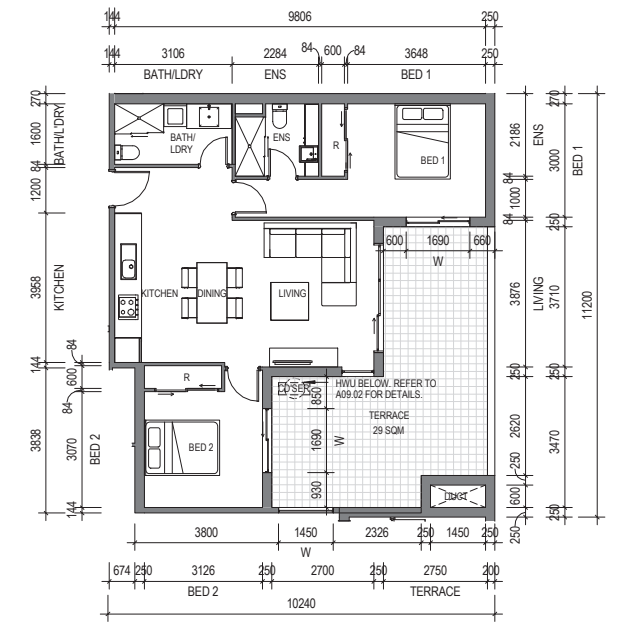
3 TYPE D - 2X2 (ADAPTABLE UNIT)
1 : 100



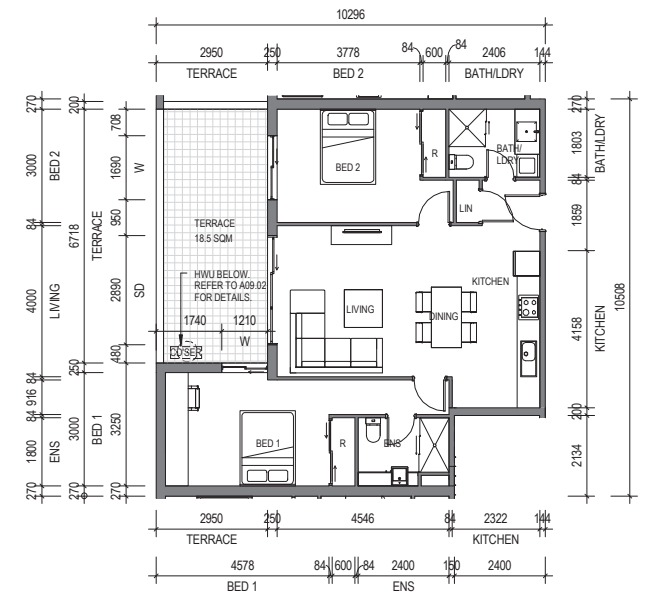
4 TYPE E - 2X2
1 : 100



5 TYPE H - 2X2
1 : 100



6 TYPE K - 2X2
1 : 100



7 TYPE M - 2X2
1 : 100



1 2 3 4 M

Scale: 1 : 100 (A1)

PROJECT

PROPOSED 9 STOREY MIXED USE DEVELOPMENT

14 Cecil Avenue, Cannington

SUBJECT TO COUNCIL APPROVAL

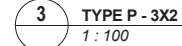
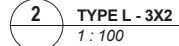
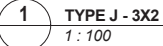
PLAN - TWO BEDROOMS TYPE

DESIGNED BY

DATE

LC 27/04/2018

A03.10



76 SQM DEEP SOIL PLANTER BOX SHOWN BLUE DASHED WITH MIN. 800MM DEEP AND 1200MM WIDE

[illegible]

Scale: As indicated (A1)

PROJECT

PROPOSED 9 STOREY MIXED USE DEVELOPMENT

27/04/2018 4:43:51 PM © Copyright of Rechitects Pty Ltd

14 Cecil Avenue, Cannington

SUBJECT TO COUNCIL APPROVAL

L4 COMMUNAL OPEN SPACE

DESIGNED BY

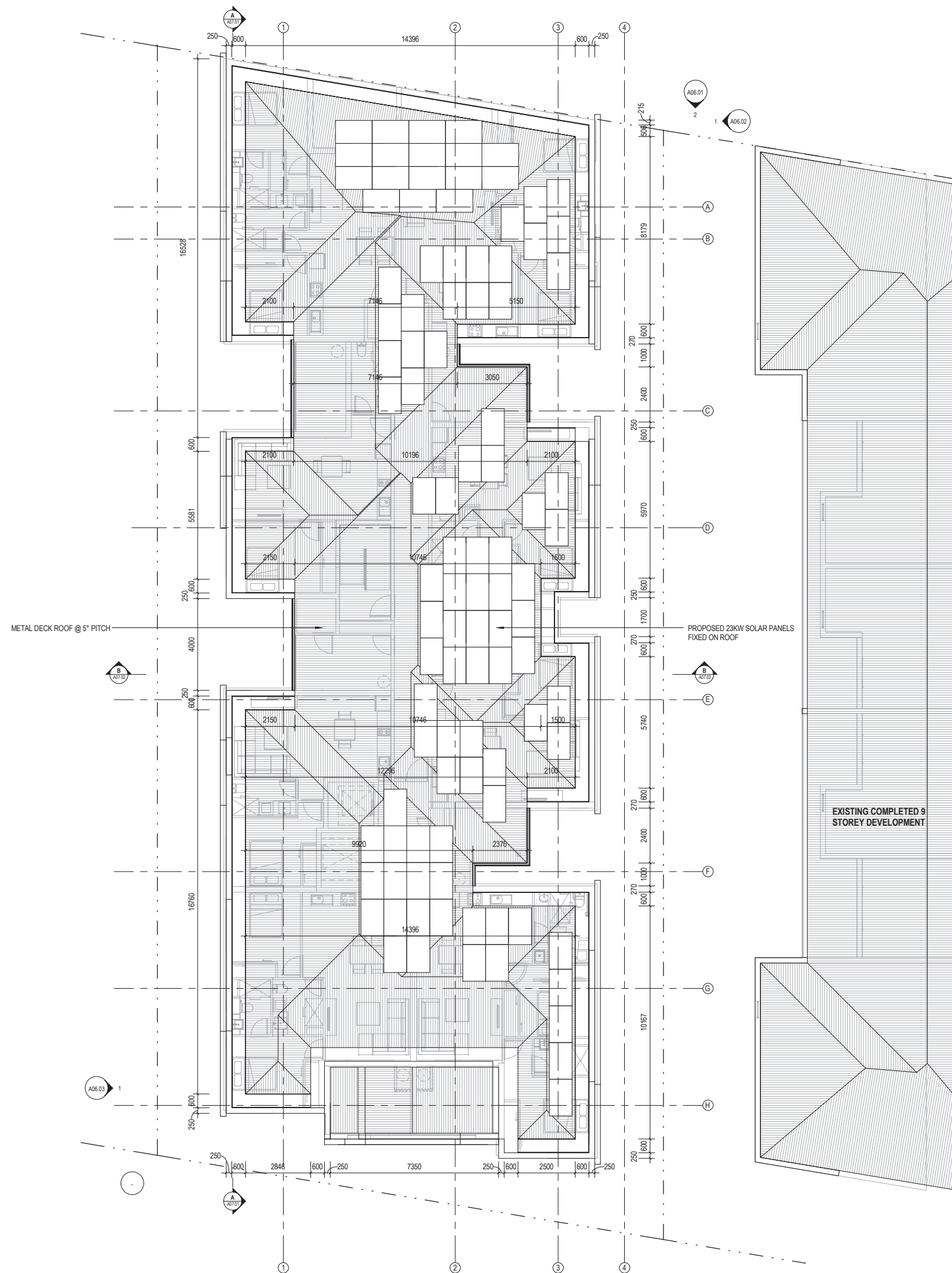
LC

DATE

27/04/2018

A03.12

CITY OF CANNING
30/04/2018
AMENDED PLAN



1 2 3 4 M

Scale: 1 : 100 (A1)

PROJECT

PROPOSED 9 STOREY MIXED USE DEVELOPMENT

14 Cecil Avenue, Cannington

SUBJECT TO COUNCIL APPROVAL

ROOF PLAN

DESIGNED BY

30/04/2018 8:12:31 AM © Copyright of Rechitects Pty Ltd

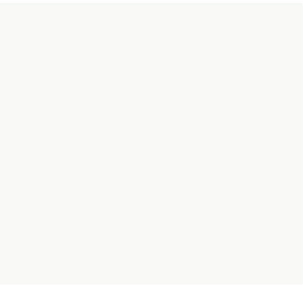
DATE

LC

27/04/2018

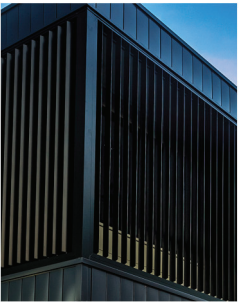
A05.01

COLOR & MATERIAL SCHEDULE



01 - MATERIAL:
ACRYLIC PAINT

COLOR:
DULUX VIVID WHITE B12



03 - MATERIAL:
PC ALUM. SCREEN

COLOR:
CHARCOAL



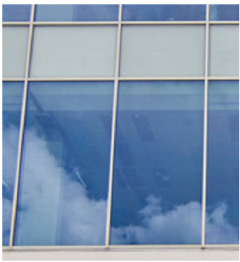
05 - MATERIAL:
FRAMELESS GLASS
BALUSTRADE

COLOR:
CLEAR GLAZING



07 - MATERIAL:
PC ALUM. OBSCURED GLAZING /
OBSCURED GLASS BLOCK

COLOR:
OBSCURED GLAZING



09 - MATERIAL:
SPANDREL GLASS PANEL

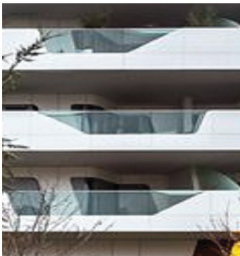
COLOR:
HIGH OPACITY WHITE V175

CITY OF CANNING
30/04/2018
AMENDED PLAN



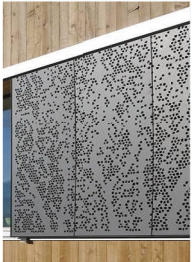
02 - MATERIAL:
PUBLIC ARTWORKS REFER TO
ARTIST REPORT FOR DETAIL
SPECIFICATIONS

COLOR:
REFER TO ARTIST REPORT FOR
DETAIL SPECIFICATIONS



04 - MATERIAL:
FRAMELESS GLASS INSET

COLOR:
CLEAR GLAZING



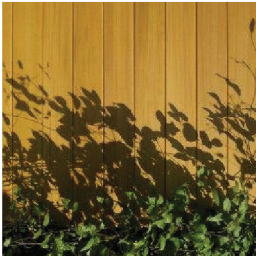
06 - MATERIAL:
PC ALUM PRIVACY SCREEN

COLOR:
WOODLAND GREY



08 - MATERIAL:
OFF FORM CONCRETE GROOVE

COLOR:
N/A



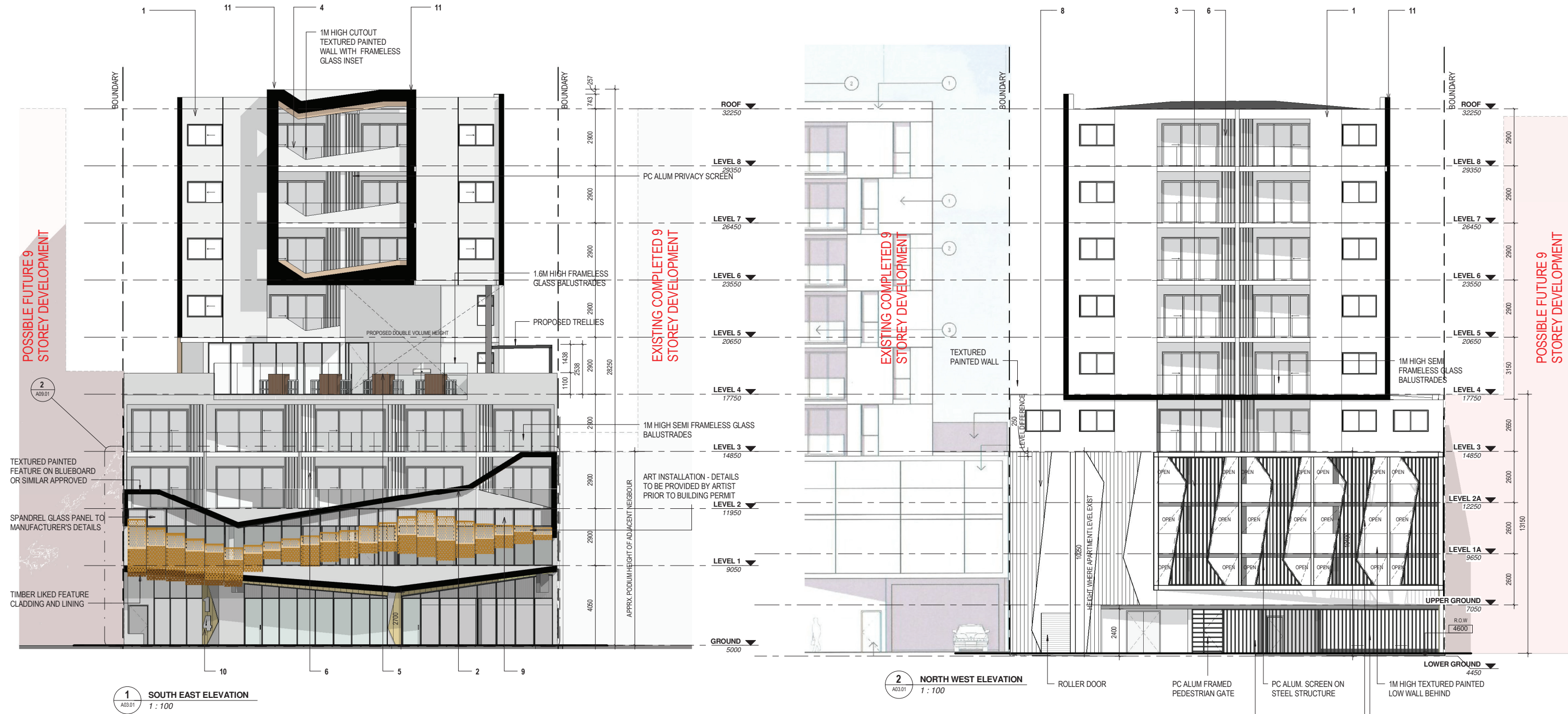
10 - MATERIAL:
ARCHITECTURAL FEATURED
PAINTED PATTERN / CLADDING

COLOR:
NATURAL TIMBER



11 - MATERIAL:
BLUEBOARD OR SIMILAR
APPROVED

COLOR:
CHARCOAL



Scale: 1 : 100 (A1)

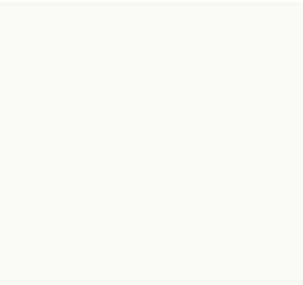
PROPOSED 9 STOREY MIXED USE DEVELOPMENT

14 Cecil Avenue, Cannington

SUBJECT TO COUNCIL APPROVAL

ELEVATIONS

COLOR & MATERIAL SCHEDULE



01 -
MATERIAL:
ACRYLIC PAINT

COLOR:
DULUX VIVID WHITE B12



03 -
MATERIAL:
PC ALUM. SCREEN

COLOR:
CHARCOAL



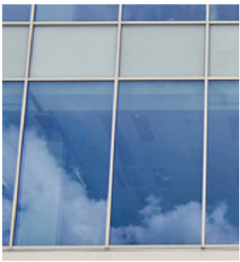
05 -
MATERIAL:
FRAMELESS GLASS
BALUSTRADE

COLOR:
CLEAR GLAZING



07 -
MATERIAL:
PC ALUM. OBSCURED GLAZING /
OBSCURED GLASS BLOCK

COLOR:
OBSCURED GLAZING



09 -
MATERIAL:
SPANDREL GLASS PANEL

COLOR:
HIGH OPACITY WHITE V175



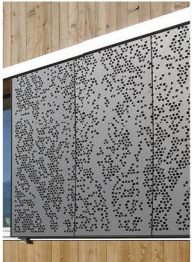
02 -
MATERIAL:
PUBLIC ARTWORKS REFER TO
ARTIST REPORT FOR DETAIL
SPECIFICATIONS

COLOR:
REFER TO ARTIST REPORT FOR
DETAIL SPECIFICATIONS



04 -
MATERIAL:
FRAMELESS GLASS INSET

COLOR:
CLEAR GLAZING



06 -
MATERIAL:
PC ALUM PRIVACY SCREEN

COLOR:
WOODLAND GREY



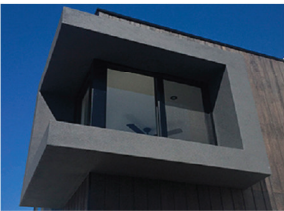
08 -
MATERIAL:
OFF FORM CONCRETE GROOVE

COLOR:
N/A



10 -
MATERIAL:
ARCHITECTURAL FEATURED
PAINTED PATTERN / CLADDING

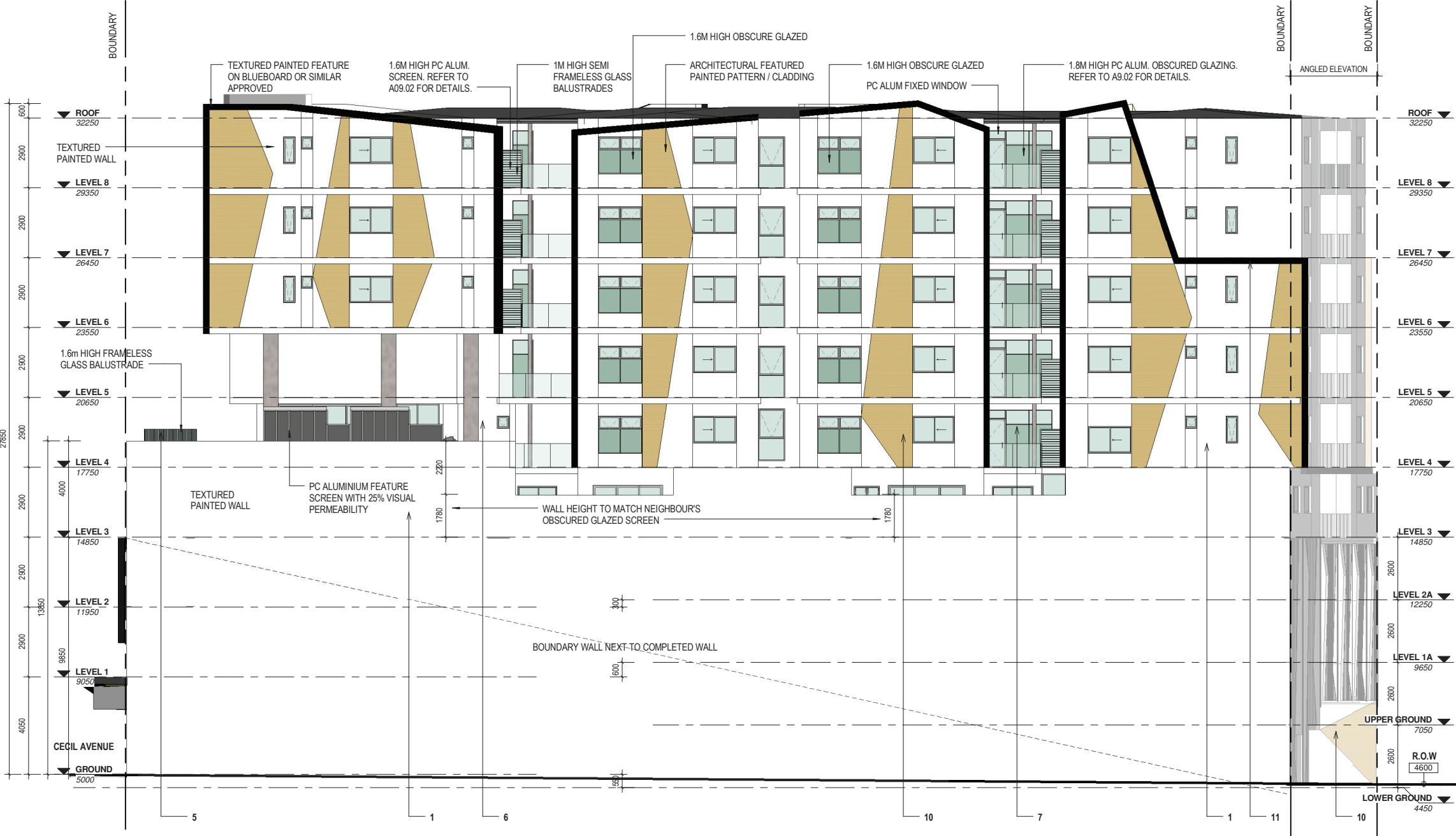
COLOR:
NATURAL TIMBER



11 -
MATERIAL:
BLUEBOARD OR SIMILAR
APPROVED

COLOR:
CHARCOAL

CITY OF CANNING
30/04/2018
AMENDED PLAN



1 2 3 4 M

Scale: 1 : 100 (A1)

PROJECT

PROPOSED 9 STOREY MIXED USE DEVELOPMENT

14 Cecil Avenue, Cannington

SUBJECT TO COUNCIL APPROVAL

ELEVATION

DESIGNED BY

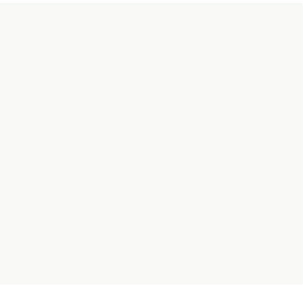
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LC 27/04/2018

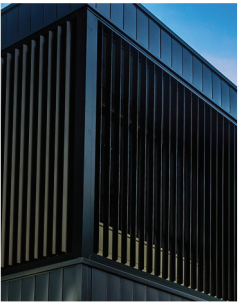
A06.02

COLOR & MATERIAL SCHEDULE



01 -
MATERIAL:
ACRYLIC PAINT

COLOR:
DULUX VIVID WHITE B12



03 -
MATERIAL:
PC ALUM. SCREEN

COLOR:
CHARCOAL



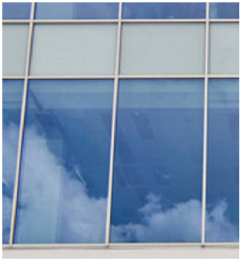
05 -
MATERIAL:
FRAMELESS GLASS
BALUSTRADE

COLOR:
CLEAR GLAZING



07 -
MATERIAL:
PC ALUM. OBSCURED GLAZING /
OBSCURED GLASS BLOCK

COLOR:
OBSCURED GLAZING



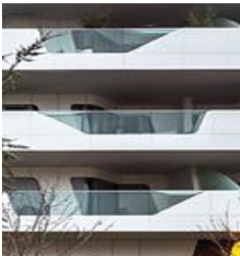
09 -
MATERIAL:
SPANDREL GLASS PANEL

COLOR:
HIGH OPACITY WHITE V175



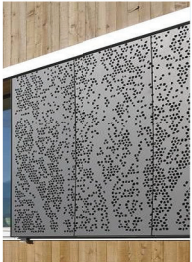
02 -
MATERIAL:
PUBLIC ARTWORKS REFER TO
ARTIST REPORT FOR DETAIL
SPECIFICATIONS

COLOR:
REFER TO ARTIST REPORT FOR
DETAIL SPECIFICATIONS



04 -
MATERIAL:
FRAMELESS GLASS INSET

COLOR:
CLEAR GLAZING



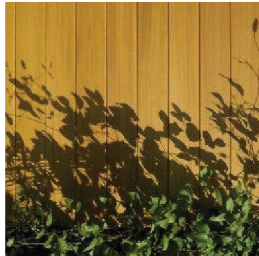
06 -
MATERIAL:
PC ALUM PRIVACY SCREEN

COLOR:
WOODLAND GREY



08 -
MATERIAL:
OFF FORM CONCRETE GROOVE

COLOR:
N/A



10 -
MATERIAL:
ARCHITECTURAL FEATURED
PAINTED PATTERN / CLADDING

COLOR:
NATURAL TIMBER



11 -
MATERIAL:
BLUEBOARD OR SIMILAR
APPROVED

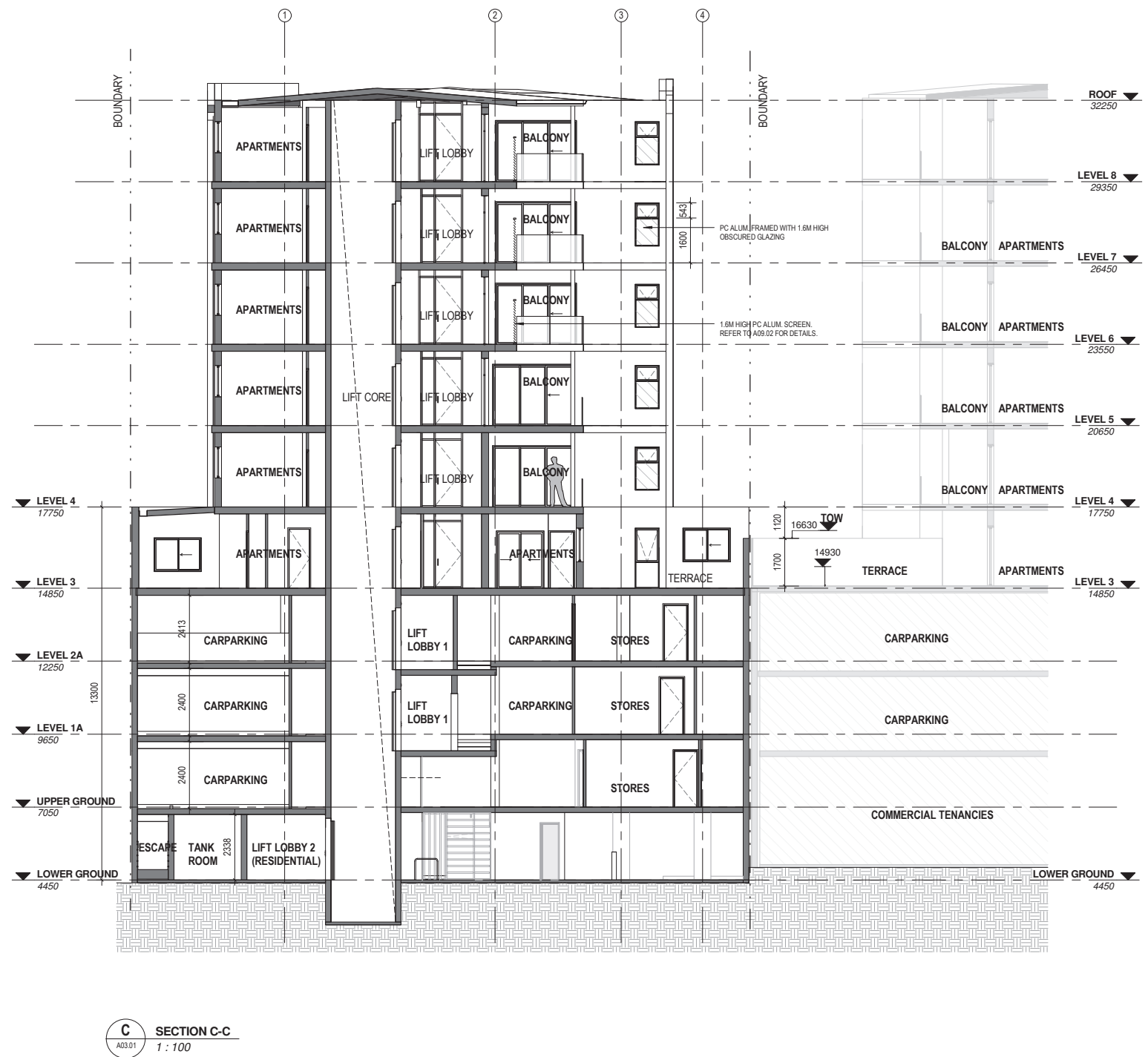
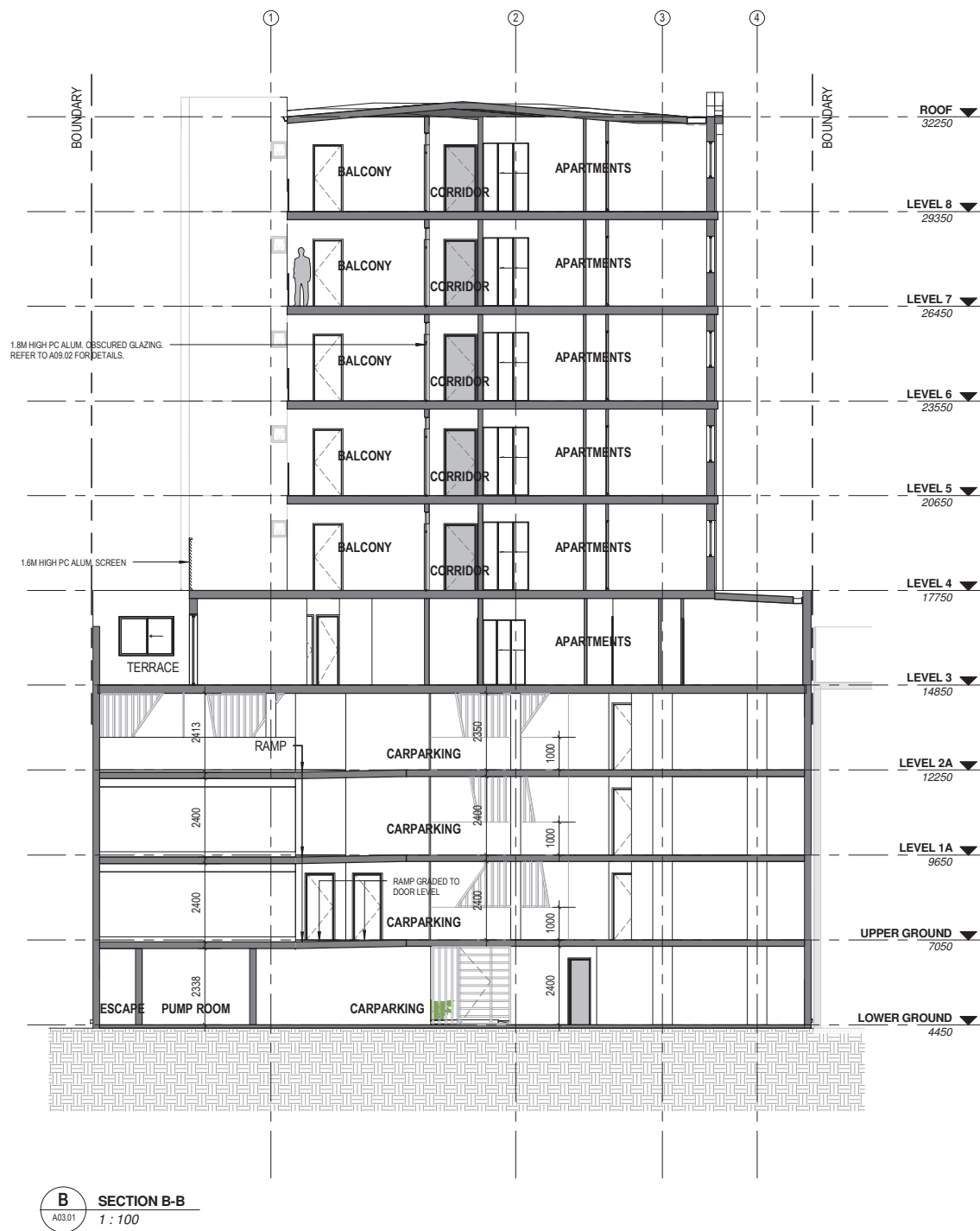
COLOR:
CHARCOAL

CITY OF CANNING
30/04/2018
AMENDED PLAN

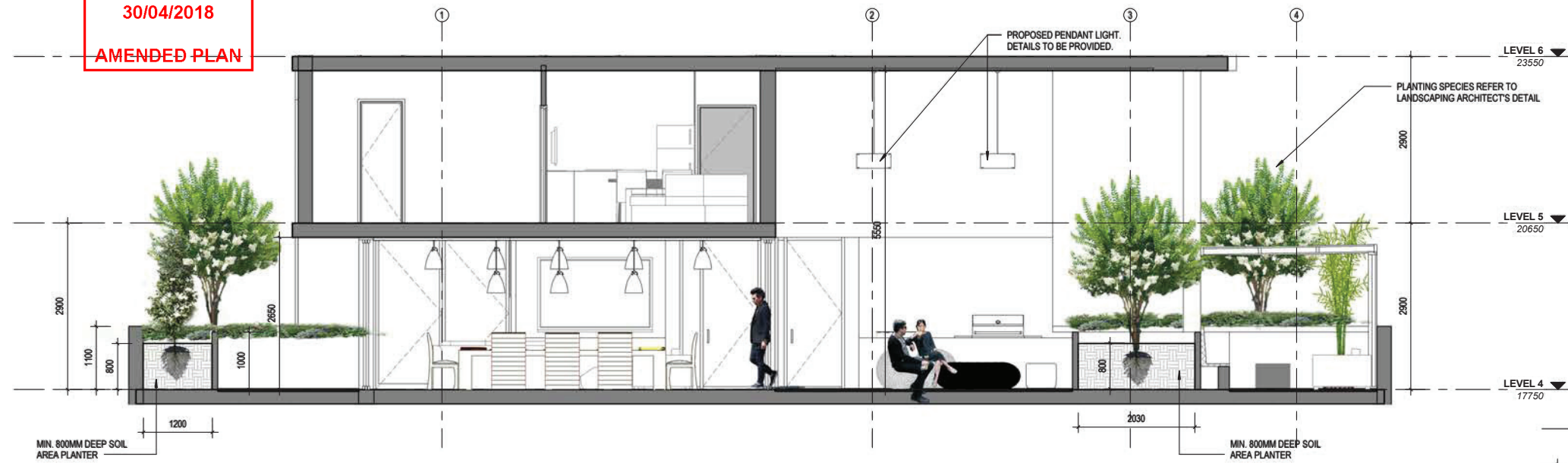


CITY OF CANNING
30/04/2018
AMENDED PLAN

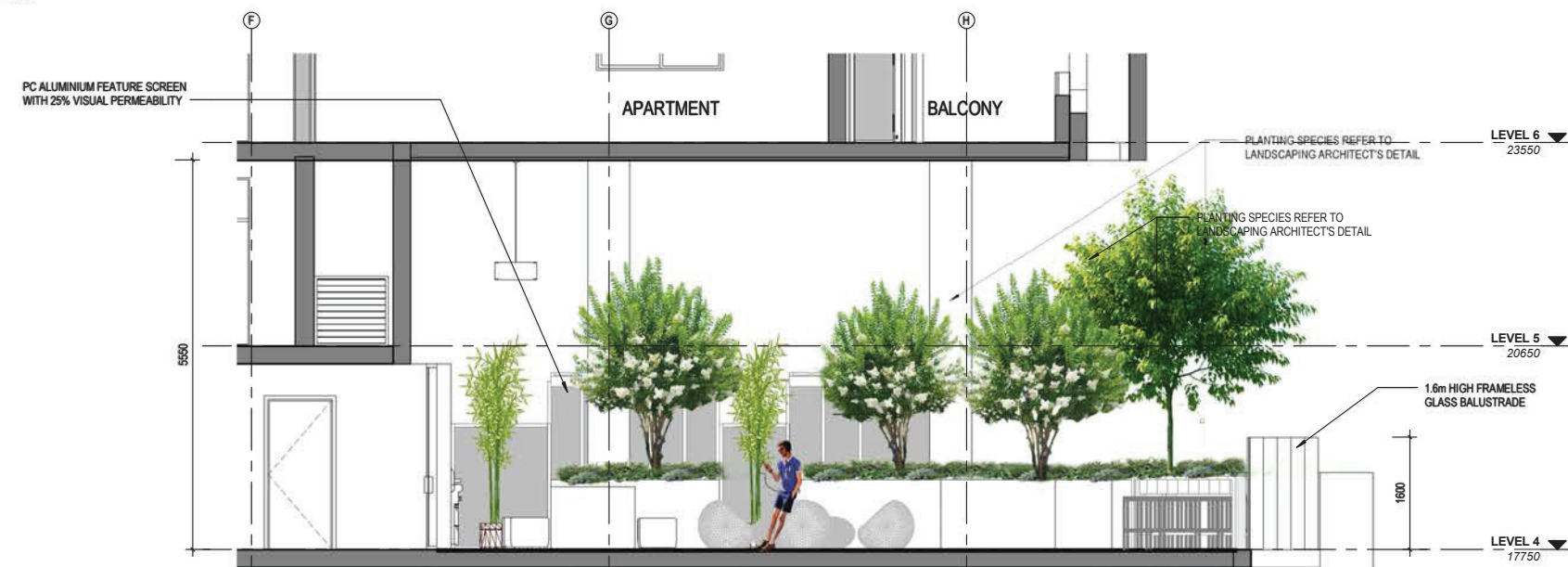




CITY OF CANNING
 30/04/2018
 AMENDED PLAN



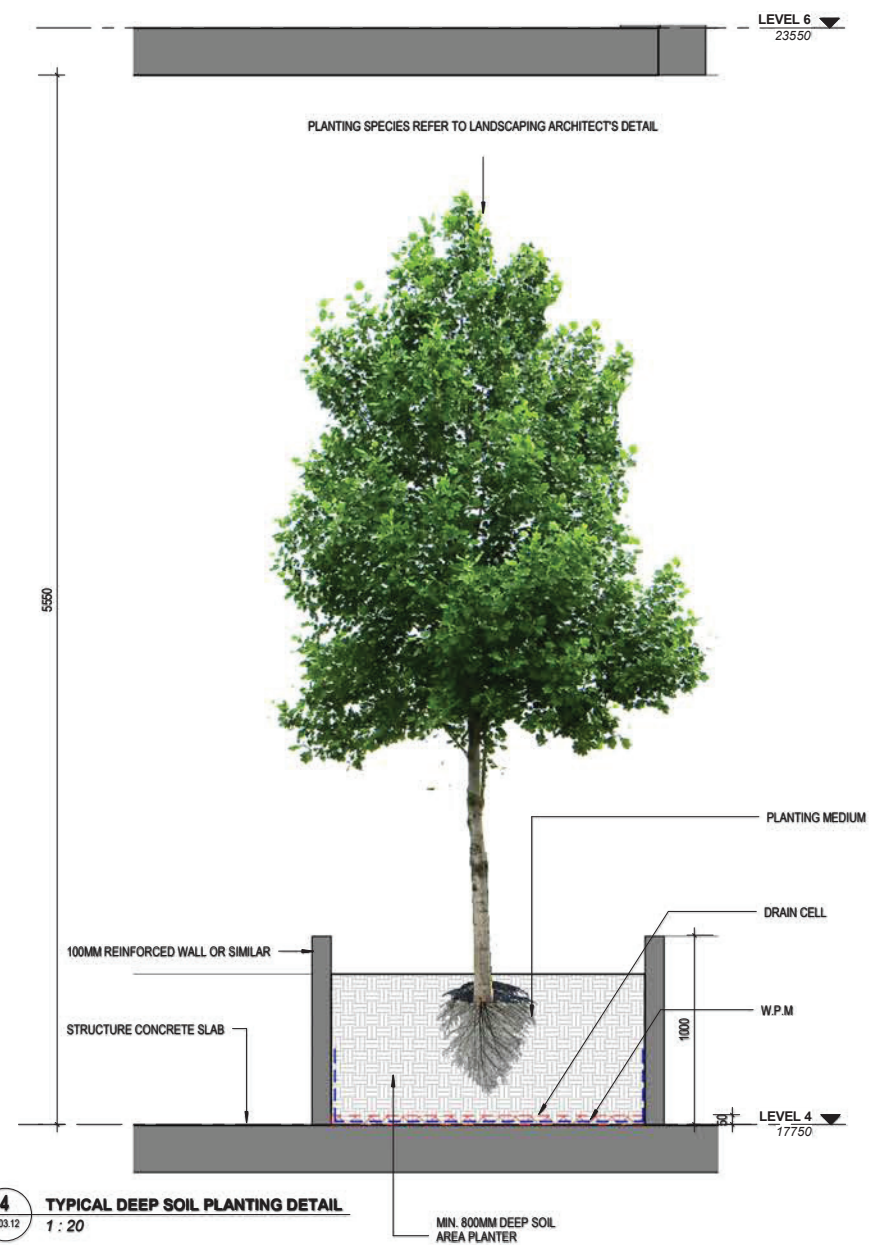
1 SECTION E-E COMMUNAL
 1 : 50



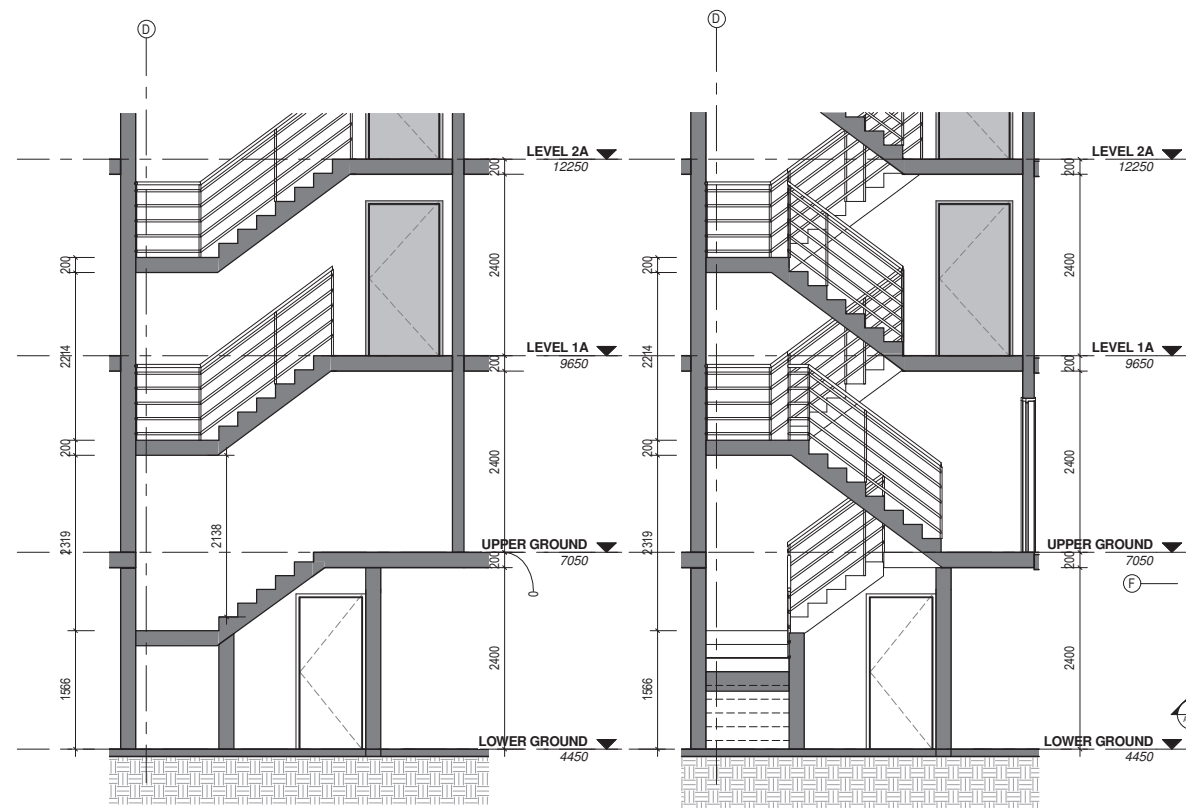
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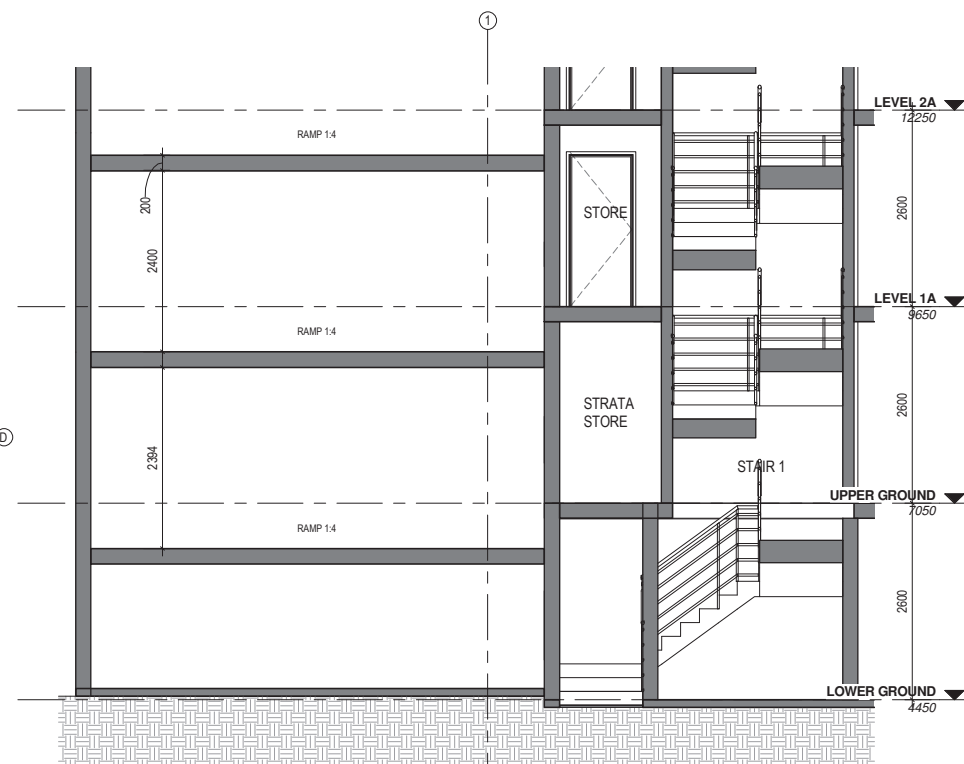
3 SECTION G-G COMMUNAL
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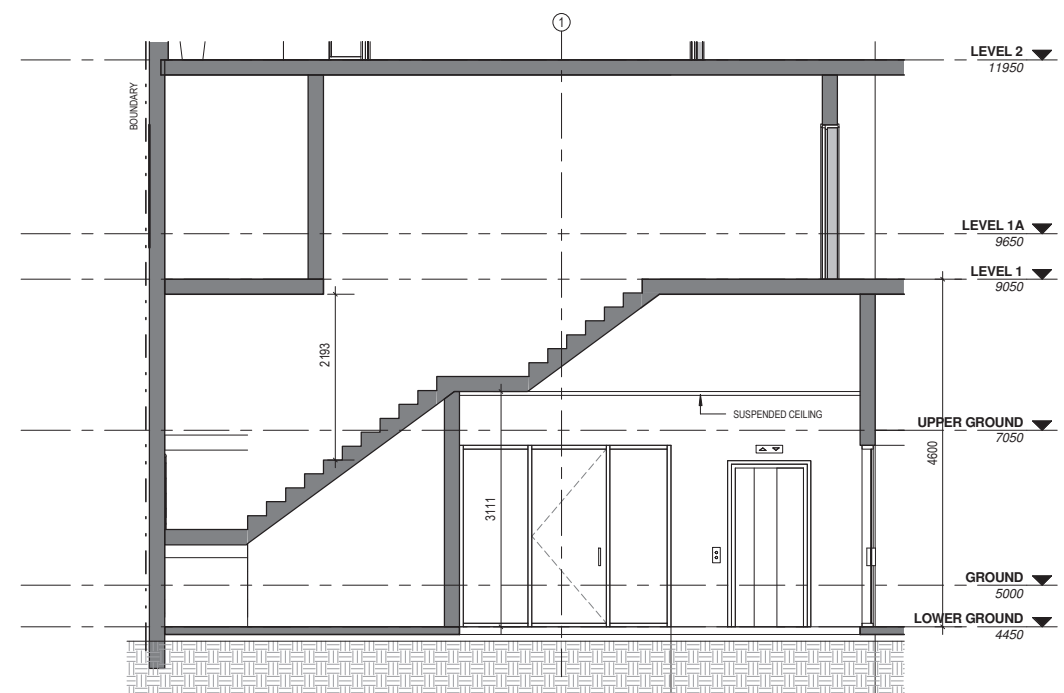
4 TYPICAL DEEP SOIL PLANTING DETAIL
 1 : 20



5 SECTION_STAIR 1_B
A08.01 1 : 50



6 SECTION STAIR AND RAMP
A08.01 1:50

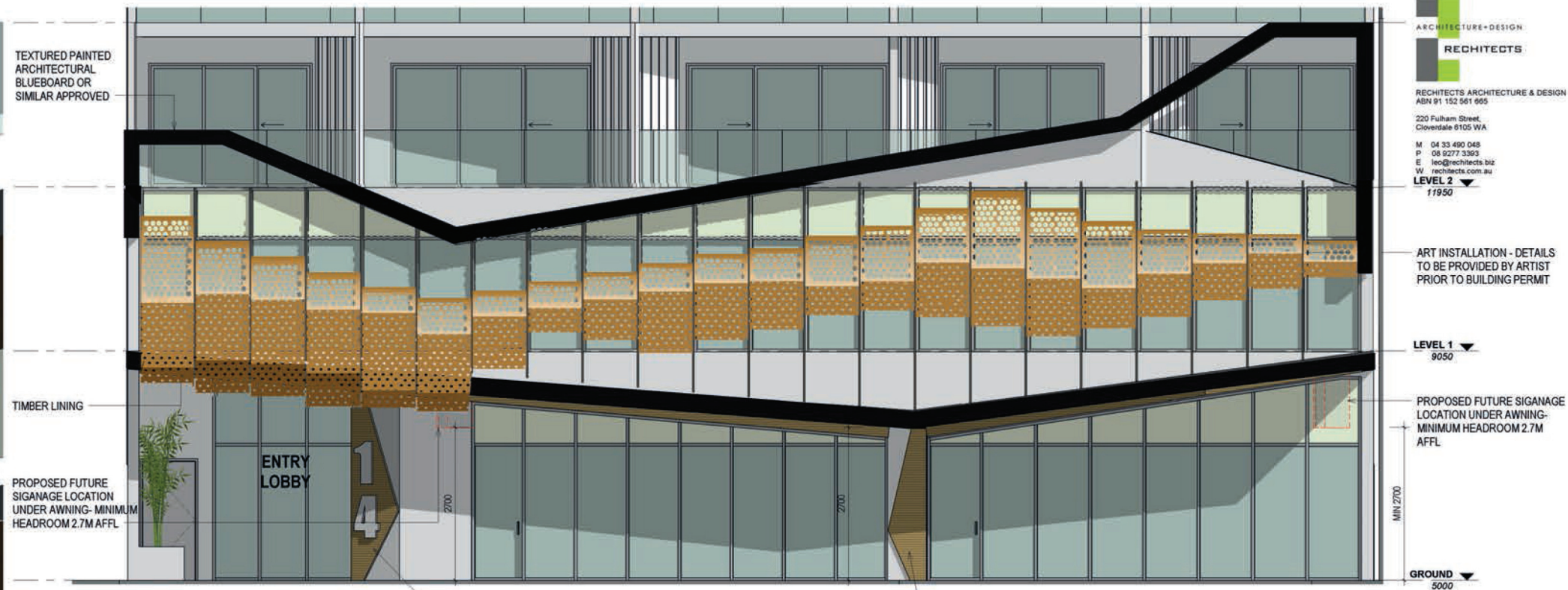


8 SECTION ENTRY LOBBY STAIR 2
A03.01 1:50

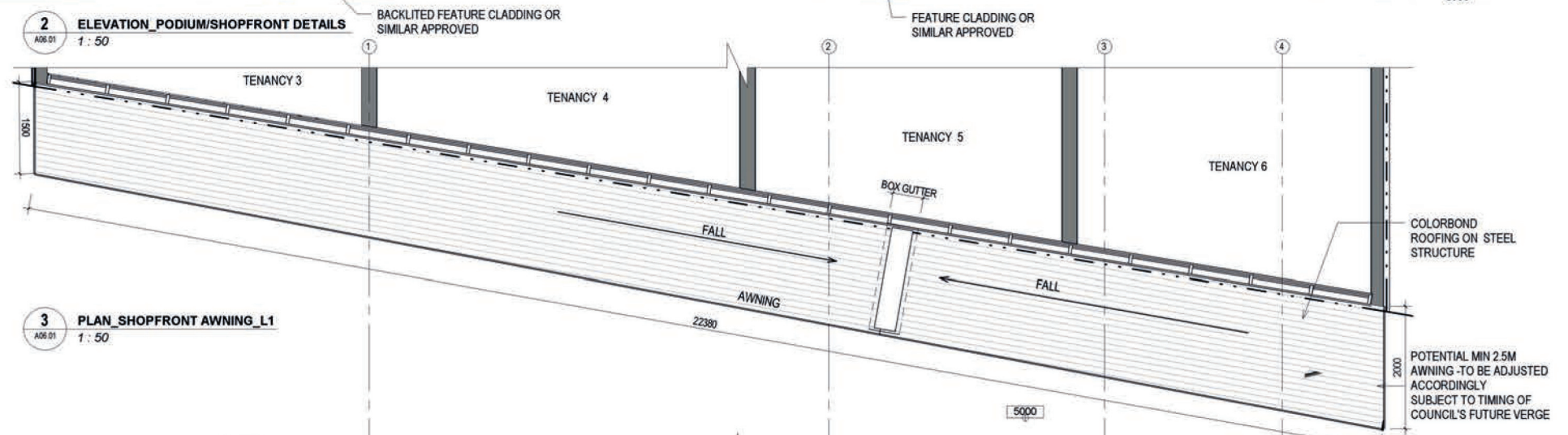
CITY OF CANNING
30/04/2018
AMENDED PLAN



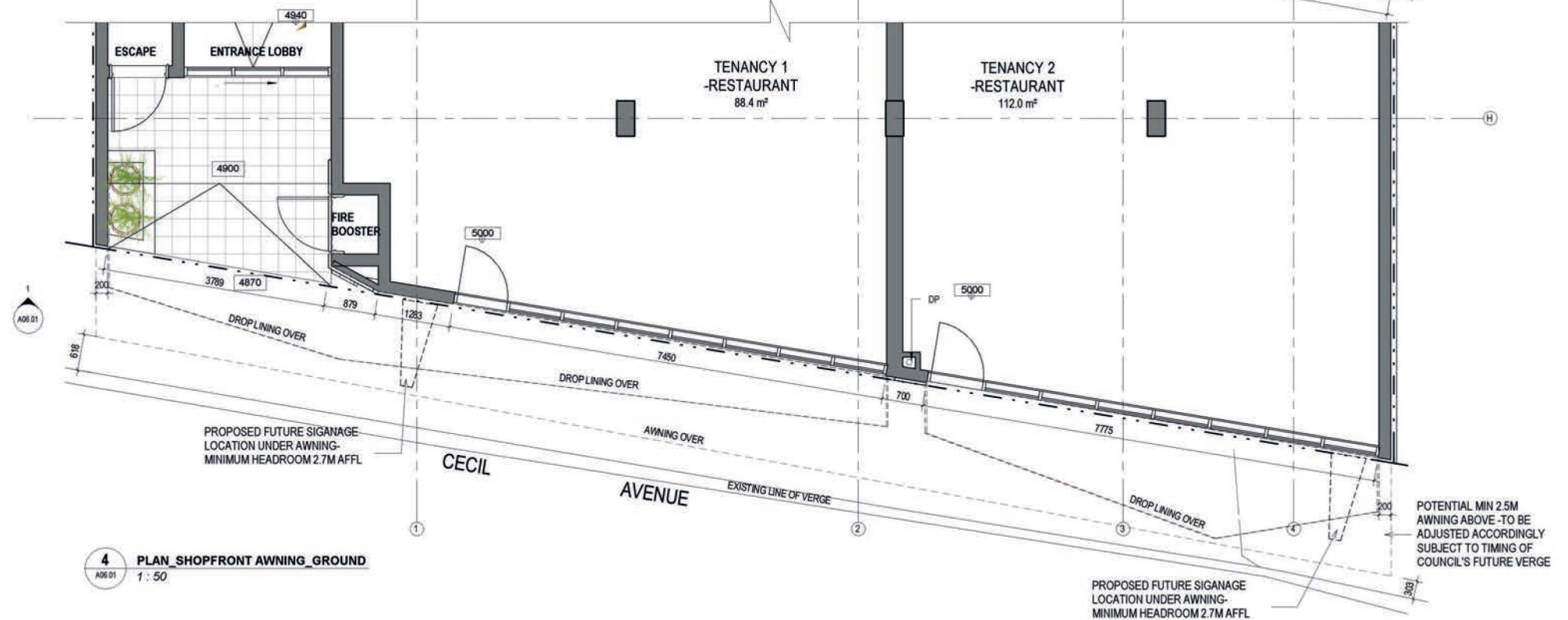
1 VIEW - ENTRY STATEMENT



2 ELEVATION_PODIUM/SHOPFRONT DETAILS
1: 50



3 PLAN_SHOPFRONT AWNING_L1
1: 50



4 PLAN_SHOPFRONT AWNING_GROUND
1: 50

Scale: 1 : 50 (A1)

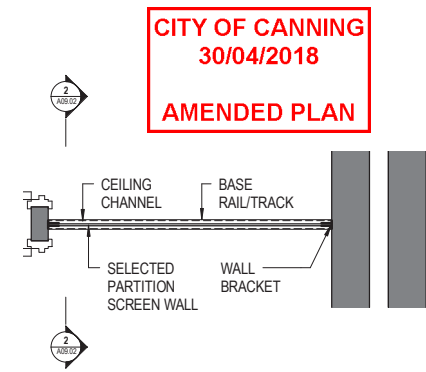
PROPOSED 9 STOREY MIXED USE DEVELOPMENT

14 Cecil Avenue, Cannington

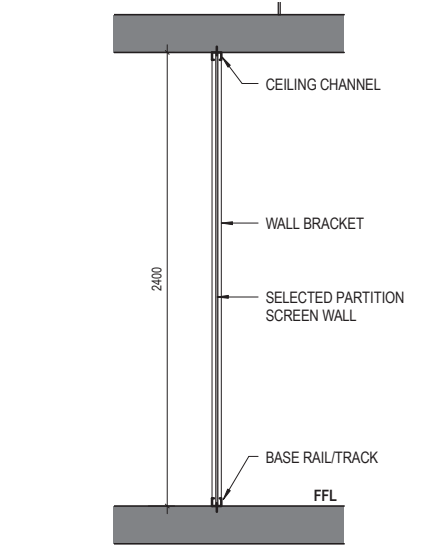
SUBJECT TO COUNCIL APPROVAL

SHOPFRONT AWNING DETAILS

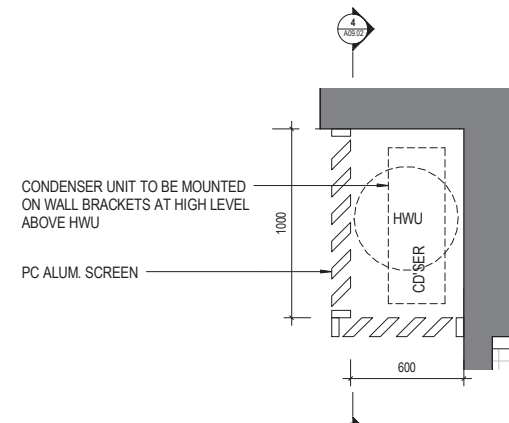
LC 27/04/18 A09.01



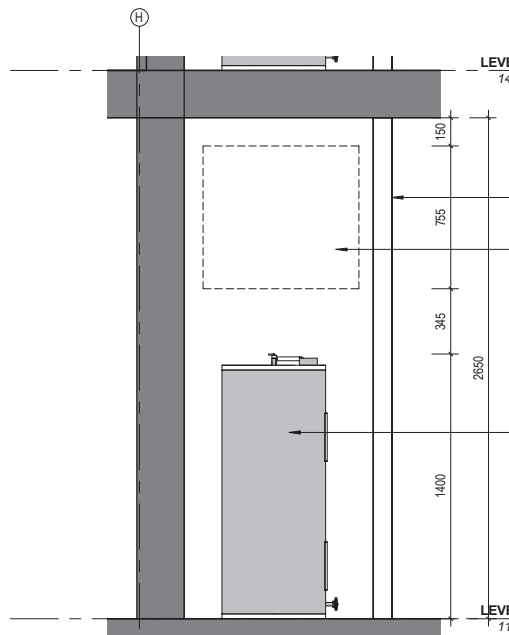
1 PLAN_STORE PARTITION WALL DETAIL (TYP.)
 A03.01 1 : 20



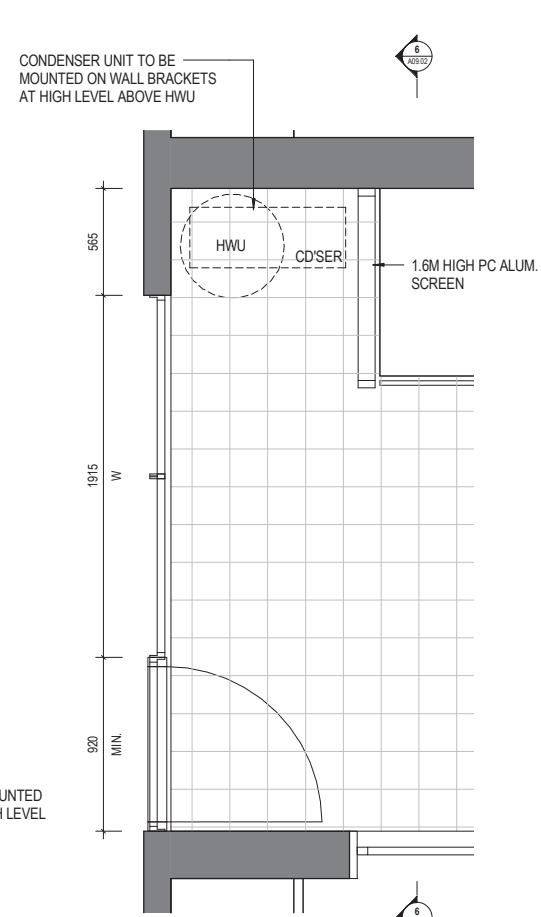
2 SECTION_STORE PARTITION WALL DETAIL (TYP.)
 A09.02 1 : 20



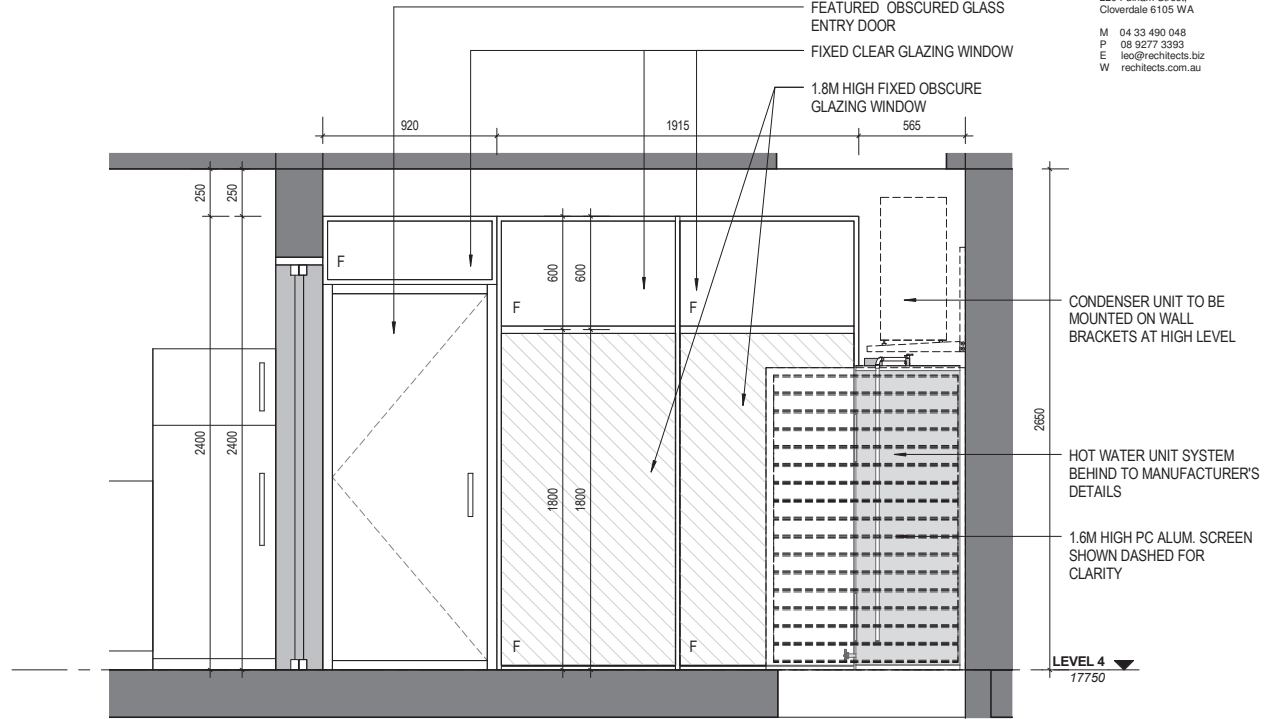
3 PLAN_AIRCON & HWU ENCLOSURE DETAIL (TYP.)
 A06.01 1 : 20



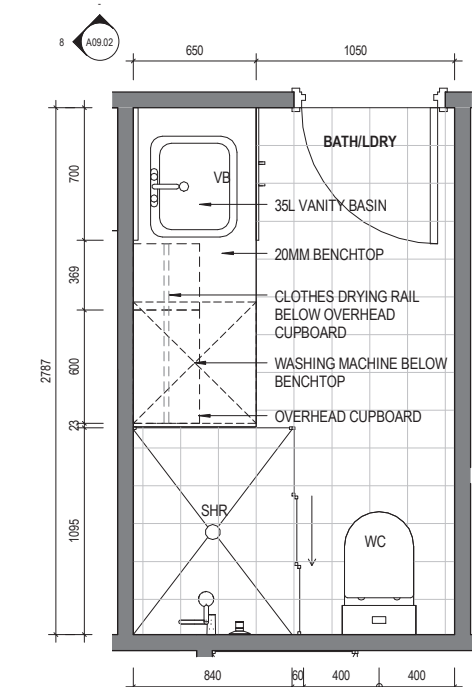
4 SECTION_AIRCON & HWU ENCLOSURE DETAIL (TYP.)
 A09.02 1 : 20



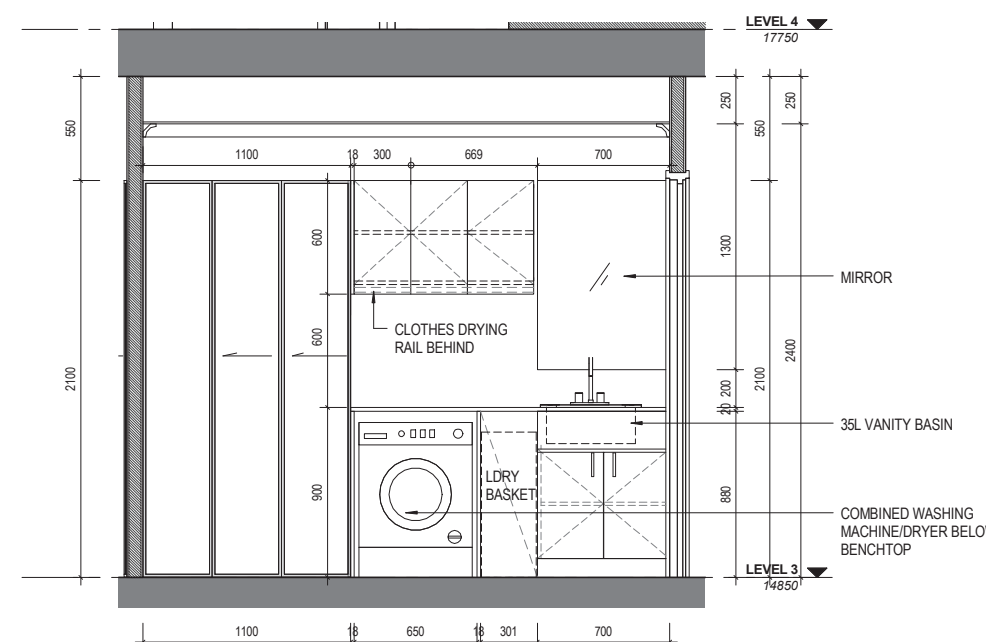
5 PLAN_AIRCON & HWU ON BAL. DETAIL (TYP.)
 A06.01 1 : 20



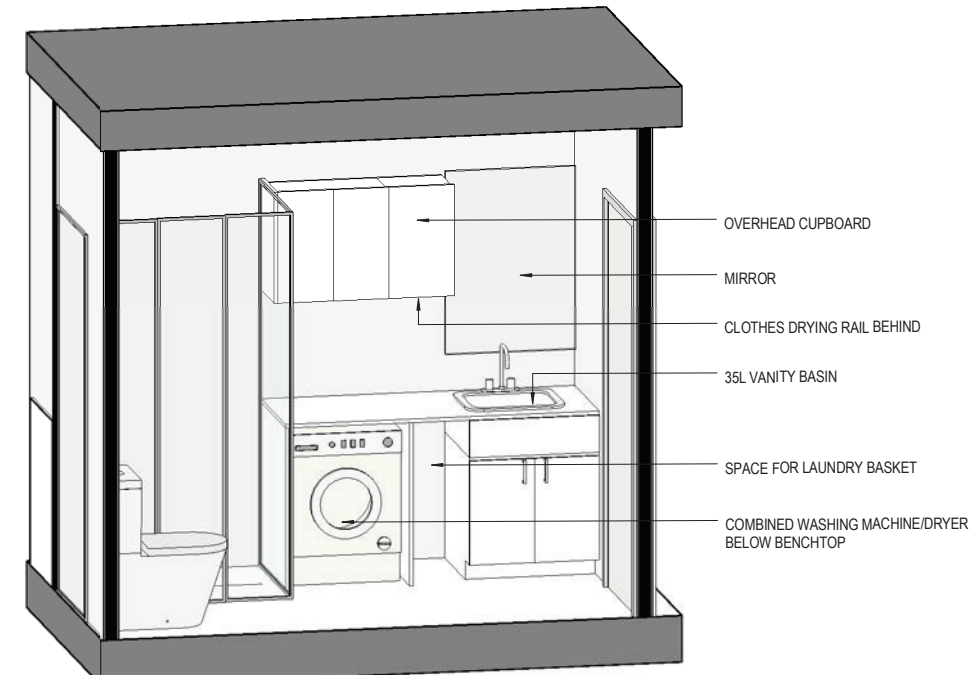
6 SECTION_AIRCON & HWU ON BAL. DETAIL (TYP.)
 A09.02 1 : 20



7 PLAN_TYPICAL BATH LAYOUT
 A06.01 1 : 20



8 ELEVATION_TYPICAL BATH LAYOUT
 A09.02 1 : 20



9 3D_TYPICAL BATH/LAUNDRY LAYOUT





1 REAR SIDE VIEW



2 AT STREET



1 VIEW_SOUTH WEST



2 VIEW_NORTH EAST





3D VIEW - OUTDOOR COMMUNAL 1



3D VIEW - OUTDOOR COMMUNAL 2



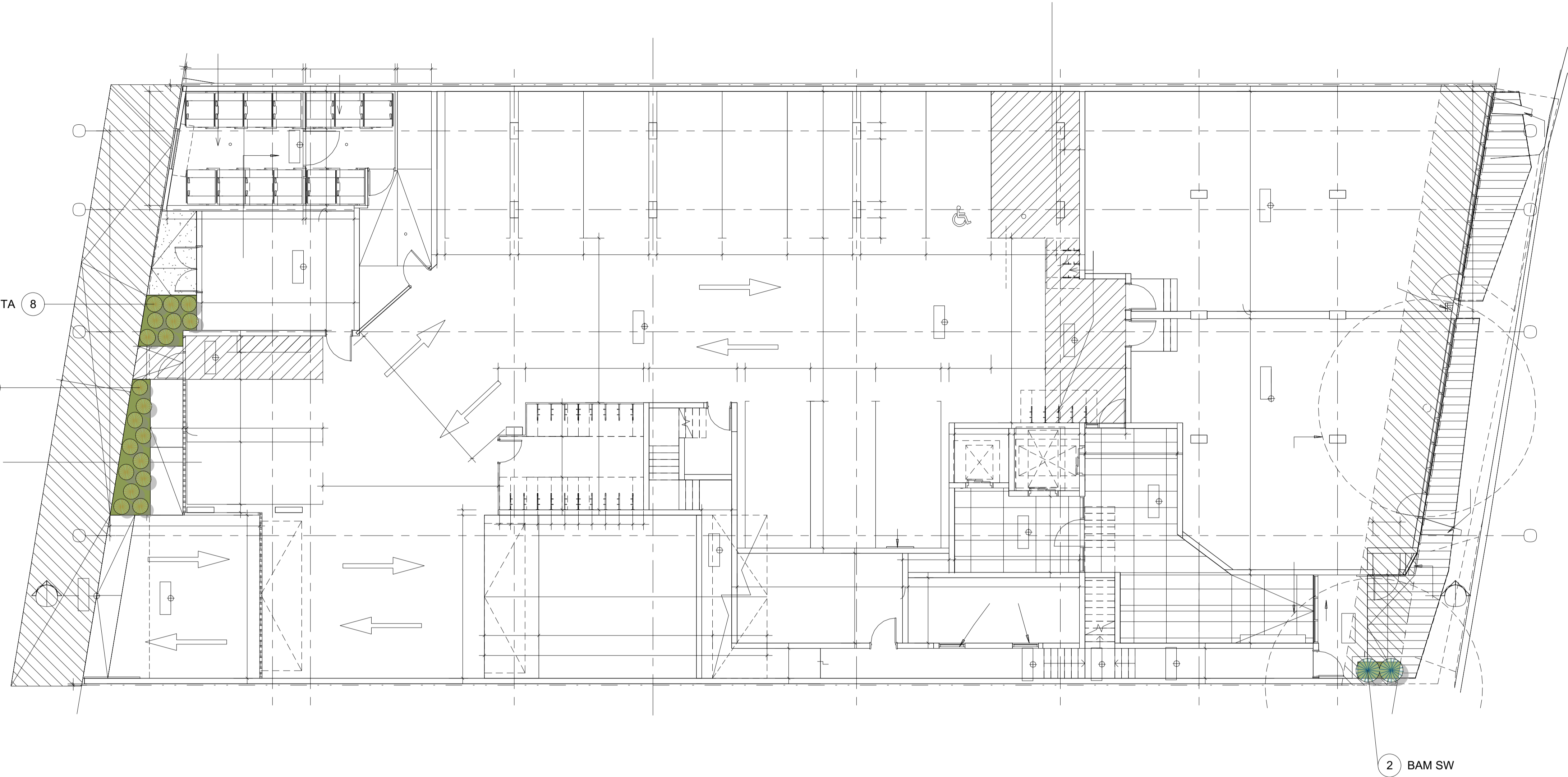
3D VIEW - INDOOR COMMUNAL



3D VIEW - OUTDOOR COMMUNAL 3

CITY OF CANNING
30/04/2018
AMENDED PLAN

LOM TA 8
LOM TA 11



1 Landscape Plan - Ground Floor
Scale: 1:100

NOTE:
Planting Schedule on drawing L02

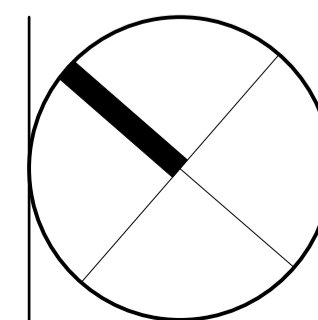
Note: Contractors shall verify all dimensions onsite and refer discrepancies to this office prior to commencement of construction. If you have any queries please contact **Phase3 Landscape Construction** at Unit 4, 11 Milson Place O'Connor Western Australia 6163. Tel. +61 8 9337 6985 Fax. +61 8 9337 6680

Client Name: Rechitects

Signature:

Project:
14 Cecil Avenue Cannington

Revisions:
Revision A - DA Application



L01

Scale: As Shown - A1

Title:
Landscape Plan - Ground Floor

Job No: D108

Date: 03.04.2018

Designed: MH

Drawn: BBH

PHASE3

CITY OF CANNING
30/04/2018
AMENDED PLAN



1 Landscape Plan - Level Four
Scale: 1:100

ID	Latin Name	Quantity	Scheduled Size
CAS GL	Casuarina glauca 'Cousin It'	17	12Lt
AGA AT	Agave attenuata	4	30Lt
CIT EU	Citrus Lemon 'Eureka'	1	45Lt
CIT TL	Citrus 'Tahitian Lime'	1	45Lt
GLE TR	Gledistia triacanthos 'Shademaster'	1	100Lt
LAG NA	Lagerstroemia indica 'Natchez'	4	100Lt
MAG LG	Magnolia 'Little Gem'	2	100Lt
CAR VI	Carpobrotus virescens	14	140mm
ALO VE	Aloe Hybrid 'Venus'	12	170mm
ALO TU	Aloe Hybrid 'Tusker'	13	200mm
ART CI	Arthropodium cirratum	16	200mm
BAM SW	Bambusa textalis 'Slender Weaver	2	200mm
BUX MI	Buxus microphylla var. Japonica	8	200mm
HEL IT	Helichrysum italicum	11	200mm
LIR MU	Liriope muscari 'Evergreen Giant'	9	200mm
LOM TA	Lomandra longifolia 'Tanika'	56	200mm
NAN GS	Nandina domestica 'Gulf Stream	38	200mm
PHI XA	Philodendron 'Xanadu'	12	200mm
SAN TR	Sansevieria trifasciata	27	200mm

2 Planting Schedule

3 Tree Palette



Citrus 'Eureka Lemon' - CIT EU



Citrus 'Tahitian Lime' - CIT TL



Gledistia 'Shademaster' - GLE TR



Magnolia 'Little Gem' - MAG LG



Lagerstroemia 'Natchez' - LAG NA

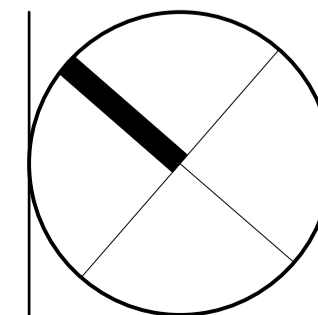
Note: Contractors shall verify all dimensions onsite and refer discrepancies to this office prior to commencement of construction. If you have any queries please contact **Phase3 Landscape Construction** at Unit 4, 11 Milson Place O'Connor Western Australia 6163. Tel. +61 8 9337 6985 Fax. +61 8 9337 6680

Client Name: Rechitects

Signature:

Project:
14 Cecil Avenue Cannington

Revisions:
Revision C - DA Application



L02

Scale: As Shown - A1

Title:
Landscape Plan - Level Four

Job No: D108

Date: 27.04.2018

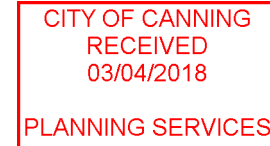
Designed: MH

Drawn: BBH

PHASE3

14 Cecil Avenue Cannington

Percent for Art - Public Art Project



CONCEPT DESIGN SUBMISSION

Prepared by artist: Anne Neil
Address: 79 Stirling Highway
North Fremantle WA 6159
Telephone: 08 9336 1167
Email: teppneil@iinet.net.au

29 March 2018



CONTENTS

.	1	Artist Details, Contact, ABN, Insurance	Page 3
.	2	Subcontractors – structural engineer	Page 3
.	3	Approach to the artwork for 14 Cecil Avenue Mixed Use Development	Page 3 & 4
.	4	Conceptual Direction and Brief Background Notes	Page 4 & 5
.	5	Artwork Description – Perforated Metal Artwork Panels	Page 6, 7 & 8
.	6	Artwork Drawings	Page 9 to 13
.	7	Budget	Page 14
.	8	Proposed Timetable	Page 15
.	9	Progress Payments	Page 15

The image on the front cover, is by photographer Xavi Bou's – it documents bird flight patterns by overlapping several stills.

1 ARTIST'S DETAILS

Artist Anne Neil has prepared this concept design concept submission for public artwork integrated with the façade of the new mixed-use development at 14 Cecil Avenue, Cannington.

Contact Details

Name	Anne Neil		
Address	79 Stirling Highway, North Fremantle WA 6159		
Contact	T: 08 9336 1167	Email:	teppneil@inet.net.au
ABN and GST	I am registered for GST	ABN	29 529 437 096

Insurance

Various insurance policies are in place for a commission of this nature and Certificates of Currency can be provided.

2 SUBCONTRACTORS – STRUCTURAL ENGINEER

During the design development phase, I plan to work closely with the engineer from the screen and frame fabricators, to confirm all structural requirements, frames and fixing details for the perforated façade artworks.

3 APPROACH TO THE PUBLIC ART FOR 14 CECIL AVENUE MIXED USE DEVELOPMENT

During the design concept phase careful attention has been paid to City of Canning public art requirements for developers – LP.03. The artwork proposed is an integral element of the building design and the inspiration behind the artwork was developed in direct response to the Canning City Centre – The Riverine City - A Public Realm and Urban Design Concept Masterplan.

An important consideration in developing the artworks for the building at 14 Cecil Avenue, has been future plans (exact final plans are unknown) for Cecil Square. At this stage a fountain and a water play area (referring to the river system) is proposed and it is noted that this Square will serve as a destination space as well as a linking one, that connects Canning Station to the Canning River with a continuous and engaging urban fabric. This street will be a low speed movement corridor that accommodates cars and busses and there is provision for a future light rail system.

With pedestrian use along this street, the artwork for 14 Cecil Ave could serve as a strong visual wayfinding device helping people orientate themselves in this area. The 14 Cecil Ave artwork links visually with the design intent for Cecil Square and will be part of the overall Cecil Ave and Cecil Square future development.

When researching themes and ideas for artwork for the 14 Cecil Ave development, my goals were:

- . that the theme would be engaging and meaningful, celebrating the unique natural environment (ie the Canning River) and respond to the future physical characteristics of Cecil Avenue – ie a new ‘main street’ with a new street scape, tree planting and a new civic square – a distinctive and memorable boulevard
- . that the artwork would be site specific and in some way respond to, and be incorporated with the architecture of the building
- . that the artwork would stimulate a positive response and be an integral part of the future street scape and Cecil Square
- . to strive for minimal maintenance and longevity (both for materials and concept)

In keeping with the of Canning’s Public Art Policy LP.03 Developer Funded Public Art requirements, the artworks proposed are an integral part of the new development and enhance the visual amenity of Cecil Avenue and the suburb overall.

My approach has been to create an artwork that is simple and graphic, with visual impact that is intriguing, that people from all ages, abilities and backgrounds can relate to.

4 CONCEPTUAL DIRECTION AND BRIEF BACKGROUND NOTES

“What conveys meaning is not the stone, but the ripple it sends out”

Darryl Reanne, Music of the Mind

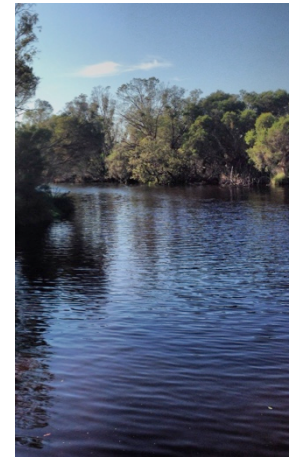
I approached the conceptual direction for the artwork for this new mixed-use development, with the aim of expressing a connection to the Canning River.

The ripple patterns seen on the surface of the water are intriguing (see source images on the following page of ripples on the surface at various sections of the Canning River).

These water reflections break up and change as the wind moves over the surface – a beautiful celebration of nature and of wind and water. The artwork design developed from this main source of inspiration. While the artwork emulates the source material (water patterns), it is abstract and allows for many readings. For example – it can also be interpreted as bird flight patterns- see the following page for photographer Xavi Bou’s photographs that uses a technique based on chronophotography, the photographic practice which attempts to document movement by overlaying several frames.

To create a sense of movement and in response to the ripple idea, I took folds of various lengths and set them at various angles that travel across the length of the building facing Cecil Avenue. These forms took on an intriguing dimension, with the result being a playfulness across this façade that eludes to the idea shimmering water, wind and change.

These folded artwork shapes relate well and compliment the various geometric forms and patterns within architectural palette for the overall building.



The image at the bottom of this page is by photographer Xavi Bou's – he documents bird flight patterns by overlapping several stills.



5 ARTWORK DESCRIPTION - Perforated Metal Artwork Panels

Location: 14 Cecil Avenue Canning – building façade, 1st level

The folded artwork panels will be installed on top of the awning (1st level) and in front of the four offices on the first floor.

Important considerations:

- . That the screens will be a backdrop for the interior of each office tenancy, so colour has been given careful consideration.
- . That the holes/perforations be of a particular diameter (17mm and 31mm) to allow the office tenants to be able to see through the perforations from within the building.
- . Cleaning of the glass – the frames will be installed around 750mm from the windows, allowing for access for cleaning.

Description: The artwork panels will be seen externally from Cecil Ave and internally from within the building by the office tenants.

The artwork composition consists of a number of unique folded screen-like panels that appear to float and fly about the awning. These artwork screens are perforated.

Material: At this stage 3mm marine grade aluminium (5083) has been allowed for. I have chosen 5083 grade aluminium as it has a similar strength to structural steel, will not rust and is lightweight (an important consideration as the artwork will be installed on the awning at first level)

Surface Treatment

And Colour: I propose a Powder Coat finish (for the frames and the screens) and have chosen colours from the Dulux Electro range. This range has excellent exterior durability with a 20 year performance warranty. It is UV resistant and can be simply cleaned with water and in the unfortunate situation where damage occurs the powder coated surface can be easily repaired on-site using an approved Dulux paint system.

The powder coat colour for the frames will be Venerable Silver – a charcoal grey shade.

The powder coat colour for the screens will be Sensational Champagne – a rich golden brown shade. This colour compliments the building colour palette and has been chosen in relationship to the future office tenants allowing for some flexibility for them when choosing their interior décor.

NOTE: The artwork screens will all be the same colour and finish - the change of colour is created by using 2 different hole sizes for the screens – 17 and 31mm diameter holes at 40mm centres. This is a picperf technique –please see images/examples of previous artwork using this technique, on page 8 of this report.

Size: The size of the individual perforated folded panels varies. During the design development phase, in collaboration with the structural engineer, the final dimensions will be confirmed.

Based on projects of a similar nature, it is envisaged that the frames will be rhs, possibly 50mm square. During the design development phase the engineer will confirm this along with fixing methods.

Installation: It is envisaged that the folded metal panels would be Tek screwed (using self tapping screws) to the frame and supports for each separate section. The structural engineer will confirm the details for the frames and fixings in the design development phase, prior to fabrication.

Notes on Preliminary Fixing System/Method:

Final specifications for the frames and fixings will be confirmed in the design development phase of the project in conjunction with the structural engineer.

Self Tapping Screw with isolator – Designed for use for applications where dissimilar metals are being used – to eliminate potential for corrosion. The screw and support material will be the same material – ie steel. .

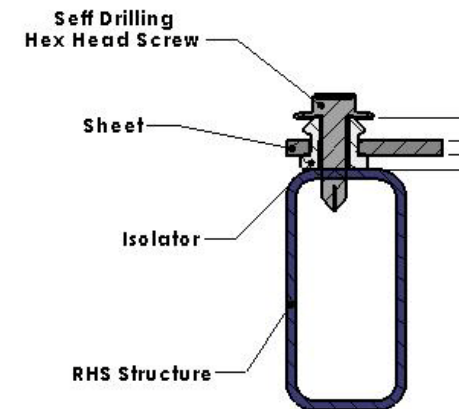
One product could be the L11 Perforated Isolator as it is designed for applications that utilise dissimilar metals, in the perforated artwork panels and the support structure, to eliminate the potential for corrosion.

The L11 Perf Isolator protects the perforated panel only, the screw and support structure must still be the same material.

In addition, the L11 Perf Isolator offers some noise reduction, as it provides an absorption barrier between the panel and the structure. The shearing effect often caused by thermal expansion, is minimised as the L11 isolator provides some flexibility to the joint.

All holes, including bolt holes, or fixing holes, will be part of the dxf files for the pic perf technique for the folded artwork panels. These will be incorporated into the perforation process, which prevents any subsequent damage to the panel.

Note: Powder coated folded panels will be predrilled prior to the final surface treatment as drilling holes during installation can break or damage the coating.



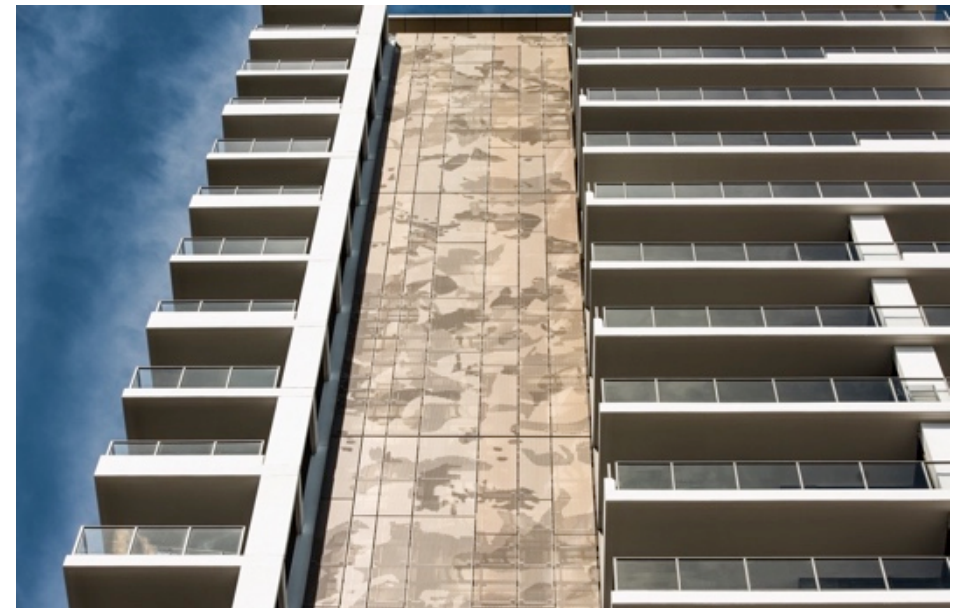
EXAMPLE OF PICPERF TECHNIQUE

Below are examples of the pic perf technique (with various hole sizes) used to create artwork designs. The screens are one colour – it is the hole perforations that create the sense of additional shades of colour. The image to the left is of the screens that sit in front of various offices.

NOTE: Where there are larger holes the screen will be more open and appear lighter in that section.

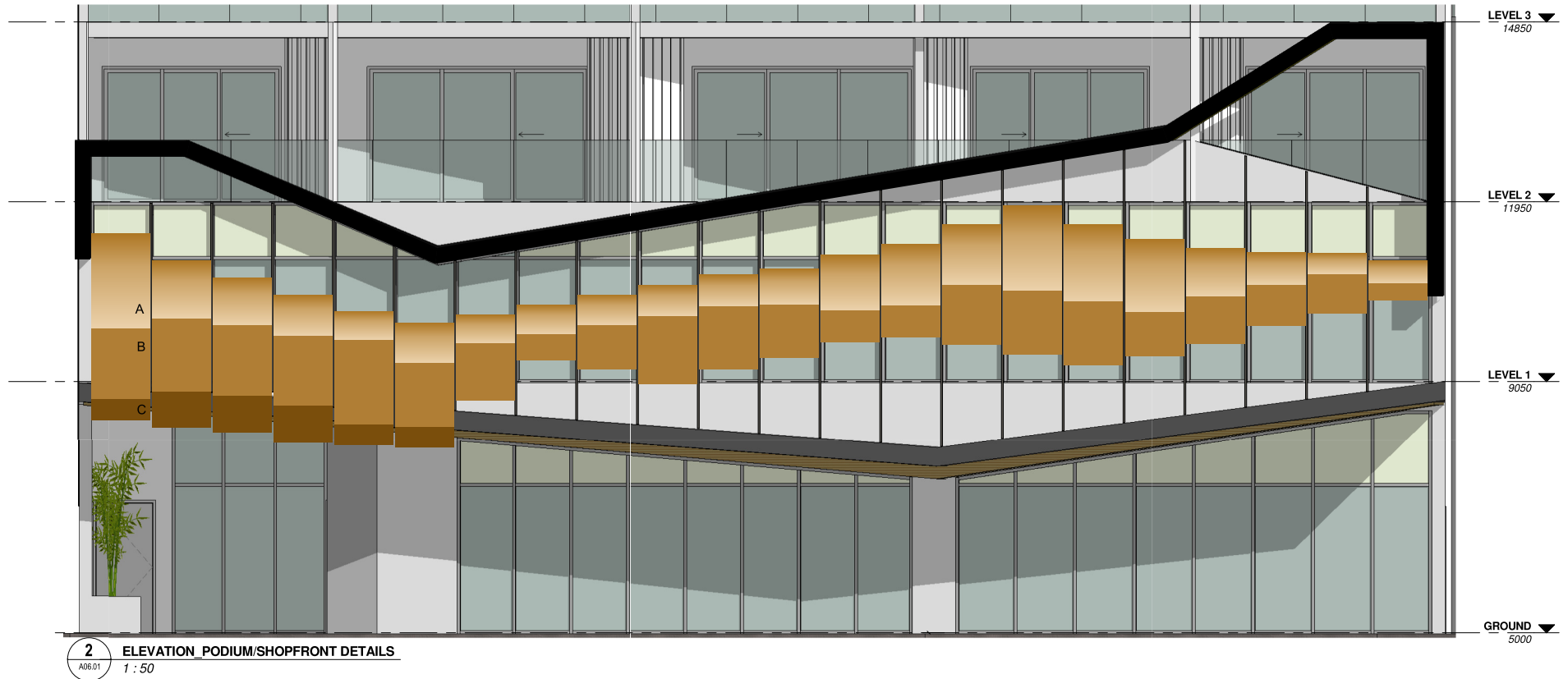
Example of picperf technique – external artwork screen panels using 3 different hole sizes (31, 24 and 17mm diameter)

Pinnacles Mixed Use Development, South Perth – artist Anne Neil



6 ARTWORK DRAWINGS

22 individual/unique folded perforated screen panels installed above awning, Cecil Avenue and located in front of 4 offices
Front Elevation



Artists Perspective showing artwork screens on Cecil Avenue

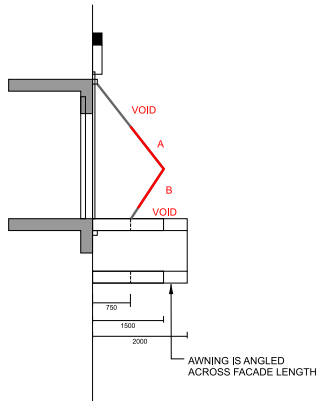


14, Cecil Ave Perforated Screen Design
29 / 03 / 18

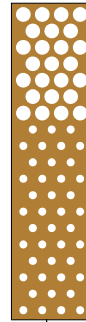


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**SIDE SECTION TYPICAL NTS
FOR NON WRAP AROUND FRAMES**

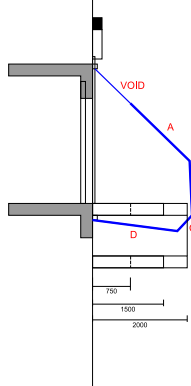


**TYPICAL PERFORATED PANELS
(NOTIONAL PATTERN)**



31 & 17MM DIAM HOLES
@ 40MM CENTRES
40mm RETURN TO ALL
4 SIDES OF EACH PANEL

**SIDE SECTION NTS
FOR WRAP AROUND FRAMES
(FIRST 6 PANELS)**

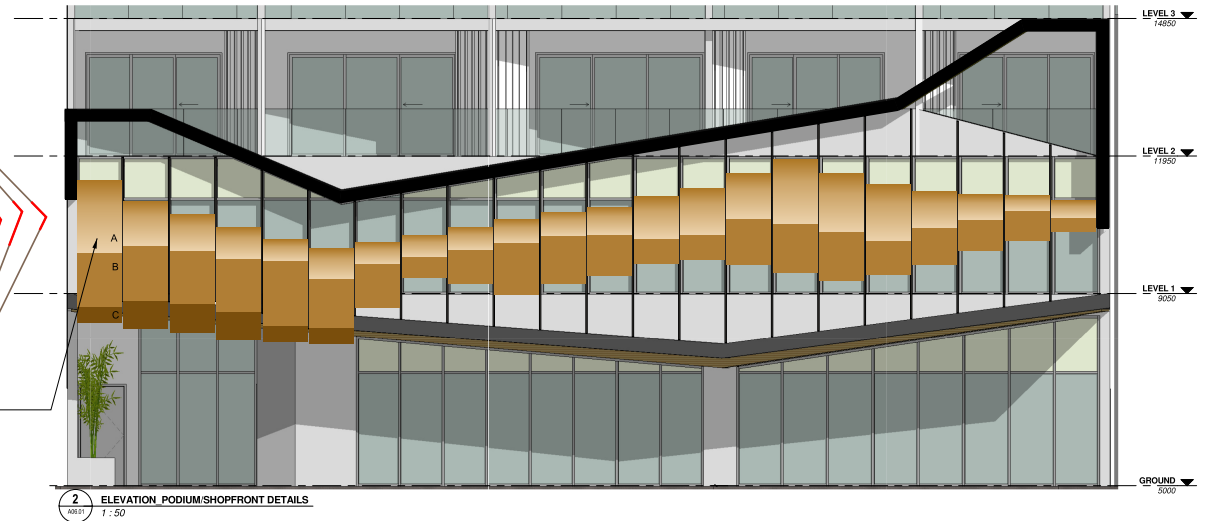
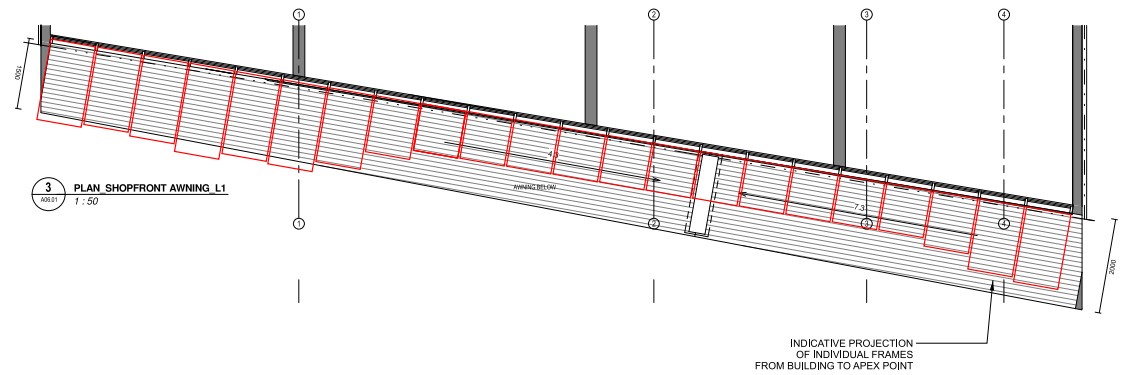


NON WRAP AROUND SCREENS

SCREENS WRAP OVER AND ARE
APPLIED TO CEILING ENTRY

PERFORATED SCREENS
IN TWO HOLE SIZES:
SEE ABOVE NOTIONAL DESIGN
31 DIAM, ON PANEL A
17 DIAM, ON PANEL B

POWDERCOATED TO
DULUX ELECTRO-9063187K
SENSATIONAL CHAMPAGNE
FRAMES TO DULUX ELECTRO-9067621K
VENERABLE SILVER (FLAT)

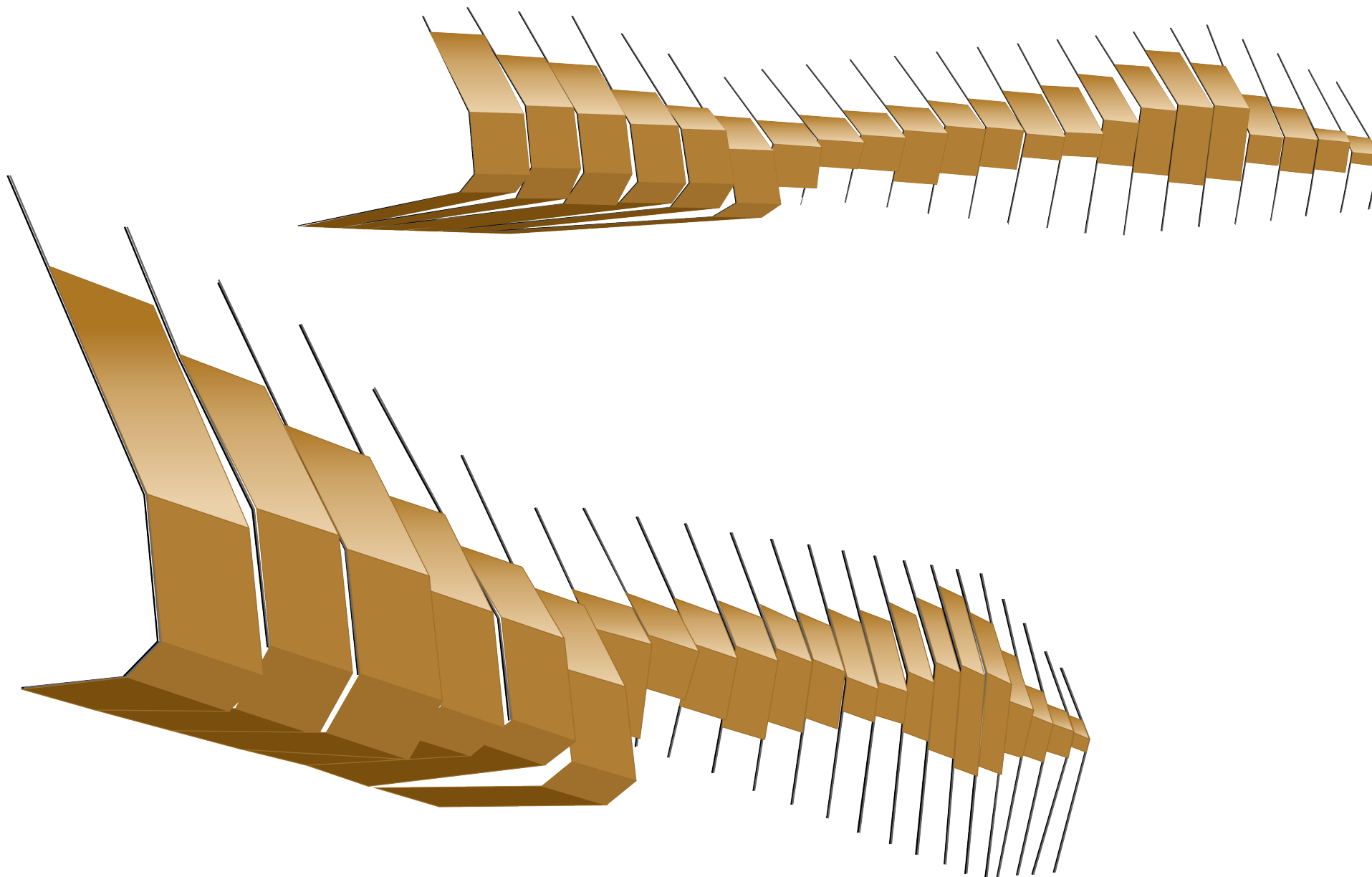


14 Cecil Ave Perforated Screen Design
29 / 03 / 18

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Perspective views of unique perforated screen panels





14 Cecil Ave Perforated Screen Design
29 / 03 / 18

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7 BUDGET

The overall artwork budget is \$100,000.00 + GST. Based on projects of a similar nature and verbal estimates from suppliers, the budget estimate for the proposed artworks are:

. Artists Fees for Stage 1 – including the Concept Design Submission	\$10,000.00
for Stage 2 – Design Development Phase and Project Implementation	
. Artists Fees for design development, to attend meetings, project manage, etc	\$12,000.00
. Structural Engineers Fees	\$ 5,000.00

Fabrication/Implementation Phase - including:

Perforated Folded Metal/Screen Panels (22 unique folded panels) – please allow up to \$40,000.00

Including:

- material – 5083 marine grade aluminium
- dxf file preparation and pic perf conversion
- . punching and folding
- surface preparation, and powder-coating
- transport to site
- and installation frames

For 22 unique rhs frames – with 44 side profiles – please allow up to \$33,000.00

Including:

- rhs material
- cutting, welding and grinding
- surface preparation and powder-coating
- transport to site
- and installation of frames onto the building and awning

Total Artwork Budget excluding GST \$100,000.00

8 PROPOSED TIMETABLE

-	March 2018	.	Complete Concept Design Report/Submission
-	May 2018	.	Sign Contracts and Commence Design Development in consultation with the architect and project engineer
-	July 2018	.	Completion of Design Development and Documentation
-	Sept 2018	.	Commence Fabrication of the artworks – create files for hole perforations
-	March 2019	.	Complete Artwork Fabrication
-	April/May 2019	.	Installation of the artwork on site *
-	July 2019	.	Building Project Completed

* To be confirmed – within the builders program of work

9 PROGRESS PAYMENTS

It is proposed that there are 6 progress payments:

1 st	March 2018	.	Upon completion of collaboration with the architectural team and presentation of Concept Design Report to City of Canning	\$10,000.00+ GST
2 nd	May 2018	.	Upon signing contract for Stage 2, Implementation and design development phase	\$ 5,000.00 + GST
2 nd	July 2018	.	On completion of the design documentation & material deposit	\$20,000.00 + GST
3 rd	Nov 2018	.	When artwork is 50% completed	\$30,000.00 + GST
4 th	March 2019	.	When artwork is 100% completed, ready for transport to site*	\$25,000.00 + GST
5 th	April/May 2019	.	When artwork is installed on site*	\$ 7,000.00 + GST
6 th	July 2019	.	Project completed, when maintenance report is submitted	\$ 3,000.00 + GST
Total Artwork Commission Sum				\$100,000.00 + GST



ESD Report

14 Cecil Avenue, Cannington

Reference: SH97057

Date: 14 December 2017

Assessment of:

Proposed Mixed Use Development

14 Cecil Avenue, Cannington, 6108, WA

Report commissioned by:

Jane Chua c/o

Rechitects Architecture and Design

Responsible authority:

City of Canning

Contact:

Aida Leon

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Introduction

Sustainability House was engaged by Jane Chua c/o Rechitects Architecture and Design to provide an **ESD Report** for the proposed residential development at 14 Cecil Avenue, Cannington.

The development is within the jurisdiction of the City of Canning, and for developments located within the Canning City (CCC) Activity Centre Plan the council requires compliance with Section 6.6 of the local policy LP08. A Sustainability Report needs to be submitted to demonstrate compliance with minimum criteria of Passive Design (Section 6.6.1) Energy Efficiency (Section 6.6.3) and Water and Drainage (Section 6.6.4).

City of Canning Requirements

The relevant requirements are shown below. These are taken from CCC Activity Centre Plan (September 2016).

"6.6.1 Passive Design

- Developments are to maximise winter sun and minimise uncontrolled summer sun through orientation of the building.
- Windows are to that have a minimum area of 2m² in all living and sleeping areas.
- Developments are to achieve a minimum 50% direct sunlight to the principal usable part of the communal open space for a minimum of 4 hours between 9am and 3pm on the 21 June is required.
- Developments are to have at least 60% of the apartments naturally cross ventilated in the first nine storeys of the building.
- Application of shading devices where needed to improve thermal comfort.
- For office buildings, hot air is to be removed by operable windows at night or controlled extraction.
- Developments are to incorporate external materials based on their high insulating performance and other durability requirements.
- Building interiors are to include sufficient thermal mass to act as a 'heat sink,' holding heat in winter and delaying the temperature peak in summer."

[p.34]

"6.6.3 Energy Efficiency

- Mandatory Criteria for all developments with 10 or more dwellings: **Demonstrate an environmental performance improvement using life cycle assessment, Green Star or a similar methodology.**
- Submit a report from an organisation recognised by the City of Canning based on the international standards ISO 14044 and EN 15978 to demonstrate compliance with the required standards in Table 7."

Table 7: Performance Targets for all Developments in the CCC and Bonus Opportunities

Max allowable building height (levels)	Minimum performance (Performance improvements against "standard benchmark" to obtain Development Approval and Building Permit)
9	25%

"

[p.44]

"The benchmark for modelling is as follows:

Use	Benchmark
Residential:	4200kg CO ₂ e / occupant / year
Office:	169kg CO ₂ e / m ² / year
Other Uses	Building Code of Australia (BCA) Compliant Design

"

[p.44]



6.6.4 Water and Drainage

The "Minimum" in Table 8 is the Mandatory Criteria for all developments with 10 or more dwellings. The water use reduction requirement and aspirational targets are the following:

Table 8: Water Use Targets for all Developments in the CCC and Bonus Opportunities

Indicators	Minimum	Aspirational
Scheme Water Use	80kl / person / year	50kl / person / year
Scheme Water Max Pressure	35 metres	25 metres
Other requirements	Select minimum flow taps, shower heads, fixtures and appliances	Install grey water re-use systems wherever possible

Developments are required to submit modelling of all water use, pressure and grey water re-use systems if applicable."

[p.45]

Method for Energy and Water Targets

We have used Green Star methods to demonstrate compliance with the Energy and Water targets. These are taken from the Green Star Design and As Built tool (V1.2). The relevant parts are

Credit 15 – Greenhouse Gas Emissions (for the energy target)

Credit 18 – Water

This report summarises the sustainable design initiatives being incorporated in the proposed development and benchmarks them against industry best practice.

Using these Green Star credits, the appropriate targets are:

Planning Target	Green Star Credit	Appropriate Green Star Score
25% energy reduction	15	5/ 20 available points
80kL/ person/ year	18	80kL/ person/ year using the Green Star Potable Water Calculator

Refer to the Green Star Design and As Built Submission Guidelines for an explanation of the scoring system for these credit.

The project is currently exceeding the water and energy saving targets, see results below:

- Green Star Credit 15: 5 points
- Water usage: 9kl/year/occupant

Based on the above results, the project exceeds the requirements of the LP08. This report represents a complete Sustainable Design Assessment of the proposed development.

Key sustainable design strategies considered in the development include:

- 5 star instantaneous gas hot water system
- High performance building fabric with good levels of insulation and thermal mass to reduce energy consumption
- High performance glazing to apartments
- Efficient HVAC systems



- Energy efficient LED lights
- Installation of efficient water fixtures to minimise potable water consumption
- External lighting to be controlled by motion detectors in common areas
- Bicycle parking to be provided for all apartments
- Basement CO monitoring to modulate fresh air demand
- Metering and monitoring systems to allow occupants to monitor energy and water consumption
- Provision of convenient waste sorting and recycling facilities
- Provision of a 25kW PV System
- Provision of high quality views and natural light levels to apartments



Project Overview

This ESD Report is based on architectural drawings provided to our office on 08/12/17. The proposed residential development is located at 14 Cecil Avenue, Cannington consists of 9 levels. These include car parking, 6 commercial tenancies and 54 apartments, which are comprised of 1, 2 and 3 bedroom.

The proposed development is located in Glen Iris, VIC and consists of the **following**:

Table 2. Development Description		m ²
Site Area		1127
	Qty	Bedrooms
1 bedroom apartments	25	25
2 bedroom apartments	25	50
3 bedroom apartments	4	12
Total	54	87

The development is in NCC Climate Zone 5. The following site plan indicates the location of the site.

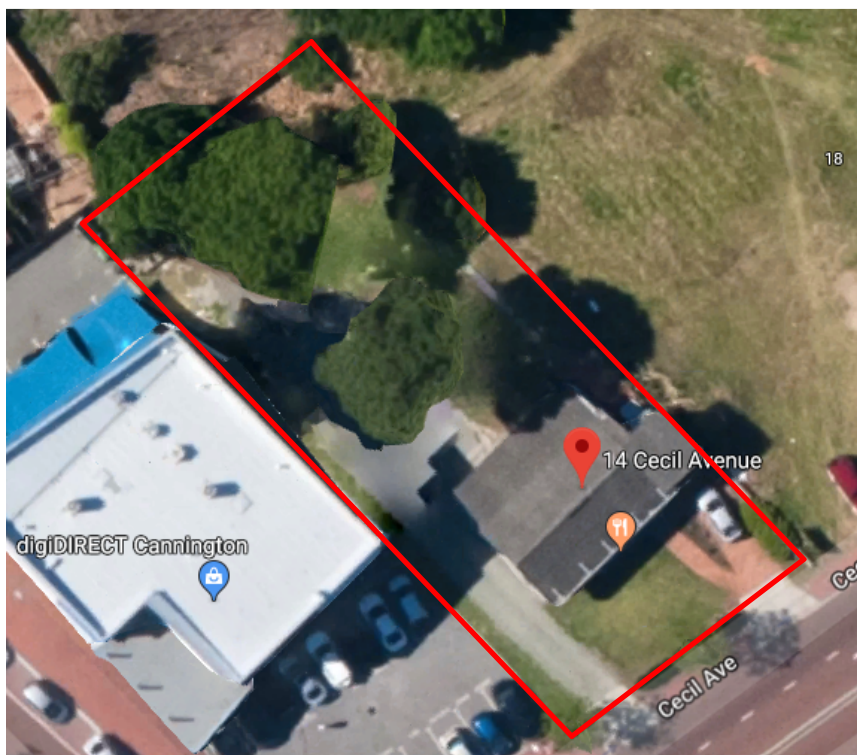


Fig 1. Locality view of the subject site

1.1 Assessment and Documentation

This report is based on the following.

- Project discussions and email correspondences with Rechitects Architecture and Design.
- The architectural drawing set issued to us by Rechitects Architecture and Design.
- The following architectural drawing set:

Table 3. Drawing Set			
Drawing	Description	Rev	Date
A01.00-A40.04	Issued for Council Approval	0	30 Nov 2017



To quantify the project's sustainability performance against an industry benchmark, this report uses Green Star Design and As Built (V1.1) as assessment framework and the calculators for the relevant sections (Credit 15 and 18) of the Green Star Design and As Built (V1.1) tool for Energy and Water.

1.2 Categories Assessed

This ESD Report addresses the 3 categories in line with the requirements of the LP08, noted in the table below.

Table 3. Sustainability Requirements		
	SDAPP ESD Categories	Requirement
6.6.1	Passive Design	
	Provision of Outdoor Air	A minimum area of 2m ² in all living and sleeping areas.
	Cross Ventilation	At least 60% of apartments are naturally cross ventilated in the first nine storeys of the building.
	Building Fabric	Efficient building fabric
6.6.3	Energy Efficiency	25 % improvement against the established benchmark CO ₂ e described below: <ul style="list-style-type: none">Residential: 4200kg CO₂e / occupant / yearOffice: 169kg CO₂e / m² / year
6.6.4	Water efficiency	50kl / person / year

Additionally the following Green Star Categories will be reviewed and initiatives will be included to exceed minimum requirements



Fig 2. Green Star Categories



2.0 Sustainability Requirements

2.1 Passive Design

2.1.1 Provision of Outdoor Air

Windows and other openings in apartments are required to be adequately sized and distributed to meet the requirements of AS 1668.4-2012. A minimum area of 2m² has been provided for all living and sleeping areas.

2.1.2 Cross Ventilation

To comply with condition d of Section 6.1, developments are to have at least 60% of the apartments naturally cross ventilated in the first nine storeys of the building. To demonstrate this, the Design Criteria described on the Design WA draft policy (Section 4.2 Natural Ventilation) will be followed. This policy establishes:

"For double aspect apartments:

- DC1 – At least 60% of apartments are naturally cross ventilated in the first nine storeys of the building.
- DC2 – Overall depths of cross-over or cross-through apartments do not exceed 18m measured glass line to glass line.

Apartment Depth	Cross over & cross through ventilation
Up to 15 m	Optimum
15-18 m	Less effective
Over 18 m	Does not meet criteria

For single aspect apartments:

- DC1 – Single-aspect apartments to be considered for the 60% minimum requirement for natural ventilation provided they meet the following:
 - ventilation openings face within 45° of the prevailing cooling wind direction;
 - ventilation openings are equivalent to 7% of the floor area of the room; and
 - Room depth is not more than 3 x ceiling height (8m for a 2.7m high ceiling)."

Apartment Depth	Natural ventilation
Up to 5.5 m	Optimum
5.5-8 m	Less effective
Over 8 m	Does not meet criteria

Apartment has been assessed against this criteria and it was found 74 % of the apartments achieve natural ventilation by demonstrating a breeze pathway of not more than 15 m from Glass line to glass line of adjacent windows. See table below:

Level	Apartments	Compliant	Not Compliant
L2	5	0	5
L3	11	2	9
L4	6	6	0
L5	8	8	0
L6	8	8	0
L7	8	8	0
L8	8	8	0
	54	40	14



Not passing
Passing

14	26%
40	74%

The criteria for assessing compliance (of double sided apartments) was according to the following criteria:

- A breeze path between 2 ventilation openings either within the room or from one room to another.
- Breeze path length less than 15m measured between ventilation openings and around internal walls, obstructions & partitions.
- Ventilation openings located either in opposite or adjacent external walls or an external wall and an operable skylight.
- Size of windows equal or greater than 2m².
- No more than 1 doorway or opening <2m² between the ventilation openings.
- Where the breeze path travels through an internal door, that door must be provided with door catches.
- If on adjacent walls, ventilation openings must be at least 3m apart at their closest point. This is to ensure the space has reasonable ventilation throughout and not just in one corner.
- If relying on a courtyard adjacent to a ventilation opening the courtyard must have a minimum depth of 3m from the window or be a minimum size of 9m²

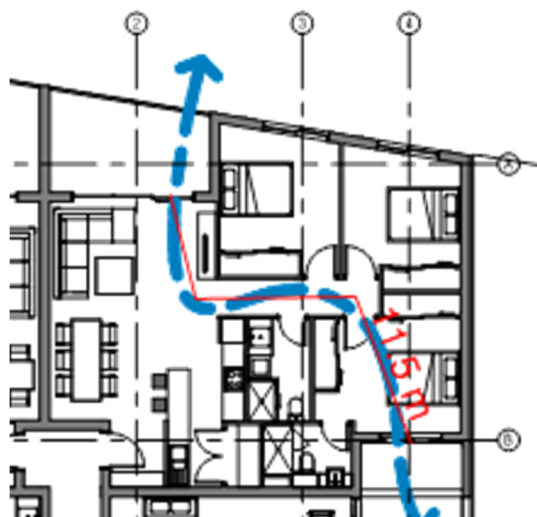


Fig.3 Example of Breeze pathway
Level 3 apartment Type P

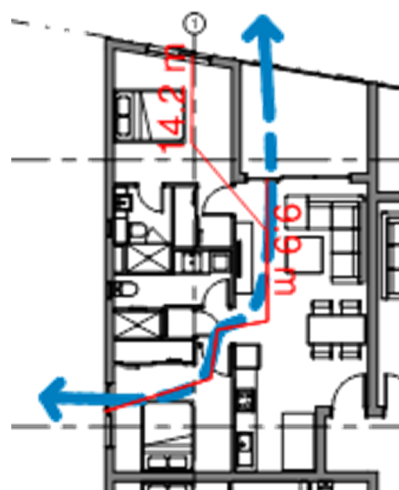


Fig.4 Example of Breeze pathway.
Level 4-8 apartment Type H

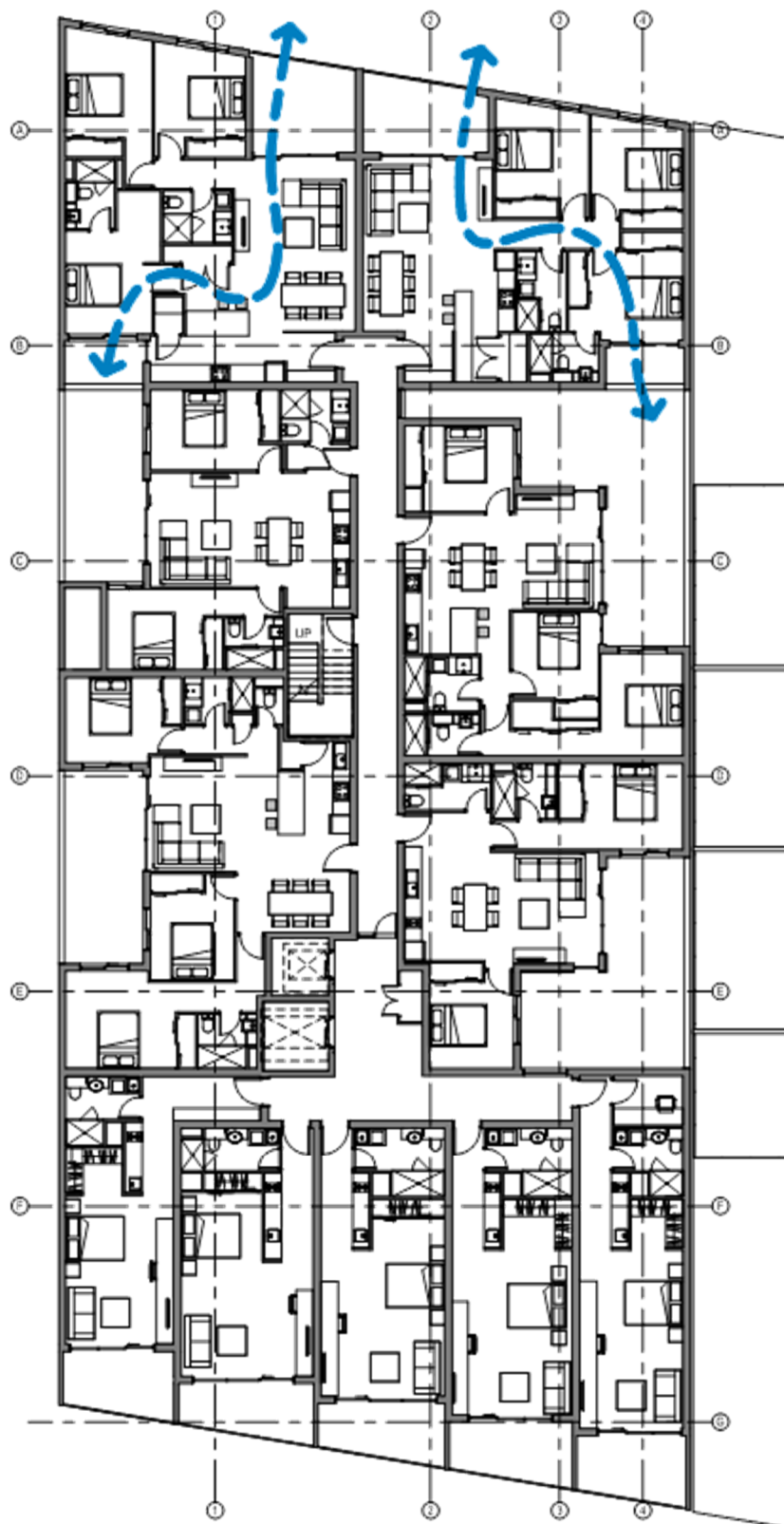


Figure 5. Ventilation Diagrams. Level 3

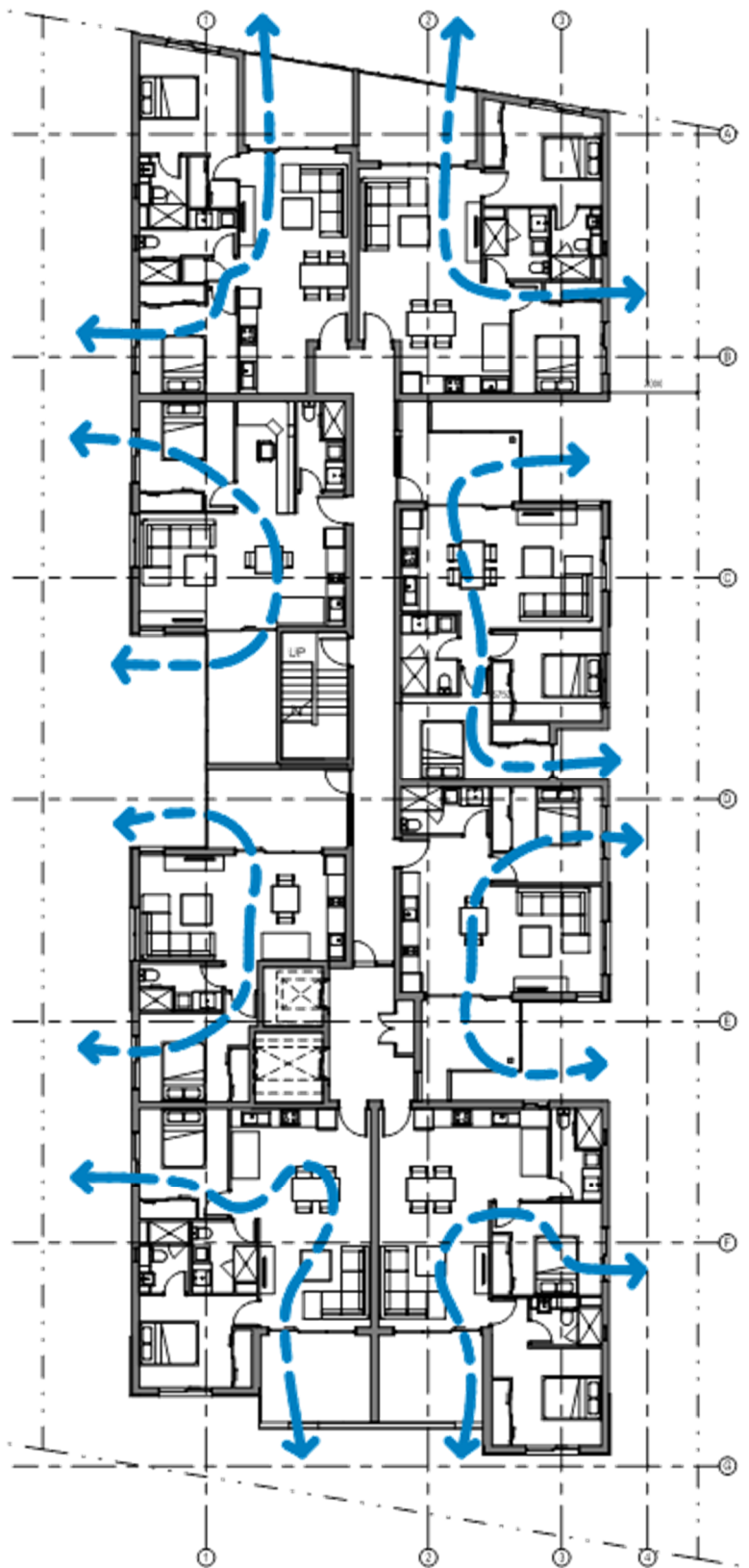


Figure 6. Ventilation Diagrams. Level 5-8

2.1.3 Building Fabric

The following measures will be taken included on the architectural specification to ensure that the minimum requirements are exceeded:

- All material R Values are increased by at least 15 % relative to the minimum required values as per Parts J1.3, J1.5 and J1.6
- Internal Thermal Mass
- External insulation to the thermal mass
- High performance glazing (required to achieve the NatHERS Ratings)
- Roofs should be insulated in excess of the minimum Section J DTS R value. This will help to reduce both annual energy consumption and peak electricity demand.
- Design all roofs with a vented cavity and two layers of insulation: one under the roof sheet and one on top of the ceiling.
- All roofs (whether over conditioned spaces or otherwise) should use a roof finish with a high Solar Reflective Index (SRI). For this we recommend Colorbond Coolmax steel as one of the best off-the-shelf products. This will help to mitigate the Urban Heat Island effect and reduce peak electricity demand.
- For Roofs over Non-Conditioned Spaces a roof finish with insulation and a high SRI be provided (products such as Kingspan or Bondor). This will provide improved comfort conditions for pedestrians in extreme heat.
- High performance glazing. A primary goal will be to minimise Solar Heat Gain Coefficient. A secondary goal will be to minimise U Value.
- For vertical glazing, not more than 85% of the total allowance for the commercial areas.



2.2 Energy Saving

To demonstrate compliance with the Energy and Water targets, the Greenhouse Gas Emission calculator for the Energy Section (Credit 15) of the Green Star Design and As Built (V1.1) tool will be used. On appendix A is detailed the data entered on the calculator.

The Greenhouse Gas Emission calculator determines the energy consumption and the GHG emission reductions achieved as well as, calculate the number of points to be awarded. Points are awarded based on comparison of the Benchmark Project (10 % than a NCC compliant building) and the Proposed Project.

The project is currently exceeding the water and energy saving targets, see results below:

- Energy use: 5 Green Star point's equivalent to 25% reduction against the NCC Green Star benchmark.

At this stage, the prescriptive pathway is proposed to demonstrate compliance with sustainability requirements of the project.

There are two different prescriptive pathways for different space types. These are:

- The NatHERS pathway – for residential apartments (BCA Class2)
- The Prescriptive Pathway – for all other spaces

The following tables provide benchmarking of the design against these two pathways:

Greenhouse Gas Emissions for Class 2 apartments (15B):

The majority of tenancy space is Class 2 and therefore this is the main focus in order to meet the intent of Green Star energy. The following is the assumed list of energy points:

Energy – NatHERS Pathway				
Apartments (Class 2)				
Reference		Title	max	targeted
15-B.1	a	Energy Intensity Reduction	6	0.9
15-B.1	b	HVAC	2	2
15-B.1	c	Lighting	1	1
15-B.1	d	DHW	2	0.4
15-B.1	e	Building Sealing	1	0
15-B.1	f	Appliances & Equipment	1	1
15-B.1	g	Accredited Green Power	1	0
		available points	12	
		targeted points		5.3

Note that to achieve the Green Star points assumed above, the project will be required to target higher than the minimum NatHERS performance required for BCA compliance. The minimums for this Green Star assessment are:

- 6.5 Star Average across all Class 2 apartments – for the Green Star benchmark
- 5.5 Star Minimum for any Class 2 apartment – for the Green Star benchmark
- A further 10% reduction in NatHERS energy results for each additional point.



Therefore we are assuming the following Green Star targets for NatHERS ratings:

Requirement	NatHERS Star Rating	
	Minimum for any Apartment	Average Across All Apartments
Recommended Target (for GS points)	5.5 Star	6.5 Star

Summary of Recommended Design Features and Initiatives

For residential spaces:

15-B.1a	Building Envelope	Conditional Requirement: a 0.5 star improvement over minimum BCA NatHERS requirements (including average and minimum performance requirements).
		Provide a further 10% reduction in the annual energy consumption indicated by the NatHERS assessment beyond the Conditional Requirement.
15-B.1b	Lighting	The lighting power density is reduced by at least 10% below the maximum lighting power density allowable in Section J6. The specification of LED luminaries achieves this.
		Independent light switching must be provided to each room of each sole-occupancy unit. Where open-plan living, dining and kitchen areas are provided, each functional area must be separately switched
		All common areas accessible by residents must be provided with automated lighting control system(s), such as occupant detection and daylight adjustment.
15-B.1c	HVAC	Spaces Provided with Mechanical Cooling:
		The minimum energy star rating for the air conditioning equipment is at least 3-star (as per AS 3823.2-2011).
		The rated capacity of the air conditioning equipment does not exceed the design cooling capacity by more than 10%.
15-B.1d	DHW	The primary non-renewable heat source for domestic hot water is natural gas.
15-B.1f	Building Sealing	not targeted
15-B.1g	Appliances & Equipment	Some appliances are present in all units, and all installed appliances have a minimum Energy Rating of 1-star below the maximum Energy Rating available for that appliance type and capacity. This includes Refrigerators/freezers, Dish washers, Clothes Washers, Clothes Dryers.



For non-residential spaces:

There is 6 commercial tenancies, and the following points table outlines a strategy for this to achieve a similar standard as proposed for apartments:

Energy – Prescriptive Pathway				
Non-Residential Spaces				
Reference		Title	max	targeted
15-A.1	a	Building Envelope	1	1
15-A.1	b	Glazing	1	0
15-A.1	c	Lighting	1	1
15-A.1	d	HVAC	1	1
15-A.1	e	DHW	1	1
15-A.1	f	Building Sealing	1	0
15-A.1	g	Accredited Green Power	2	0
available points			5	
targeted points				4

Summary of Recommended Design Features and Initiatives

For non-residential spaces:

15-A.1a	Building Envelope	Walls, and flooring construction achieves a 15% increase on the minimum BCA DTS R-values specified in J1.3, J1.5 and J1.6. (Roof and ceiling requirements have been made exempt due to a conditioned space existing above the commercial tenancy)
15-A.1b	Glazing	Not targeted
15-A.1c	Lighting	<p>The actual installed aggregate illumination power density is 30% less than the maximum illumination power densities defined in Table J6.2a;</p> <p>Automated lighting control systems, such as occupant detection and daylight adjustment, are provided to 95% of the nominated area;</p> <p>For Class 5 and 9a spaces only, the size of individually switched lighting zones does not exceed 100 m² for 95% of the nominated area.</p>
15-A.1d	HVAC	<p>Mechanically Ventilated Spaces:</p> <p>The installed fan motor power and pump power, is at least 15% less than the maximum fan motor powers and pump powers defined in Tables J5.2 and J5.4a.</p> <p>The thermal efficiency of any water heaters is 15% more than the required minimum as defined in Table J5.4b.</p> <p>The required minimum energy efficiency ratio for packaged air conditioning equipment and refrigerant chillers, as defined in – Tables J5.4d and J5.4e, or MEPS (where Section J does not apply to the equipment capacity) is exceeded by 15%</p>
15-A.1e	DHW – gas or heat pump	Domestic hot water systems are powered by one of the following heat sources: 1/ Renewable Energy, 2/Natural Gas, 3/Heat Pump (minimum



		COP of 3.5 under design conditions), 4/Waste Heat
15-A.1f	Building Sealing	Not targeted
15-A.1g	Accredited Green Power	Not targeted

Given that this is a mixed use project a combined pathway calculation is required. See calculation results below:

	Gross Floor Area (m ²)	Energy/GHG Reduction		
		Maximum Points	Achieved Points	Area-Weighted Points
15A Prescriptive Path	470	5	5.0	0.6
15B NatHERS Path	3495	12	5.3	4.7
15C BASIX Path	1	16	0.0	0.0
15D NABERS Energy Path	1	16	0.0	0.0
15E Modelled Path	1	20	0.0	0.0
TOTAL	3968			5.30

The Green Star tool offers 20 points in the Energy Section, these 20 points are equivalent to a carbon neutral building, equal to 0% CO₂ emissions. Therefore, it has been assumed that 5 points are equivalent to 25 % CO₂ emissions reduction.

PV System

On top of the proposed measures, a 25kW rooftop solar PV array is proposed. Further calculations will be provided at a later stage to demonstrate the impact of the PV System on the energy consumption of the building. PV Systems are one of the most cost effective ways to provide significant reductions in building greenhouse gas emissions.



2.1 Water Efficiency

To demonstrate compliance with the Energy and Water targets, the Green Star Portable Water Calculator for the Sections (Credit 18) of the Green Star Design and As Built (V1.1) tool will be used.

The project is currently exceeding the water targets, see results below:

- Total annual water demand 5,447.4 kl/year
- Water use: 26kl/person/year
- Occupancy of the project: 209 people (141 for residential and 68 for commercial)

The following is a summary of the water efficiency features that lead to this result.

- Water efficient fixtures and fittings:
 - 3 star WELS showers (>6.0 but ≤7.5 L/min)
 - 5 star WELS kitchen & bathroom taps
 - 4 star WELS toilets
- Whitegoods specified to be ≥3.5 WELS rated
- Landscape irrigation using drip systems with soil moisture sensing
- Fire Hydrant test water to be collected and reused on site
- No water based heat rejection from HVAC plant
- Favour the selection of low water use, drought tolerant, native species

Summary of demand from each Potable water use	
Annual water demand from each Potable water use (kL/year)	
	Proposed Building
Toilets	485.6
Urinals	0.0
Taps	118.8
Showers – occupants	2,090.8
Showers – Sports	0.0
Washing Machines	1,419.7
Dishwashers	227.4
Heat Rejection	0.0
Washdown	17.5
Landscape Irrigation	7.2
Swimming Pools	0.0
Fire System Water	0.0
Process Cooling	0.0
TOTAL	4,367.0

The data entered on the Portable Water Calculator and results obtained are detailed in Appendix B.



3.0 ESD Features

The following is a summary of the ESD initiatives included in the project.

3.1 Management

- Provide electricity and water meters to all commercial and residential tenancies.
- Ensure that each meter can be easily read and results are conveyed to occupants
- Provisions of adequate facilities and space for operational waste including a range of recyclables

Details of the Energy & Water Metering and Monitoring System:

- Meters must allow easy access and regular monitoring. Sub-metering of major energy and water uses in common areas is required in addition.
- A user friendly front end to controls/ monitoring system to allow tenants to easily monitor their own energy and water consumption and compare with benchmark figures. This data could be accessed on-line

3.2 Indoor Environment Quality

Below is a summary of the building's performance against indoor environment quality benchmarks:

- Initiatives to minimise the ingress of pollution through the ventilation system
- Initiatives to ensure clean ductwork
- Initiatives to provide for convenient maintenance and cleaning in future
- Provision of outside air in accordance with AS 1668.4-2012
- Exhaust systems to minimise recirculation of odours and contaminants
- Design for acoustic comfort
- Install LED light fittings
- Lighting design with reduced glare, reduced contrast and greater occupant control
- Optimising the provision of external views
- Selection of internal materials to minimise off-gassing and improve Indoor Air Quality
- Optimise building envelope for improved thermal comfort. This is quantified by an average NatHERS rating of at least 5.5 Stars.

3.3 Transport

The following are some of the key ESD features and initiatives proposed in this category:

- The location of the site will provide reasonable access to public transport services
- The site will encourage occupants to minimise vehicle use.
- Provision of parking spaces not in excess of council requirements and car park design to encourage low emission vehicles
- Provision of secure bicycle parking



3.4 Waste Management

- To minimise the avoidance of using recycling, and ensure a reduction in waste to landfill, the project has provided operational recycling facilities that are as convenient as the waste facilities provided. This along with appropriate signage will encourage residents to use the recycling stream when appropriate.
- The project provides a communal bin store as per the image below.

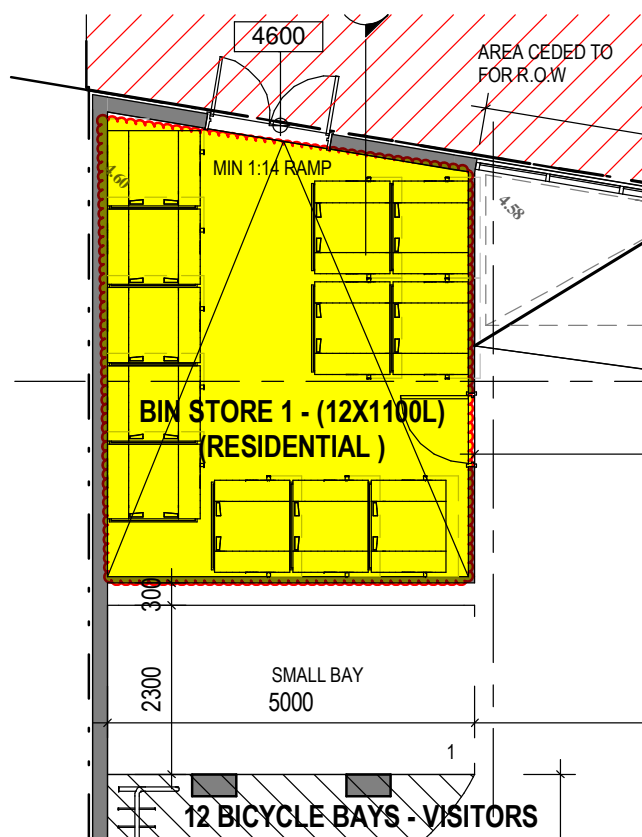


Fig 7. Bin Area on Ground level

Appendix A – Green Star Greenhouse Gas Emission Calculator



Green Star Design & As Built

Greenhouse Gas Emissions Calculator

 Developed by the
Green Building Council of Australia



User Input Cells

Rows may be inserted if required

This calculator addresses criterion '15A GHG Emissions Reduction - Prescriptive Pathway' and '16A Prescriptive Pathway - Onsite Energy Generation'.

15A Prescriptive Pathway

ENERGY AND GREENHOUSE GAS EMISSIONS REDUCTION

Control strategy

Comfort control strategy

Mechanical Heating/Cooling

Building Envelope

All material R values are increased by at least 15% relative to the minimum required values as per Parts J1.3, J1.5 and J1.6

Yes

Glazing

For vertical glazing, not more than 85% of the total allowance for each orientation of each storey of the building

No

For roof lights, reduction of at least 15% from the applicable U and SHGC values as per Part J1.4

No

Lighting

A reduction of at least 30% relative to the maximum allowable aggregated lighting power density as per Part J6

Yes

Automated lighting control systems are provided to at least 95% of the nominated area

Yes

For Class 5 and 9a buildings, individually switched lighting zones do not exceed 100 m²

Yes

Ventilation and Air-conditioning

A reduction of at least 15% relative to the maximum allowable fan motor power as per Part J5.2

Yes

A reduction of at least 15% relative to the maximum allowable pump motor power as per Part J5.4

Yes

An increase of at least 15% relative to the minimum required gross thermal efficiency for water heaters as per Part J5.4

Yes

An increase of at least 15% relative to the minimum required energy efficiency ratio for packaged air conditioning equipment and refrigerant chillers as per Part J5.4 or MEPS

Yes

The building is naturally ventilated in accordance with IEQ - Indoor Environment Quality

Yes

Domestic Hot Water Systems

The domestic hot water systems are powered by one of the following heat sources:

- Renewable Energy;
- Natural Gas;
- Electric heat pump with a minimum coefficient of performance (COP) of 3.5 under design conditions; or
- Waste heat or heat recovered from another process.

Yes

Building Sealing

For mechanically air conditioned and mixed mode spaces, a pressurised building air leakage test in accordance with ASTM E779-10 or ATTMA TSL2

No

Accredited GreenPower®

Percentage GreenPower®

POINTS SCORE

Building Envelope

1

Glazing

0

Lighting

1

CITY OF CANNING
RECEIVED
2/1/2018

PLANNING SERVICES

HVAC	1
Domestic Hot Water Systems	1
Building Sealing	0
Accredited GreenPower®	0
TOTAL	4
TOTAL AVAILABLE	5

Green Star Design & As Built

Greenhouse Gas Emissions Calculator


Developed by the
Green Building Council of Australia


User Input Cells

Rows may be inserted if required

This calculator addresses criterion '15B GHG Emissions Reduction - NaTHERS Pathway' and '16A Prescriptive Pathway - Onsite Energy Generation'.

15B NatHERS Pathway

Project input

Legislated Minimum Development Average Rating	6	star
Legislated Minimum Worst-Case Apartment Rating	5	star
Project Average Energy Intensity	52	MJ/m ²
Project Worst-Case Energy Intensity	79	MJ/m ²
NatHERS Climate Zone	13	
Ventilation and Comfort strategy	Mechanical Heating/Cooling	
Which is provided? Heating, cooling or both?	Both	
If Mixed, proportion of apartments with nat vent		
Building total nominal occupancy	141	

Benchmark Building Information

Minimum Average Benchmark	6.5	star
Minimum Worst-Case Benchmark	5.5	star
Benchmark Energy Intensity	61.0	MJ/m ²
Worst Case Energy Intensity Benchmark	79.0	MJ/m ²
Energy Intensity at NatHERS 10-star	4.0	MJ/m ²

Energy Intensity Conditional Requirement met?	PASS
Worst Case Unit Conditional Requirement met?	PASS
Performance Improvement	16%

BUILDING SERVICES SPECIFICATION

Lighting

Lighting power density is reduced by at least 10% below the requirement of BCA Part J6 for sole-occupancy units of Class 2 buildings, and in all communal areas accessible by residents	Yes
Independent light switching to each room of each sole-occupancy unit (including separation of kitchen and living area in open-plan living/dining areas).	Yes
All common area lighting with automatic lighting control	Yes

Ventilation and Air-Conditioning

Mechanical cooling		Yes
Minimum cooling system Energy Star rating	3	star
Installed equipment capacity no more than 10% greater than design cooling capacity	Yes	
Mechanical heating provided? (only assessed if cooling is not provided)		Yes
Minimum heating system Energy Star rating	3	star
Installed equipment capacity no more than 20% greater than design heating capacity	Yes	
Natural Ventilation		No
Compliance is achieved with IEQ Indoor Air Quality credit	Yes	
Cross ventilation pathway in all naturally ventilated apartments	Yes	
Ceiling fan installed in all naturally ventilated apartments	Yes	

Domestic Hot Water

DHW non-renewable fuel source	Natural Gas
-------------------------------	-------------

PLANNING SERVICES

Installed solar thermal heating system capacity (total RECs)

Building Sealing

For mechanically air-conditioned buildings, an air pressurisation test is carried out in accordance with ASTM E779-10, ATTMA TSL2, or an equivalent standard.

No

Appliances and Equipment

Refrigerators achieve a minimum Energy Rating of 1 star below the maximum available rating

Yes

Washing machines achieve a minimum Energy Rating of 1 star below the maximum available rating

Yes

Clothes dryers achieve a minimum Energy Rating of 1 star below the maximum available rating

Yes

Dishwashers achieve a minimum Energy Rating of 1 star below the maximum available rating

Yes

Accredited GreenPower®

Percentage GreenPower®

0%

CREDIT SCORE

Energy Intensity Reduction

0.9

HVAC

2.0

Lighting

1.0

Domestic Hot Water

0.4

Building Sealing

0.0

Appliances and Equipment

1.0

Accredited GreenPower®

0.0

TOTAL POINTS ACHIEVED 5.3
TOTAL POINTS AVAILABLE 12.0

Green Star Design & As Built

Greenhouse Gas Emissions Calculator

 **greenstar** Developed by the
Green Building Council of Australia



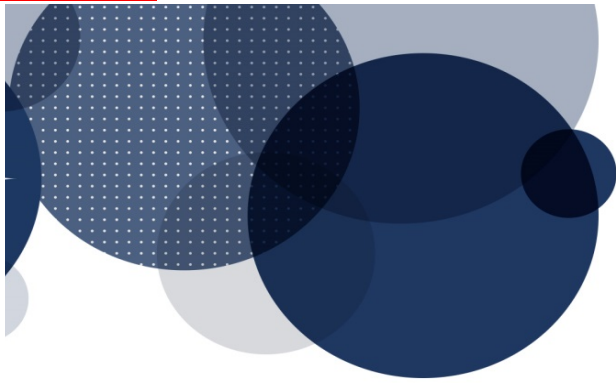
User Input Cells Rows may be inserted if required

Multiple Pathways Calculator

1 Fill out each individual tab that represents the composition of your project.

2 Then, allocate the Gross Floor Area of each NCC Class type that are included in your Green Star

	Gross Floor Area (m ²)	Energy/GHG Reduction		
		Maximum Points	Achieved Points	Area-Weighted Points
15A Prescriptive Path	470	5	4.0	0.5
15B NatHERS Path	3495	12	5.3	4.7
15C BASIX Path	1	16	0.0	0.0
15D NABERS Energy Path	1	16	0.0	0.0
15E Modelled Path	1	20	0.0	0.0
TOTAL	3968			5.18



project and area-weighted points will be calculated

Peak Demand Reduction		
Maximum Points	Achieved Points	Area-Weighted Points
1	0	0
1	0	0
1	0	0
1	0	0
2	0	0
		0

Appendix B – Green Star Portable Water Calculator



Potable Water, Performance Pathway (18A)

PLANNING SERVICES

Building input areas and operation		10-year rainfall data	Weighted Points Achieved		
Links to - Water demand:	Fittings	Whitegoods	Heat Rejection	Washdown	Landscape Irrigation
Links to - Reclaimed water supply:	Swimming pools	Fire Protection System	Process Cooling		
Links to - Results:	Reclaimed water use	Rainwater collection	Greywater collection	Blackwater collection	Stormwater and off-site reclaimed water supply
	Checklist	Demand summary	Results for Performance Pathway (18A) only	Results for Domestic hot water	Results for Sewerage

Instructions:

Enter information into light blue cells

For details on what information is required and how this information is used to calculate the reduction in potable water consumption against the Standard Practice Benchmark, please refer to the Green Star - Potable Water Calculator Guide, available from the GBCA website.

0. GENERAL

BUILDING OCCUPANCY, AREAS AND OPERATION

Space type description	Area (m ²)	Peak days of operation (remaining days assumed off-peak)	Occupancy profile	Maximum design occupancy used in water use		Percentage of building users who occupy the space continually for periods greater than one hour.
				Proposed Building design occupancy (m2/person)	Default design occupancy (Not applicable for residential areas)	
Apartments	3495	7 days a week	Class 1, 2 or 3 residential	24.8	Please select	100%
Commercial tenancies	212	6 days a week	NCC Table 2d (Class 6 restaurant or cafe)	5	Retail / Showroom (5m2/person)	50%
Offices	258	5 days a week	NCC Table 2b (Class 5, Class 8 or Class 9a)	10	Office (10m2/person)	100%
		Please Select	Please Select		Please select	
		Please Select	Please Select		Please select	
		Please Select	Please Select		Please select	
		Please Select	Please Select		Please select	
		Please Select	Please Select		Please select	
		Please Select	Please Select		Please select	
		Please Select	Please Select		Please select	
Non occupied areas		n/a	n/a		Please select	
TOTAL AREA	3965					

BUILDING CHECKLIST

Please provide responses to the following questions. Detailed inputs will be requested further on in the calculator.

WATER USES - ALL QUESTIONS MUST BE ANSWERED

1. Sanitation		5. Landscape Irrigation	
Are fixtures and fittings provided for building occupant sanitation?	Yes	Are there any landscaped areas within the project?	Yes
Does the project provide for sports activities?	No	Are any irrigation systems included in the project?	Yes
Have showers been installed for post/pre activity use?	No		
2. White Goods		6. Swimming Pools	
Does the project include any dishwashers or washing machines?	Yes	Are there any swimming pools within the project?	No
3. Heat Rejection		7. Fire Protection System	
Does the project utilise water based heat rejection (building cooling)?	No	Does the project include a fire protection system?	No
Does the project have cooling towers?	No		
Does the project contain any other water cooled systems that are not conventional cooling towers?	No	8. Process Cooling	
		Does the project include any water based process cooling?	No

WATER REUSE - ALL QUESTIONS MUST BE ANSWERED

4. Wash Down		9. Water Reclamation	
Does the project include wash down areas?	Yes	Does any water collection, reclamation and/or reuse occur on the project site?	No
		Does the project include rainwater capture and reuse systems?	No
		Does the project include greywater capture, treatment and reuse systems?	No
		Does the project include blackwater capture, treatment and reuse systems?	No
		Does the project include other stormwater reuse or an off-site supply of non-potable water?	No

1. SANITATION FIXTURE EFFICENCY

WATER DEMAND FROM FIXTURES AND FITTINGS: (Annual water demand from fixtures and fittings is calculated using assumed usage rates based on the space types and occupancies entered above. Please see pages 10-13 of the Green Star - Potable Water Calculator Guide for further details.)

	Water efficiency		Resulting water efficiency used in calculator (l/min, except for toilets, L/flush)	Percentage of each type	Proposed Building water demand (kL/year)	Standard Practice Building water demand (kL/year)
	Manual entry from manufacturer's data sheet (l/min, or L/flush for toilets)	WELS Star Rating selection				
Toilets						
<enter description>	4	5 Star	4	100%		
<enter description>		Select star rating				
<enter description>		Select star rating				
<enter description>		Select star rating				
			Total	100%	485.6	485.6
						(The Standard Practice Benchmark is based on 3 Star/WELS rated toilets)
Urinals	Are urinals installed?	No	Would urinals normally be installed in the building type?	Please select		
<enter description here>		Select star rating				
<enter description here>		Select star rating				
<enter description here>		Select star rating				
<enter description here>		Select star rating				
						(Note: if "No" is selected, the project team should provide justification within the short report as to why the standard practice building does not have urinals.)
Urinals on auto timer	Enter average L/flush					
	Enter number of urinals on autotimer					
	Percentage of total number of Urinals					
			Total	0%	0.0	0.0
				Please ensure the total equals 100%		(The Standard Practice Benchmark is based on 3 Star WELS rated urinals)
Indoor taps						
<enter description>	6	5 Star	6	100%		
<enter description>		Select star rating				
<enter description>		Select star rating				
<enter description>		Select star rating				
			Total	100%	118.8	148.5
						(The Standard Practice Benchmark is based on 4 Star WELS rated taps)
Showers - Occupants	Shower demand by occupants (reference)		100.0%			
	Shower demand by occupants (current)		100.0%			
<enter description>	7.5	3 Star	7.5	100%		
<enter description>		Select star rating				
<enter description>		Select star rating				
<enter description>		Select star rating				
			Total	100%	2090.8	2509.0
						(The Standard Practice Benchmark is based on 3 Star WELS rated showers)
Indicate the number of people expected to participate in sporting activities each day. (Use an average based on weekly figures if required)			Indicate the number of days/year that the sports facilities are in use			

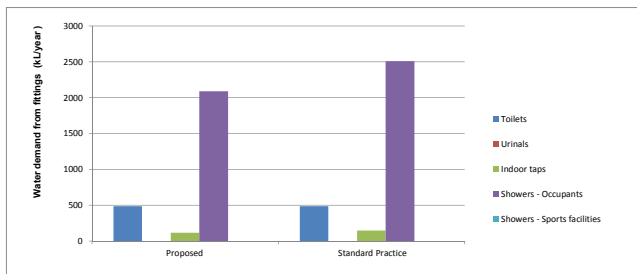
Showers, sports facilities							
<enter description>	Select star rating						
<enter description>	Select star rating						
<enter description>	Select star rating						
<enter description>	Select star rating						
			Total	0%	0.0	0.0	

Please ensure the total equals 100%

(The Standard Practice Benchmark is based on 3 Star WELS rated showers)

RESULTS: WATER DEMAND FROM FITTINGS

	Proposed Building water demand (kL/year)	Standard Practice Building water demand (kL/year)
Toilets	485.6	485.6
Urinals	0.0	0.0
Indoor taps	118.8	148.5
Showers - Occupants	2090.8	2509.0
Showers - Sports facilities	0.0	0.0
TOTAL	2695.2	3143.1



2. WHITE GOODS

Water Demand from Washing Machines

The project team is to provide documentary evidence in accordance with the water calculator guide and technical manual to substantiate the number of cycles

	Water efficiency								
	Manual entry from manufacturer's data sheet	WELS Star Rating selection	Machine capacity (kg)	Resulting water efficiency used in calculator (L/kg)	Number of each type	Number of cycles per year (leave blank if unknown)	Proportion of water per cycle that is sourced from DHW (%)	Proposed Building water demand (kL/year)	Standard Practice Building water demand (kL/year)
Clothes washing machines		5 Star	10	7.2	54			1 419.7	2897.4
Generic Washing Machine		Select star rating						0.0	0.0
<enter description>		Select star rating						0.0	0.0
<enter description>		Select star rating						0.0	0.0
<enter description>		Select star rating						0.0	0.0
<enter description>		Select star rating						0.0	0.0
<enter description>		Select star rating						0.0	0.0
<enter description>		Select star rating						0.0	0.0
<enter description>		Select star rating						0.0	0.0
<enter description>		Select star rating						0.0	0.0
<enter description>		Select star rating						0.0	0.0
Total					54			1419.71	2897.4

Water Demand from Dishwashers

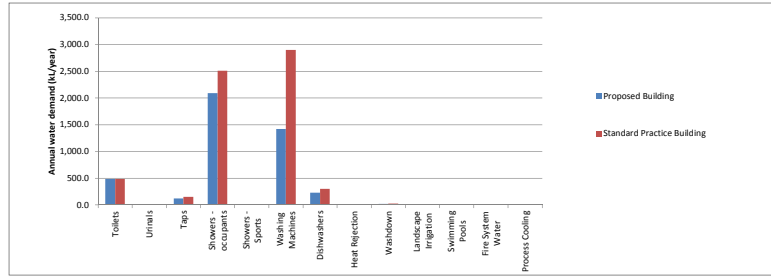
	Water efficiency		Machine capacity	Resulting water efficiency	Number of each type	Number of cycles per year	Proportion of water per cycle	Proposed Building water demand	Standard Practice Building water demand
Dishwashers	Manual entry from manufacturer's data sheet	WELS Star Rating selection	(number of place settings)	used in calculator (L/cycle)		(leave blank if unknown)	that is sourced from DHW (%)	(kL/year)	(kL/year)
Generic Dishwasher			14	11.5	54			227.4	303.4
<enter description>		Select star rating						0.0	0.0
<enter description>		Select star rating						0.0	0.0
<enter description>		Select star rating						0.0	0.0
<enter description>		Select star rating						0.0	0.0
<enter description>		Select star rating						0.0	0.0
<enter description>		Select star rating						0.0	0.0
<enter description>		Select star rating						0.0	0.0
<enter description>		Select star rating						0.0	0.0
<enter description>		Select star rating						0.0	0.0
Total					54			227.35	303.4

27/12/2016

Summary of demand from each Potable water use

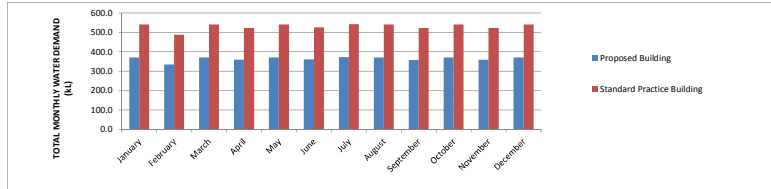
Annual water demand from each Potable water use (kL/year)

	Proposed Building	Standard Practice Building
Toilets	485.6	485.6
Urinals	0.0	0.0
Taps	118.8	148.5
Showers - occupants	2,090.8	2,509.0
Showers - Sports	0.0	0.0
Washing Machines	1,419.7	2,897.4
Dishwashers	227.4	303.4
Heat Rejection	0.0	0.0
Washdown	17.5	24.8
Landscape Irrigation	7.2	7.3
Swimming Pools	0.0	0.0
Fire System Water	0.0	0.0
Process Cooling	0.0	0.0
TOTAL	4,367.0	6,376.0



Summary of demand from all Potable water uses per month

	Monthly water demand from all Potable water uses (kL/month)	
	Proposed Building	Standard Practice Building
January	370.3	540.3
February	334.6	488.2
March	370.3	540.3
April	358.8	523.3
May	371.1	541.1
June	360.6	525.1
July	372.6	542.6
August	370.4	540.4
September	358.3	522.9
October	370.7	540.7
November	358.6	523.1
December	370.6	540.7
TOTAL	4,367.0	6,376.0



10. RESULTS

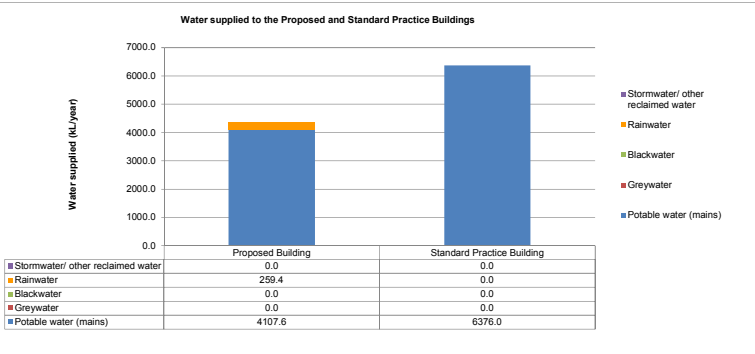
	Proposed Building						Standard Practice Building
	Total water demand	Rainwater used to meet demand	Greywater used to meet demand	Blackwater used to meet demand	Stormwater and off-site reclaimed water used	Potable water demand	Potable water demand
January	370	8	0	0	0	362	540
February	335	2	0	0	0	333	488
March	370	7	0	0	0	363	540
April	359	13	0	0	0	346	523
May	371	37	0	0	0	334	541
June	361	42	0	0	0	318	525
July	373	44	0	0	0	329	543
August	370	41	0	0	0	329	540
September	358	40	0	0	0	318	523
October	371	18	0	0	0	353	541
November	359	7	0	0	0	352	523
December	371	0	0	0	0	371	541
TOTAL	4,367	259	0	0	0	4,108	6,369

Percentage reduction in Potable Water Consumption compared to the Standard Practice Building

36%

Points Achieved - General	5
Points Achieved - Fire system test water	N/A
Points Achieved - Process cooling	N/A

Points Allocation		
Percentage reduction compared to standard practice benchmark	kL/year	Points awarded
0%	6369	0
5%	6050	1
15%	5413	2
25%	4777	4
35%	4140	5
45%	3503	6
55%	2866	7
65%	2229	8
75%	1592	10
85%	955	11
95%	318	12



14 Cecil Avenue, Cannington, WA

Acoustic Engineering Brief

14 Cecil Avenue, Cannington, WA

Acoustic Engineering Report

Prepared for:

Abundance Australia Investment
c/- Rechitects
220 Fulham Street
Cloverdale WA 6105

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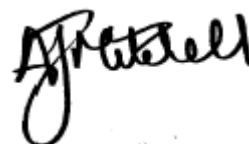
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Revision History

Rev.	Date	Purpose	Prepared by:	Reviewed by:
0	15-03-2018	Not for construction	Mahbub Sheikh	Andrew Mitchell

Executive Summary

Abundance Australia Investment c/- Rechitects has appointed Cogent Acoustics Pty Ltd to provide acoustic consulting services associated with 14 Cecil Avenue, Cannington, WA.

This acoustic engineering brief presents an initial review of the key acoustic matters that are required to be implemented in the design of the building. The advice presented in this report is based on acoustic requirements prescribed by the following legislation and guidelines:

- National Construction Code / Building Code of Australia (BCA) 2016 (ABCB, 2016)
- State Planning Policy 5.4 (Western Australian Planning Commission, 2009)
- State Planning Policy 5.1 (Western Australian Planning Commission, 2015)
- City of Canning Activity Centre Plan (City of Canning, 2016)
- Environment Protection (Noise) Regulation 1997 (Department of Water and Environmental Regulation, 1997)
- Australian Standard AS/NZS 2107:2016 (Standards Australia, 2016)
- Australian Standard AS 2021:2015 (Standard Australia, 2015).

On-site noise assessment was conducted on 7 March 2018. Acoustic advice, based on the design drawings and measured noise levels at the proposed development, is presented in this acoustic engineering brief.

Based on the review that has been performed, it is considered that compliance with the statutory acoustic requirements can be practicably achieved using a range of conventional noise control measures, as outlined in this report. Detailed acoustic analysis and development of acoustic specifications for such measures will need to be undertaken as part of the detailed design of the building.

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1 Introduction

1.1 Purpose

Abundance Australia Investment c/- Rechitects has appointed Cogent Acoustics Pty Ltd to provide acoustic design advice for the proposed mixed-use development at 14 Cecil Avenue, Cannington, WA.

This acoustic engineering brief presents an initial review of key acoustic matters that will need to be considered in the design of the building. The advice presented in this brief will be developed as the design progresses.

A glossary of the acoustic nomenclature used in this report is presented in Appendix A.

1.2 Project Characteristics

The project will comprise development of a 9-storey mixed-use building containing restaurant and commercial tenancies, car parking, and residential apartments. The project site is located at 14 Cecil Avenue, Cannington, WA, as shown in Figure 1. The topography in the area of the site is flat.

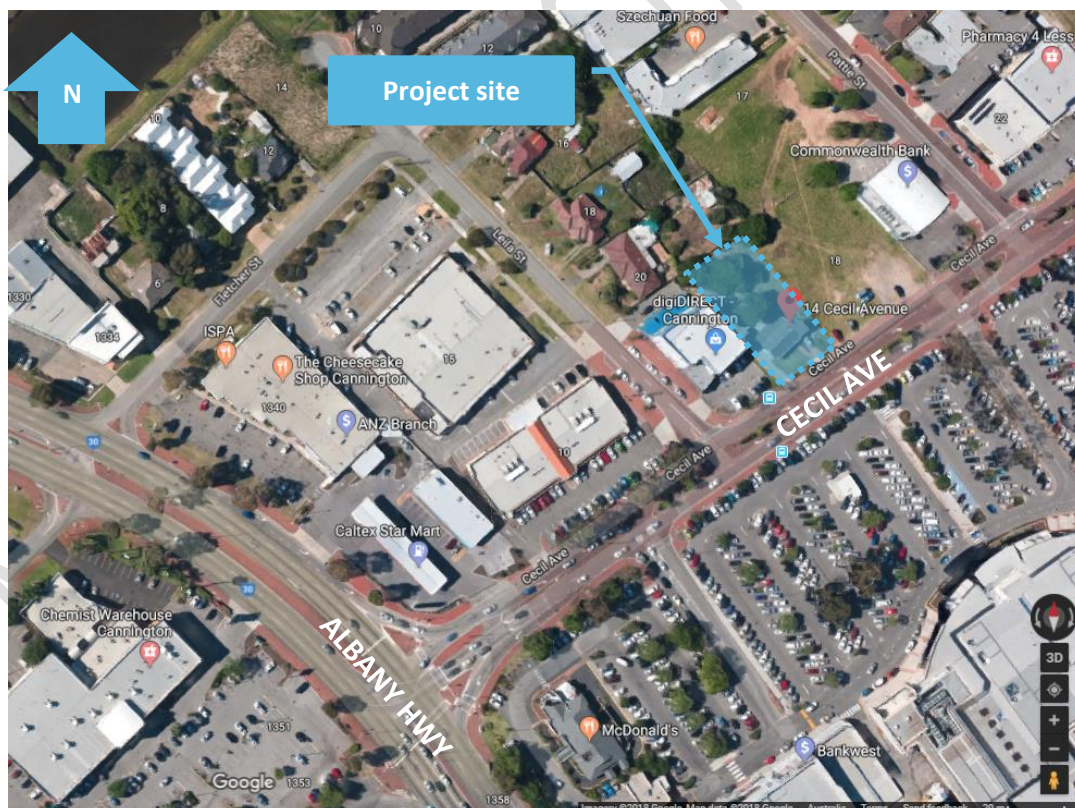


Figure 1 Aerial Image of Site (Image Source: Google Maps)

1.3 Reference Documentation

This report is based on information contained in the following documents and drawings:

Table 1 Reference Documentation

Document	Prepared by	Issue
Architectural Drawing Set	RECHITECTS	13/12/2017
Planning Requirement	City of Canning	21/02/2018

1.4 Report Limitations

The following limitations are applicable with respect to the acoustic advice presented in this report:

- Cogent Acoustics has prepared this document for the sole use of the Client and for the specific purpose expressly stated in the document. No other party should rely on this document without the prior written consent of Cogent Acoustics. Cogent Acoustics undertakes no duty, nor accepts any responsibility, to any third party who may rely upon or use this document.
- The information contained in this document provides advice in relation to acoustics and vibration only. No claims are made and no liability is accepted in respect of design and construction issues falling outside of the specialist field of acoustics and vibration engineering including and not limited to structural integrity, fire rating, architectural buildability and fitness-for-purpose, waterproofing and the like. Supplementary professional advice should be sought in respect of these issues.
- Reports marked 'Not for Construction' or 'Draft' may be subject to change and are not released as final reports. Cogent Acoustics accepts no liability pending release of the final version of the report.
- In preparing this document Cogent Acoustics may have relied upon information provided by the client and other third parties, some of which may not have been verified. Cogent Acoustics accepts no responsibility or liability for any errors or omissions which may be incorporated into this document as a result.
- The recommendations, data and methodology documented in this assessment are based on the listed reference documentation. The recommendations apply specifically to the project under consideration, and must not be utilised for any other purpose. Any modifications or changes to the project from that described in the listed reference documentation may invalidate the advice provided in this document, necessitating a revision.
- Subject to the above conditions, this document may be transmitted, reproduced or disseminated only in its entirety.

2 Town Planning Requirements

The town planning assessment issued by City of Canning on 21 February 2018 in relation to Planning Application No 15/18677 prescribes planning requirements that need to be addressed in the proposed the development. Table 2 presents the requirements which are directly relevant to the acoustic design of the building:

Table 2 Relevant Town Planning Requirements

Element	Proposed / Required	Responsible Officer Assessment	Summary of DAC Comments	Summary of items that require action by applicant
5.4.22 Noise Attenuation	All mixed use developments are to provide a noise attenuation report with the plans at the development application stage.	No noise report provided. The City's Environmental Health Services has also requested a number of matters to be addressed as part of an Environmental Health Report. Given that this assessment may affect the design, such report should be provided prior to approval. Location of all mechanical equipment to be shown on the plans. These are to be located to minimise noise impact on habitable areas. Perth Airport Noise – A section 70A notification will be placed on the title as a condition of approval	Nil	<p>An environmental health report is required, and necessary changes to plans – if required - to address the following matters:</p> <ul style="list-style-type: none"> Residential dwellings are to be designed to avoid and reduce noise impacts typically associated with apartment living. In particular, buildings are to be designed to minimise noise transference between adjoining buildings and between retail and commercial uses and residential dwellings within the same and adjacent buildings. Developments are to demonstrate where noise insulation and/or additional features are required. All plant equipment and services including flues, exhaust ducts, air conditioning and heating units are to be located and treated to minimise any noise, odour and emission impacts on residential uses within the development and on adjacent sites. How will the commercial deliveries, waste management and mechanical ventilation maintain compliance with the <i>Environmental Protection (Noise) Regulations 1997</i>.

3 Legislation and Guidelines

3.1 Summary of Relevant Documents

Table 3 presents a summary of the relevant legislation and guidelines applicable to the proposed development. The information contained in these documents forms the basis of the design criteria and advice presented in this report.

Table 3 Summary of Relevant Statutory Requirements and Guidelines

Document	Status	Relevance to this Project
National Construction Code Volume 1 – Building Code of Australia – Class 2 to 9 Buildings (BCA) (ABCB, 2016)	Legislation	Prescribes the minimum performance requirements for sound insulation between spaces within the building.
Environment Protection (Noise) Regulations 1997 (Department of Water and Environmental Regulation, 1997)	Legislation	Prescribes the statutory environmental noise requirements that mechanical plant and other noise sources associated with the development must be designed to comply with.
State Planning Policy 5.4 (Western Australian Planning Commission, 2009)	Legislation	Prescribes the mandatory requirements that apply to the development with respect to control of noise from the nearby major transport corridors.
Implementation Guidelines for State Planning Policy 5.4 (Western Australian Planning Commission, 2014)	Guideline	This document provides guidance on the implementation of State Planning Policy 5.4.
State Planning Policy 5.1 (Western Australian Planning Commission, 2015)	Legislation	Provides mandatory noise requirements on building site acceptability based on Aircraft Noise ANEF Contours. In addition, the policy also prescribes the indoor design sound level criteria based on AS 2021:2015.
CCC Activity Centre Plan September 2016 (City of Canning, 2016)	Legislation	Provides planning requirements for development in the vicinity of City of Canning Activity Centre.
AS/NZS 2107:2016 Acoustics – Design Sound Levels and Reverberation Times for Building Interiors (Standards Australia, 2016)	Guideline	Provides guidance on internal noise levels and reverberation times for different types of spaces. The guidance provided is relevant to the development in respect of noise intrusion from external sources (other than aircraft noise).
AS 2021:2015 Acoustics – Aircraft Noise Intrusion – Building Siting and Construction (Standard Australia, 2015)	Standard	Provides guidance on building site acceptability and building construction based on Aircraft Noise ANEF Contours.
Perth Airport Masterplan 2014 (Perth Airport, 2014)	Report	Provides revised Australia Noise Exposure Forecast (ANEF) for Perth Airport.

4 Existing Acoustic Environment

4.1 Soundscape

The existing soundscape in the vicinity of the site and potentially most-affected noise sensitive areas is influenced by the following sources of noise:

- Road traffic movements along Cecil Avenue;
- Road traffic movement along Albany Highway which is considered as a primary freight road as per State Planning Policy 5.4;
- Aircraft movement in the vicinity of the proposed development (the subject site is located between ANEF 20 and ANEF 25);
- People's activity at the nearby shopping centre and at the carpark area;
- Car movement at the carpark of the Westfield Carousel Shopping Centre;
- Mechanical Plant associated with Westfield Carousel Shopping Centre and nearby commercial premises (i.e. Caltex Star Mart, McDonalds, etc).

4.2 Background Noise Levels

Environmental noise measurements were performed at the proposed development site to establish background noise levels. The measurements were performed on the 7 March 2018 between 3pm and 5pm. Details of the measurement location and measurement methodology are presented in Appendix B.

The background noise levels measured at the selected noise measurement locations essentially captured the noise from the sources listed in Section 4.1 above and are considered to be representative of the background noise levels at the potentially most-affected receptors.

Table 4 presents a summary of the measured background noise levels. Graphs showing the octave band spectrum of the background noise level over the full measurement period are presented in Appendix C.

Table 4 Octave Band Sound Pressure Levels of the Measured Background Noise Level

Location of Measurement	Overall, L_{Aeq} dB(A)	Unweighted Octave Band Sound Pressure Level, L_{eq} (dB)						
		63 Hz	125 Hz	250 Hz	500 Hz	1 kHz	2 kHz	4 kHz
South-East Boundary	67	76	71	68	63	62	58	54
North-West Boundary	54	66	59	51	49	50	47	44
Kerbside at Albany Highway	70	75	74	69	66	67	61	55

4.3 Aircraft Noise Level

Australian Standard AS 2021:2015 (Standard Australia, 2015) and State Planning Policy 5.1 (Western Australian Planning Commission, 2015) provides recommendations on the acceptability of a proposed development site (for different occupancy and use) based on the Australian Noise Exposure Forecast (ANEF).

The Australian Noise Exposure Forecast (ANEF) contours for Perth Airport (Perth Airport, 2014), as presented in Appendix E, show that the proposed development site is located between ANEF 20 and ANEF 25 contour. Based on the AS 2021:2015 (Standard Australia, 2015) criteria for building site acceptability (refer to Table 16 in Appendix E), the proposed development site is “conditionally acceptable”. For building sites classified as ‘conditionally acceptable’, AS 2021:2015 requires the maximum aircraft noise levels for the relevant aircraft and the required noise reduction to be determined using the procedures prescribed by Clauses 3.1 and 3.2 of AS 2021:2015, and the aircraft noise attenuation to be expected from the proposed construction should be determined in accordance with Clause 3.3 of the standard.

An aircraft noise assessment for the proposed development site has been performed in accordance with the procedure prescribed in the AS 2021:2015 and the details of the assessment are included in Appendix E of this report. The aircraft noise level determined for the proposed development site is presented in below.

Table 5 Aircraft Noise Level at the Proposed Development Site (Based on AS 2021:2015)

Source of Noise	Aircraft Noise Level at the Site, L_{Amax} , dB(A)
Aircraft (Airbus 343)	78

The measured background noise levels along with the established aircraft noise level for the proposed development site are considered for the building envelope design of the proposed development.

5 Noise Sensitive Receivers

Noise Sensitive Receivers (NSR) in the vicinity of the proposed development include surrounding residential premises. The nearest and potentially most affected NSRs are marked in Figure 1 below.

The addresses of the Noise Sensitive Receivers (NSRs) are as shown in Table 6 below.

Table 6 Location of Noise Sensitive Receivers (NSR)

Noise Sensitive Receivers	Address
Noise Sensitive Receiver 1 (NSR 1)	Apartments at 18 Cecil Avenue (Existing 9 Storey Residential Building)
Noise Sensitive Receiver 2 (NSR 2)	20 Leila St



Figure 1 Noise Sensitive Areas near the Proposed Developments

Noise egress from the proposed development is assessed at these noise sensitive receivers for compliance with EPNR 1997.

6 Preliminary Acoustic Design Review

6.1 Mandatory Requirements

The following table presents a list of mandatory acoustic design items required to be addressed based on the reference design documentation. Drawing mark-ups showing sound insulation requirements for different wall locations within the development are presented in Appendix F of this report.

Table 7 Mandatory Acoustic Items

	System	Acoustic Criteria	Recommendations/Remarks
<input type="checkbox"/>	Apartment Intertenancy Walls	BCA Part F5.5 (a)(i) and (iii): <ul style="list-style-type: none"> Airborne Sound Insulation Rating: $R_w + C_{tr} \geq 50$ Discontinuous construction required for walls separating habitable spaces from wet areas. 	Appendix F presents a wall-type mark-up showing the locations where walls with this acoustic rating are required. Proposed wall system details will need to be provided for review. The following systems are suggested: <ul style="list-style-type: none"> CSR System 275(c)/CSR1355(c) or approved equivalent to meet acoustic and fire requirements. CSR System 218(c)/ 1385(c) with 200 mm cavity width (or approved equivalent), may be suitable for non-loadbearing walls.
<input type="checkbox"/>	Apartment to Corridor Walls	BCA Part F5.5 (a)(ii): <ul style="list-style-type: none"> Airborne Sound Insulation Rating: $R_w \geq 50$ 	Appendix F presents a wall-type mark-up showing the locations where walls with this acoustic rating are required. Proposed wall system details will need to be provided for review. The following systems are suggested: <ul style="list-style-type: none"> CSR System 075(c)/1078(c) with 64mm stud or 175(c)/1285(c), or approved equivalent to meet acoustic and fire requirements. Note, CSR System 175(c) /1285(c) is acoustically preferred as it will provide better isolation of impact noise from the corridor than System 075(c).
<input type="checkbox"/>	Apartment to Lift Shaft/ Mechanical Plant	BCA Part F5.5 (a)(ii): <ul style="list-style-type: none"> Airborne Sound Insulation Rating: $R_w \geq 50 + \text{Discontinuous Construction}$ 	Appendix F presents a wall-type mark-up showing the locations where walls with this acoustic rating are required. Proposed wall system details will need to be provided for review. The following systems are suggested: <ul style="list-style-type: none"> 10 mm standard plasterboard fixed to 16 mm furring channel and installed on the core concrete wall (minimum 120 mm concrete wall).

	System	Acoustic Criteria	Recommendations/Remarks
<input type="checkbox"/>	Apartment Entry Doors	BCA Part F5.5 (b): <ul style="list-style-type: none"> Airborne Sound Insulation Rating: $R_w \geq 30$ 	<ul style="list-style-type: none"> 35 mm thick solid core timber door with approved acoustic seals to full perimeter, e.g. Raven RP10 perimeter with RP8 bottom seal.
<input type="checkbox"/>	Apartment to Services Riser	BCA Part F5.6: <ul style="list-style-type: none"> Riser adjacent to habitable area: $R_w + C_{tr} \geq 40$ Riser Adjacent to wet area: $R_w + C_{tr} \geq 25$ 	Proposed riser wall system details will need to be provided for review. The following systems are suggested: <ul style="list-style-type: none"> CSR System 977(b)/7665(b) or approved equivalent for wet areas to meet acoustic and fire requirements. 102 mm C-H Stud required for habitable areas if using CSR System 977(b)/7665(b).

NOT FOR CONSTRUCTION

	System	Acoustic Criteria	Recommendations/Remarks
<input type="checkbox"/>	Wastewater / Stormwater Pipes in Apartment Ceiling Spaces	BCA Part F5.6: <ul style="list-style-type: none"> Pipes above to habitable area: $R_w + C_{tr} \geq 40$ Pipes above wet area: $R_w + C_{tr} \geq 25$ 	<p><u>Above Apartment Habitable Spaces</u></p> <p><u>Option A:</u></p> <ul style="list-style-type: none"> Install acoustic lagging on pipes. Suitable lagging includes Pyrotek Soundlag 4525C, Thermotec Nuwrap, Armawave 2540, Acoustica GreenLAG or approved equivalent with minimum surface density of 5 kg/m^2 and a foam decoupling layer of minimum 25 mm thick. The ceiling should be of minimum 10 mm plasterboard with minimum 50 mm thick 10 kg/m^3 insulation laid in the ceiling cavity for at least 1200 mm each side of the pipe <p><u>Option B</u></p> <ul style="list-style-type: none"> Use Raupiano Plus Pipe installed in the cavity with minimum 10 mm thick plasterboard ceiling and 50 mm thick 10 kg/m^3 acoustic insulation to the full ceiling area. <p><u>Above Apartment Non-Habitable Spaces/Wet Areas</u></p> <p><u>Option A</u></p> <ul style="list-style-type: none"> Install acoustic lagging on pipes. Suitable lagging includes Pyrotek Soundlag 4525C, Thermotec Nuwrap, Armawave 2540, Acoustica GreenLAG or approved equivalent with minimum surface density of 5 kg/m^2 and a foam decoupling layer of minimum 25 mm thick. No acoustic ceiling treatment required. <p><u>Option B</u></p> <ul style="list-style-type: none"> Raupiano Plus Pipe installed in the cavity with minimum 10mm plasterboard ceiling <p><u>Option C</u></p> <ul style="list-style-type: none"> Bare PVC pipe with a with minimum 10 mm thick plasterboard ceiling and 50 mm thick 10 kg/m^3 acoustic insulation to the full ceiling area

	System	Acoustic Criteria	Recommendations/Remarks
<input type="checkbox"/>	Apartment Floors	<p>BCA Part F5.4:</p> <ul style="list-style-type: none"> Airborne Sound Insulation Rating: $R_w + C_{tr} \geq 50$ Impact Sound Insulation Rating: $L_{n,w} \leq 62$ 	<p>Floor/ceiling assembly details including slab thickness and proposed flooring materials will need to be provided for review.</p> <p>For a 200mm concrete floor, following acoustic treatment is recommended:</p> <ul style="list-style-type: none"> <u>Carpet floor areas:</u> No acoustic treatment required. <u>Timber floor areas:</u> Timber floors should be installed on a standard 2mm thick foam slip sheet. Additional acoustic underlay is not required to comply with minimum BCA Deemed-To-Satisfy requirements, but would be beneficial if installed. <u>Tiled floor areas:</u> <p><u>Option 1)</u> Ceiling should either be installed on a light steel suspension system, or on resiliently mounted steel furring channels (e.g. steel furring channels mounted using Rondo STWC clips or equivalent). There should be a minimum 90mm cavity between the plasterboard ceiling and the concrete slab. Minimum 25mm thick fibreglass or polyester insulation (10kg/m^3) should be installed in the ceiling cavity. Ceiling lining should be 10mm standard plasterboard.</p> <p><u>Option 2)</u> Tiles on the floor should be installed on 5mm thick resilient rubber acoustic underlay with minimum weighted impact sound reduction of ΔL_w 18 dB (e.g. Embelton Impactamat Blue Speck, Damtec or equivalent) is recommended for tiled floor on concrete slab.</p> <p>Floor between the communal space (both indoor and outdoor areas) on Level 4 should also adopt the above recommendations to achieve the BCA sound insulation requirements .</p>

	System	Acoustic Criteria	Recommendations/Remarks
<input type="checkbox"/>	Mechanical Plant	<p>Environmental Noise Criteria at nearby noise sensitive receivers, in accordance with Environment Protection (Noise) Regulation (Department of Water and Environmental Regulation, 1997), are as follows:</p> <ul style="list-style-type: none"> Day: L_{A10} 58 dB(A) Evening: L_{A10} 53 dB(A) Night: L_{A10} 48 dB(A) 	<ul style="list-style-type: none"> Details of the mechanical equipment will need to be provided for acoustic review. To satisfy the noise limits, any mechanical plant located on the roof that has a Sound Power Level greater than 65dB(A) are likely to require acoustic screen. Carpark ventilation intake and discharge are likely to require attenuators to achieve the noise limits. However, this needs to be reviewed when acoustic specification of mechanical equipment is provided. Details of the fire pump including its acoustic specification and exhaust location should be provided for environmental noise assessment.

	System	Acoustic Criteria	Recommendations/Remarks
<input type="checkbox"/>	Glazing - Apartments	<p>Traffic Noise: Recommended design criteria based on State Planning Policy 5.4 are as follows:</p> <ul style="list-style-type: none"> Bedrooms: L_{Aeq} 35 dB(A), Night (10pm-6am). Living Areas: L_{Aeq} 40 dB(A), Day (6am-10pm). <p>Aircraft Noise: Recommended design criteria based on AS 2021:2015 Standard and State Planning Policy 5.1 (Western Australian Planning Commission, 2015) are as follows:</p> <ul style="list-style-type: none"> Sleeping Area and Other Dedicated Lounges: 50 dB(A) Other Habitable Areas: 55 dB(A) <p>Canning City Centre Activity Centre Plan (City of Canning, 2016) also requires the proposed development to meet the above requirements.</p>	<p>Traffic noise measurements have been performed in the vicinity of the proposed development during peak hours on weekdays. Refer to Appendix B and Appendix C</p> <p>Based on the measured traffic noise levels on site and State Planning Policy 5.4, design façade noise levels (inclusive of +2 dB for future traffic growth) are as follows:</p> <ul style="list-style-type: none"> Façade facing Albany Hwy and Cecil Ave (North-East Façade): Traffic Noise Level L_{Aeq} 67 dB(A) during Day and L_{Aeq} 63 dB(A) during Night. Façade away from Albany Hwy and Cecil Ave (South-East, South-West and North-West Façade): Traffic Noise Level L_{Aeq} 60 dB(A) during Day and L_{Aeq} 56 dB(A) during Night. <p>Based on the aircraft noise assessment for the proposed development site in accordance with AS 2021:2015, an aircraft noise level of 78 dB(A) has been adopted as the external design noise level for aircraft noise intrusion at the proposed development. Refer to Appendix E for details.</p> <p>Recommended Glazing to satisfy State Planning Policy 5.4 for traffic noise and AS 2021:2015 for aircraft noise at indoor spaces within the development are as follows:</p> <p>South-East, South-West and North-West Façade:</p> <ul style="list-style-type: none"> Bedrooms and Living Areas: <ul style="list-style-type: none"> a) Single Glazing: Viridian 8.5mm Hush laminated single glazed (R_w 38, $R_w + C_{tr}$ 34), OR b) Double Glazing System: Double-glazed system of 4mm +16mm gap +8.5mm Hush Viridian laminated double-glazed system (R_w 39, $R_w + C_{tr}$ 34).

	System	Acoustic Criteria	Recommendations/Remarks
<input type="checkbox"/>			<p>North-East Façade:</p> <ul style="list-style-type: none"> Bedrooms and Living Areas: <ol style="list-style-type: none"> Single Glazing: 6mm annealed glass (R_w 31, $R_w + C_{tr}$ 28), OR Double Glazing System: Double-glazed system of 4mm +12mm gap +4mm Hush Viridian laminated double-glazed system (R_w 31, $R_w + C_{tr}$ 27). <p>Glazing mark-up is shown in Figure 16 of this report.</p>
<input type="checkbox"/>	Building façade - Apartments	<u>Design criteria as per glazing.</u>	<ul style="list-style-type: none"> Specific acoustic treatment to the exterior walls is unlikely to be required if the façade wall is of concrete structure. Any lightweight external wall areas will require acoustic review.
<input type="checkbox"/>	Roof - Apartments	<p>The roof should be designed so that:</p> <ul style="list-style-type: none"> Noise ingress due to rooftop mechanical plant complies with AS/NZS 2107:2016 Rain noise on roof achieves AS/NZS 2107:2016 + 5 dB(A) for rainfall intensity of 10 mm/hr. Recommended design criteria as per State Planning Policy 5.4 is satisfied for traffic noise intrusion. Recommended design criteria as per AS 2021:2015 Standard and State Planning Policy 5.1 is satisfied for Aircraft Noise. 	<p>A light-weight metal roof is proposed for the development.</p> <p>Indicative construction details are as follows:</p> <ul style="list-style-type: none"> Metal Roof (minimum thickness 0.42mm) The top floor ceiling should consist of 2 layers of 13mm thick acoustic rated plasterboard (density 11kg/m² per layer) directly fixed to ceiling joist. The cavity between the ceiling and the metal roof should be a minimum of 300 mm deep. 215mm acoustic insulation 7kg/m³ (Bradford Gold R4.0 Ceiling or equivalent) in ceiling cavity. <p>All roof-mounted mechanical equipment will need to be installed on appropriate vibration isolators.</p>

	System	Acoustic Criteria	Recommendations/Remarks
<input type="checkbox"/>	Outdoor Area	<p>Recommended outdoor noise criteria based on State Planning Policy 5.4 are as follows:</p> <ul style="list-style-type: none"> ▪ L_{Aeq} (Day, 6am to 10pm) 55-60 dB(A) ▪ L_{Aeq} (Night, 10pm to 6am) 50-55 dB(A) 	<ul style="list-style-type: none"> ▪ Based on the measured noise level at the kerbside of Albany Highway (refer to Appendix C) and the distance attenuation for 160m, the noise level at the outdoor area of the proposed development on Level 4 is will be 60 dB(A) or less during the day, which is within the Noise Limit as per State Planning Policy 5.4. ▪ Furthermore, it is understood that there is a possible 9-storey building to be developed in the future at 12 Cecil Avenue, which will acoustically shield the proposed development from noise due to Albany Highway. Once this building is constructed, noise at the outdoor areas (communal areas and balconies) due to traffic on Albany Highway will be well below 60 dB(A).
<input type="checkbox"/>	Communal Space on Level 4	<p>Recommended environmental noise criteria at nearby noise sensitive receivers, in accordance with Environment Protection (Noise) Regulation (Department of Water and Environmental Regulation, 1997), are as follows:</p> <ul style="list-style-type: none"> ▪ Day: L_{A10} 58 dB(A) ▪ Evening: L_{A10} 53 dB(A) ▪ Night: L_{A10} 48 dB(A) 	<ul style="list-style-type: none"> ▪ This will be further assessed during the design development to ensure that EPNR 1997 noise requirements are satisfied at nearby noise sensitive areas.

	System	Acoustic Criteria	Recommendations/Remarks
<input type="checkbox"/>	Waste Management	<p>Environmental noise criteria at nearby noise sensitive receivers, in accordance with Environment Protection (Noise) Regulation (Department of Water and Environmental Regulation, 1997), are as follows:</p> <ul style="list-style-type: none"> Day: L_{A10} 58 dB(A) Evening: L_{A10} 53 dB(A) Night: L_{A10} 48 dB(A) 	<ul style="list-style-type: none"> Based on the existing levels of background noise and road traffic noise at the site it is considered that noise from deliveries and commercial waste collections associated with the proposed development will not adversely impact on the adjacent residences. However, this will require further assessment during the design development phase (when the Waste Management Plan is developed) to ensure that EPNR 1997 noise requirements are satisfied at nearby noise sensitive areas. EPNR 1997 noise criteria are recommended to be included as part of the tenancy agreement for the retail unit and the restaurant, where the operator is required to ensure the EPNR 1997 noise compliance.
<input type="checkbox"/>	Restaurant, Commercial Plant	<p>Environmental noise criteria at nearby noise sensitive receivers, in accordance with Environment Protection (Noise) Regulation (Department of Water and Environmental Regulation, 1997), are as follows:</p> <ul style="list-style-type: none"> Day: L_{A10} 58 dB(A) Evening: L_{A10} 53 dB(A) Night: L_{A10} 48 dB(A) 	<ul style="list-style-type: none"> Since the proposed development is a base building design, EPNR 1997 noise criteria is recommended to be included as part of the tenancy agreement for the retail unit and the restaurant, where the operator is required to ensure the EPNR 1997 noise compliance. From preliminary review of the proposed design, it is considered that it will be practicable for commercial mechanical plant to comply with EPNR 1997, with appropriate plant selection, location and basic acoustic treatment measures if required (e.g. attenuators, screening, duct lining, etc).

6.2 Non-Mandatory Recommendations

Acoustic design items that are not mandatory but are required to satisfy the recommended acoustic design standards and guidelines presented below in Table

Table 8 Non-Mandatory Acoustic Items – Commercial and Communal Parts

	System	Acoustic Criteria	Recommendations/Remarks
<input type="checkbox"/>	Glazing – Commercial Areas	Recommended indoor sound level design criteria based on AS/NZS 2107: 2016: <ul style="list-style-type: none"> Restaurant and Cafeteria: 40 to 50 dB(A). General Offices: 40 to 45 dB(A). 	<ul style="list-style-type: none"> Single Glazing: 6mm annealed glass (R_w 31, $R_w + C_{tr}$ 28), OR Double Glazing System: Double-glazed system of 4mm +12mm gap +4mm Hush Viridian laminated double-glazed system (R_w 31, $R_w + C_{tr}$ 27).
<input type="checkbox"/>	Building façade – Commercial Areas		<ul style="list-style-type: none"> Please provide construction details of walls for review. Specific acoustic treatment to the exterior walls is unlikely to be required if the façade wall is of concrete structure. Any lightweight external wall areas will require further acoustic review.
<input type="checkbox"/>	Car Park Entry Gate	<ul style="list-style-type: none"> Minimise structure-borne noise and vibration in building. 	<ul style="list-style-type: none"> Details of the proposed gate and motor will need to be provided for acoustic review. Vibration isolation of gate rails and motor is recommended. Motor should have soft start/stop controller.

7 Conclusion

This acoustic engineering brief presents an initial review of the key acoustic matters that are required to be implemented in the design of the building. The advice presented in this report is based on acoustic requirements prescribed by the following legislation and guidelines:

- National Construction Code / Building Code of Australia (BCA) 2016 (ABCB, 2016)
- State Planning Policy 5.4 (Western Australian Planning Commission, 2009)
- State Planning Policy 5.1 (Western Australian Planning Commission, 2015)
- City of Canning Activity Centre Plan (City of Canning, 2016)
- Environment Protection (Noise) Regulation 1997 (Department of Water and Environmental Regulation, 1997)
- Australian Standard AS/NZS 2107:2016 (Standards Australia, 2016)
- Australian Standard AS 2021:2015 (Standard Australia, 2015).

On-site noise assessment was conducted on 7 March 2018 to establish the existing background noise level in the vicinity of the proposed development. Additionally, aircraft noise assessment for the proposed development site has also been performed and presented in this report. Acoustic advice, based on the design drawings, measured noise levels at the proposed development and the established aircraft noise level for the proposed development site, is presented in this acoustic engineering brief.

Based on the acoustic review that has been performed, it is considered that there are no design matters of material significance that will prevent compliance with statutory acoustic requirements from being achieved with implementation of practicable noise control measures, as outlined in this report. Detailed acoustic analysis and development of acoustic specifications for such measures will need to be undertaken as part of the detailed design of the building.

9 References

- ABCB. (2016). *National Construction Code Series Volume 1 - Building Code of Australia 2016 - Class 2 to 9 Buildings*. Canberra: Australian Building Codes Board.
- Airservices Australia. (2018). *Perth Airport - WebTrak*. Perth.
- City of Canning. (2016). *CCC Activity Centre Plan*. Perth: City of Canning.
- Department of Water and Environmental Regulation. (1997). *Environmental Protection (Noise) Regulations 1997*. Perth: Department of Water and Environmental Regulation.
- Perth Airport. (2014). *Perth Airport Master Plan 2014*. Perth: Perth Airport.
- Standard Australia. (2015, March 25). AS 2021:2015 Acoustics - Aircraft Noise Intrusion - Building Sitting and Construction. Australia: Standard Australia.
- Standards Australia. (2001). AS 2670.1:2001 Evaluation of Human Exposure to Whole-Body Vibration - Part 1: General Requirements.
- Standards Australia. (2016, December). AS/NZS 2107:2016 Acoustics - Recommended Design Sound Levels and Reverberation Times for Building Interiors.
- Western Australian Planning Commission. (2009). State Planning Policy 5.4: Road and Rail Transport Noise and Freight Considerations in Land Use Planning. WA.
- Western Australian Planning Commission. (2014, December). Implementation Guidelines for State Planning Policy 5.4 - Road and Rail Transport Noise and Freight Consideration in Land Use Planning. WA.
- Western Australian Planning Commission. (2015, July). State Planning Policy 5.1: Land use planning in the vicinity of perth airport. Perth, Western Australia.

Appendix A Glossary of Acoustic Terms

dB / dB(A) Decibels or 'A'-weighted Decibels, the units of Sound Pressure Level and Sound Power Level. 'A'-weighting adjusts the levels of frequencies within the sound spectrum to better reflect the sensitivity of the human ear to different frequencies at sound pressure levels typical of everyday sounds. [Unit: dB / dB(A)]

The following are examples of the decibel readings of every day sounds;

- 0 dB The faintest sound a person can hear with normal hearing
- 10 dB Clam Breathing at 3 meters
- 20 dB Whisper, Rural bedroom at night
- 30 dB A quiet library or in a quiet location in the country
- 40 dB Office Air-conditioning
- 50 dB Ambient noise in Large Office
- 60 dB The sound of a vacuum cleaner in a typical lounge room
- 70 dB The sound of a car passing on the street
- 80 dB Loud music played at home
- 90 dB The sound of a truck passing on the street
- 100 dB Sound of Motorcycle (riding)
- 110 dB The sound of a rock band
- 115 dB Limit of sound permitted in industry
- 120 dB Deafening

ANEF Australian Noise Exposure Forecast. ANEF charts are contour maps that show a forecast of aircraft noise levels that are expected to exist in the future. The ANEF is a forecast of the cumulative noise effect of a full year of airport operations, including changes in weather patterns and airline schedules. The resulting ANEF is therefore a measure of the total noise exposure over a 12-month period divided by 365 to show an average annual day. ANEF contours are given values of 20, 25, 30, 35 and 40. The higher the contour value, the greater the noise.

C_{tr} A spectrum adaptation term, commonly used with R_w and D_{nTw}. C_{tr} adjusts the sound insulation ratings to better describe the performance of the particular construction under consideration when subject to low frequency noise, such as noise from heavy vehicle traffic or subwoofers. [Unit: dB]

$L_{Aeq,T}$	The Equivalent Continuous A-weighted Sound Pressure Level measured over the period T (also known as Time-Average Sound Pressure Level). The Equivalent Continuous A-weighted Sound Pressure Level is the constant value of A-weighted Sound Pressure Level for a given period that would be equivalent in sound energy to the time-varying A-Weighted Sound Pressure Level measured over the same period. In simple terms, this can be thought of as the average sound pressure level. [Unit: dB / dB(A)]
$L_{AFmax,T}$	The maximum value of A-weighted, F time-weighted Sound Pressure Level which occurs during a given measurement period T. [Unit: dB / dB(A)]
$L_{n,w}$	$L_{n,w}$ is the Weighted Normalized Impact Sound Pressure Level. It is a single number rating of the impact sound insulation of a floor/ceiling assembly determined using a standard a standard 'tapping' machine. A lower value of $L_{n,w}$ indicates better impact sound insulation. [Unit: dB]
Noise Sensitive Area	<p>For the purposes of assessment of noise levels in relation to <i>Environmental Protection (Noise) Regulation 1997</i>, a Noise Sensitive Area is defined as:</p> <ul style="list-style-type: none"> a) Premises occupied solely or mainly for residential or accommodation purposes. b) Rural premises c) Premises used for the purpose of - <ul style="list-style-type: none"> ▪ a caravan park or camping ground; or ▪ a hospital having accommodation for less than 150 in-patients; or ▪ a sanatorium, home or institution for care of persons, a rehabilitation centre, home or institution for persons requiring medical or rehabilitative treatment; or ▪ education — school, college, university, technical institute, academy or other educational centre, lecture hall or other premises used for the purpose of instruction; or ▪ public worship; or ▪ a tavern, hotel, club premises, reception lodge or other premises which provides accommodation for the public; or ▪ aged care; or ▪ child care; or ▪ a prison or detention centre; or

a water storage dam or a catchment for a water storage dam.

Reverberation Time	Reverberation Time is defined as the time (in seconds) that would be taken for the Sound Pressure Level in a space to decay by 60 decibels after the source of sound has stopped. Spaces with excessively long reverberation times may be characterised by echoes and poor speech intelligibility, while spaces with very short reverberation times may sound 'dead'.
R _w	Weighted Sound Reduction Index. A single number rating of the airborne sound insulation performance of a specific building element in the absence of flanking transmission. A higher R _w value indicates better airborne sound insulation. [Unit: dB]
Sound Power Level	A measure of the total sound energy radiated by a source, per unit time. Mathematically, it is ten times the logarithm to the base ten of the ratio of the sound power (W) of the source to the reference sound power; where the reference sound power is 1×10^{-12} W. [Unit: dB]
Sound Pressure Level	A measure of the magnitude of a sound wave. Mathematically, it is twenty times the logarithm to the base ten of the ratio of the root mean square sound pressure at a point in a sound field, to the reference sound pressure; where sound pressure is defined as the alternating component of the pressure (Pa) at the point, and the reference sound pressure is 2×10^{-5} Pa. [Unit: dB]

Appendix B Noise Measurement Methodology

Ambient noise levels in the vicinity of the project site were measured for the purpose of determining acoustic criteria and providing information for the design acoustic treatments. The following subsections present the methodology and results of the background noise measurements.

Measurement Procedure

Noise measurements were conducted at the locations detailed in Table 9 and Figure 2. Photographs from noise measurement location are presented in below.

Table 9 Noise Measurement Location Details

Location	Description	Microphone Height Above Ground Level, m
1	Attended noise measurements to establish the traffic noise at the proposed development site	1.5m
2	Attended noise measurements to establish the traffic noise at the proposed development site	1.5m
3	Attended noise measurements to establish the traffic noise from Albany Highway	1.5m



Figure 2 Noise Measurement Location Details (Image Source: Google Earth)



Figure 3 Traffic Noise Measurement Location 1 (at proposed site)



Figure 4 Traffic Noise Measurement Location 2 (at proposed site)



Figure 5 Traffic Noise Measurement Location 3 (adjacent to Albany Hwy)

Measurement Procedure

Noise measurements were conducted between the dates and times shown in Table below using unattended environmental noise logging method to establish the background noise level.

Table 10 Details of Measurement Period

Location	Measurement Type		Start Time	Start Date	End Time	End Date
	Attended	Unattended				
1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	3:30 PM	Wednesday 7/03/2018	03:45 PM	Wednesday 7/03/2018
2	<input checked="" type="checkbox"/>	<input type="checkbox"/>	3:50 PM	Wednesday 7/03/2018	04:05 PM	Wednesday 7/03/2018
3	<input checked="" type="checkbox"/>	<input type="checkbox"/>	04:15 PM	Wednesday 7/03/2018	04:30 PM	Wednesday 7/03/2018

The equipment was configured to provide the measurement results as continuous series of hourly, A-weighted, 'F' time-weighted, broadband Sound Pressure Levels covering the duration of the measurement period.

A 90mm diameter foam windscreen was installed on the microphone to minimise the effect of wind-induced pressure fluctuations on the measurements.

Instrumentation

All acoustic instrumentation used for the measurements held a current certificate of calibration from a National Association of Testing Authorities (NATA) accredited laboratory at the time of the measurements. A field check to confirm correct calibration of the instrumentation was performed at the beginning and end of the measurement period using a laboratory calibrated portable Sound Level Calibrator.

At the time of each check the instrumentation was found to be reading correctly and the deviation between consecutive checks was found to be less than 1 dB.

Details of the acoustic instrumentation used for the measurements are presented in Table 11.

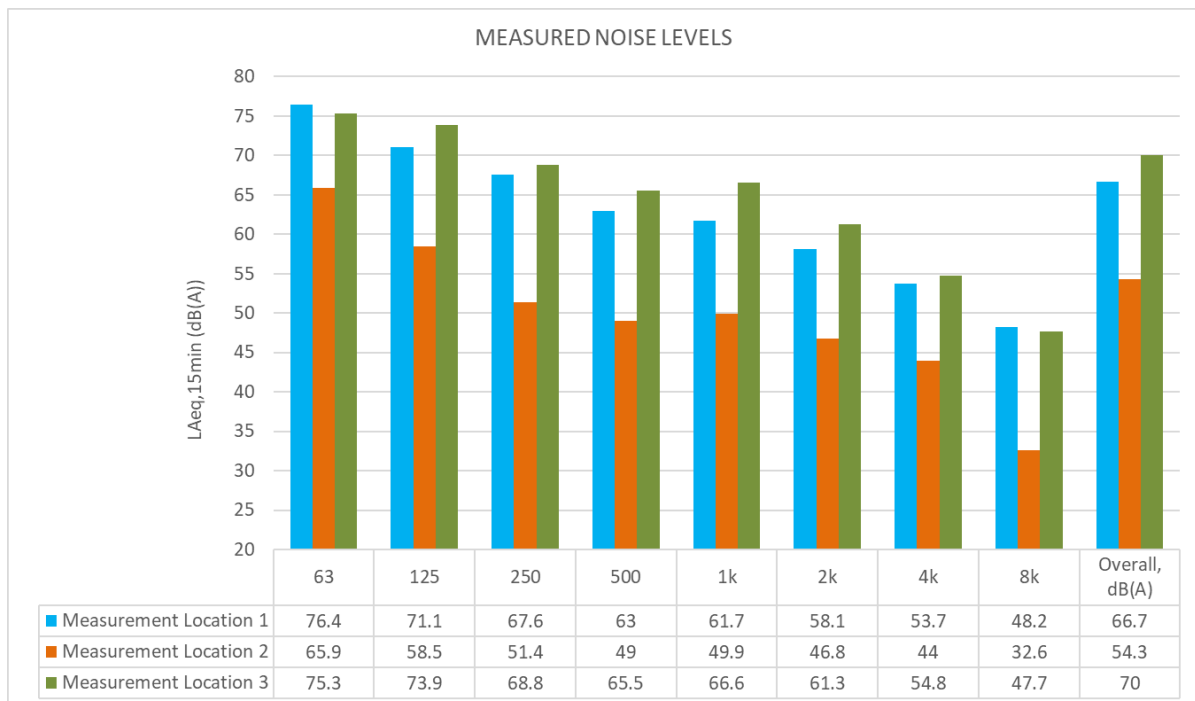
Table 11 Acoustic Instrumentation Details

Measurement Location	Instrument Description	Serial No.	Calibration Due Date*
1-3	Brüel & Kjær 2250 - Sound Analyser	3002096	03/11/2018
1-3	Brüel & Kjær 4189 - Microphone	2888182	03/11/2018
1-3	Brüel & Kjær ZC 0032 - Preamplifier	17886	03/11/2018
1-3	Brüel & Kjær 4231 - Calibrator	3005155	18/09/2018

Weather Conditions

Weather during the period of measurement was generally dry and with calm wind.

Appendix C Measured Traffic Noise Levels



Appendix D Influencing Factor and Assign Noise Level Calculations

18 Cecil Avenue, Cannington (Nearest Noise Sensitive Receiver)

Zoning Map

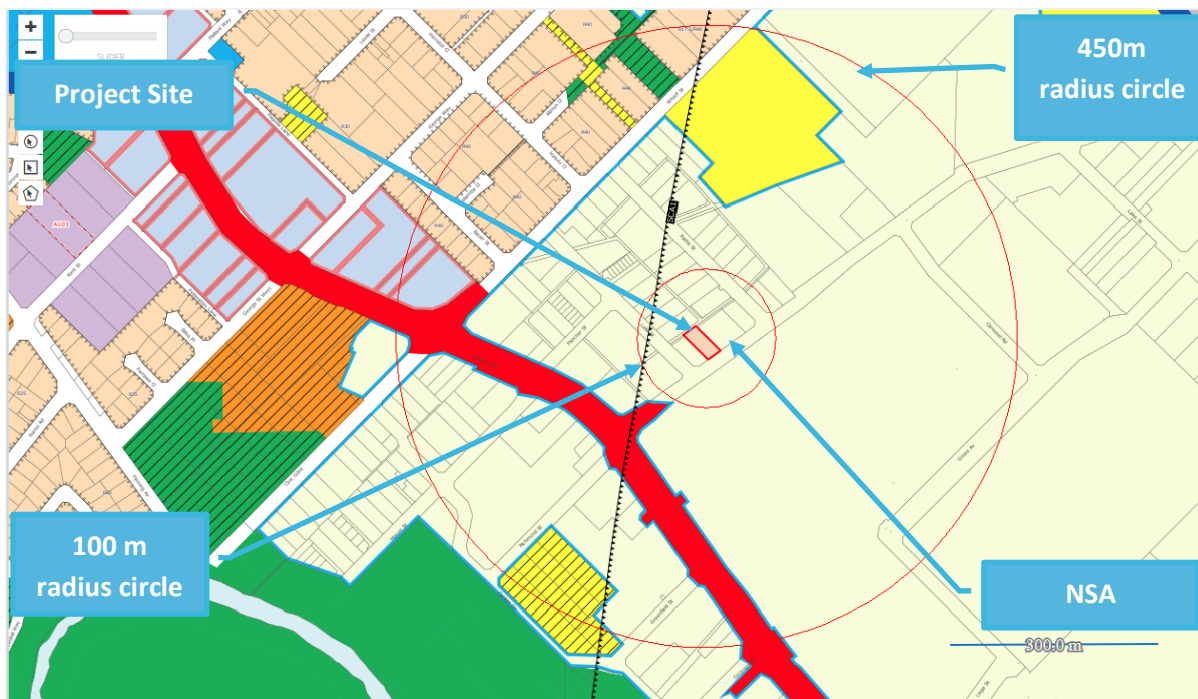


Figure 6 Zoning Circles

(Image Source: <http://www.mapimage.net/intramaps80/?configId=d31b2f7e-d87c-4d44-90cd-10680d626737#>)

CENTRE	LOCAL PARK & RECREATION
CITY CENTRE	MIXED BUSINESS
CITY CENTRE DEFERRED	No Zone
CIVIC & CULTURAL AREAS	OTHER REGIONAL ROADS
COMMERCIAL	PARKS & RECREATION
DEVELOPMENT	PRIMARY REGIONAL ROADS
GENERAL INDUSTRY	PRIVATE CLUBS & INSTITUTIONS
GENERAL INDUSTRY / PUBLIC PURPOSES	PUBLIC PURPOSES
HIGHWAY COMMERCIAL	RAILWAYS
INDUSTRIAL SERVICE	REG. PARKS & RECREATION
LIGHT INDUSTRY	REGIONAL PUBLIC PURPOSES
SHOPPING	RESIDENTIAL
SPECIAL RESIDENTIAL / KENNELS	River
SPECIAL RURAL	RURAL
SPECIAL RURAL/SERVICE STATION	SERVICE STATION

Figure 7 Zoning Legends

Table 12 Zone Areas

Zone Type Designation	Applicable Zones	% Area of 100m Circle	% Area of 450m Circle
	Residential	0%	24%
Type B	Commercial	100%	76%
Type A	Industrial	0	0

Table 13 Calculated Influencing Factor (IF)

Period	100m Radius Circle	450m Radius Circle	Industrial Factor (I) = 0.1 X Sum of Type A % for both Circle	Commercial Factor (C) = 0.05 X Sum of Type B % for both Circle	Transport Factor (TF)	Influencing Factor (IF) = I + C + TF
Residential	0%	24%	0	8.8	4	13
Commercial (Type B)	100%	76%				
Industrial (Type A)	0%	0%				
No. of Major Roads (ADT > 15,000 vehicles)	None	1*				
No. of Secondary Roads (ADT 6,000-15,000 vehicles)	1	-				
*Albany Highway (ADT>15,000 vehicles)						

Explanatory Notes to Influencing Factor (IF) and Assign Level Derivation

Calculation of Influencing Factor (IF):

Influencing Factor (IF) is calculated as per Schedule 3 of the EPNR 1997 Noise regulation. IF is calculated using an appropriate land use map, and is based on 2 concentric circles drawn having radii representing 100m and 450m and centred on the measurement point on the noise sensitive premises. The equation for the calculation of the IF is as follows:

Influencing Factor (dB)

$$= \frac{1}{10} (\text{Sum of Type A \% for both circles})$$

$$+ \frac{1}{20} (\text{Sum of Type B \% for both circles})$$

$$+ \text{Transport Factor or 6 whichever is the lesser}$$

Transport Factor means:

- For a major road where any point inside the road reserve is present in the relevant inner circle, a transport factor of 6 dB;
- For a major road where any point inside the road reserve is present in the relevant outer circle, a transport factor of 2 dB;
- For each secondary road where any point inside the road reserve is present in the relevant inner circle, a transport factor of 2 dB.

Table 14 Determination of Assigned Noise Level

Period	Classification Criteria	Assigned Noise Level, dB		
		L _{A10}	L _{A1}	L _{Amax}
Noise sensitive premises, highly sensitive area	0700 to 1900 Hrs Monday to Saturday	45 + IF	55 + IF	65 + IF
	0900 to 1900 Hrs Sunday and Public Holidays	40 + IF	50 + IF	65 + IF
	1900 to 2200 Hrs All Days	40 + IF	50 + IF	55 + IF
	2200 Hrs on Any Day to 0700 Hrs Monday to Saturday and 0900 Hrs Sunday and Public Holidays	35 + IF	45 + IF	55 + IF
Noise Sensitive Premises; Any area other than highly sensitive area	All Hours	60	75	80
Commercial Premises	All Hours	60	75	80

Table 15 Calculated Assigned Noise Level

Period	Classification Criteria	Assigned Noise Level, dB		
		L _{A10}	L _{A1}	L _{Amax}
Noise sensitive premises, highly sensitive area	0700 to 1900 Hrs Monday to Saturday	58	68	78
	0900 to 1900 Hrs Sunday and Public Holidays	53	63	78
	1900 to 2200 Hrs All Days	53	63	68
	2200 Hrs on Any Day to 0700 Hrs Monday to Saturday and 0900 Hrs Sunday and Public Holidays	48	58	68
Noise Sensitive Premises; Any area other than highly sensitive area	All Hours	60	75	80
Commercial Premises	All Hours	60	75	80

Appendix E Aircraft Noise Assessment for the Proposed Development

Building Site Acceptability

Australian Standard AS 2021:2015 (Standard Australia, 2015) and State Planning Policy 5.1 (Western Australian Planning Commission, 2015) provides recommendations on the acceptability of a proposed development site (for different occupancy and use) based on the Australian Noise Exposure Forecast (ANEF) as listed in Table 16 below.

Table 16 AS 2021:2015 Building Site Acceptability Criteria

Building Type	ANEF Zone of Site		
	Acceptable	Conditionally Acceptable	Unacceptable
Houses, home unit, flat, caravan park	< 20 ANEF	20 – 25 ANEF	> 25 ANEF
Hotel, motel, hostel	< 25 ANEF	25 – 30 ANEF	> 30 ANEF
School, university	< 20 ANEF	20 – 25 ANEF	> 25 ANEF
Hospital, nursing home	< 20 ANEF	20 – 25 ANEF	> 25 ANEF
Public Building	< 20 ANEF	20 – 30 ANEF	> 30 ANEF
Commercial building	< 25 ANEF	25 – 35 ANEF	> 35 ANEF
Light Industrial	< 30 ANEF	30 – 40 ANEF	> 40 ANEF
Other Industrial	Acceptable in all ANEF zones		

According to Australian Standard AS 2021:2015 (Standard Australia, 2015) and State Planning Policy 5.1 (Western Australian Planning Commission, 2015), for buildings on sites classified to be ‘acceptable’ there is usually no need for the building construction to provide protection specifically against aircraft noise. However, it should not be inferred that aircraft noise will be unnoticeable in areas outside the ANEF 20 contour.

Australian Standard AS 2021:2015 (Standard Australia, 2015) and State Planning Policy 5.1 (Western Australian Planning Commission, 2015) requires that buildings on sites classified to be ‘conditionally acceptable’ should be designed such that the indoor aircraft noise levels as presented below are achieved.

Indoor Aircraft Noise Levels

The recommended indoor noise levels as per Australian Standard AS 2021:2015 (Standard Australia, 2015) and State Planning Policy 5.1 (Western Australian Planning Commission, 2015) for building design with regards to aircraft noise is listed in Table 17 below.

Table 17 Indoor Design Sound Levels (AS 2021:2015)

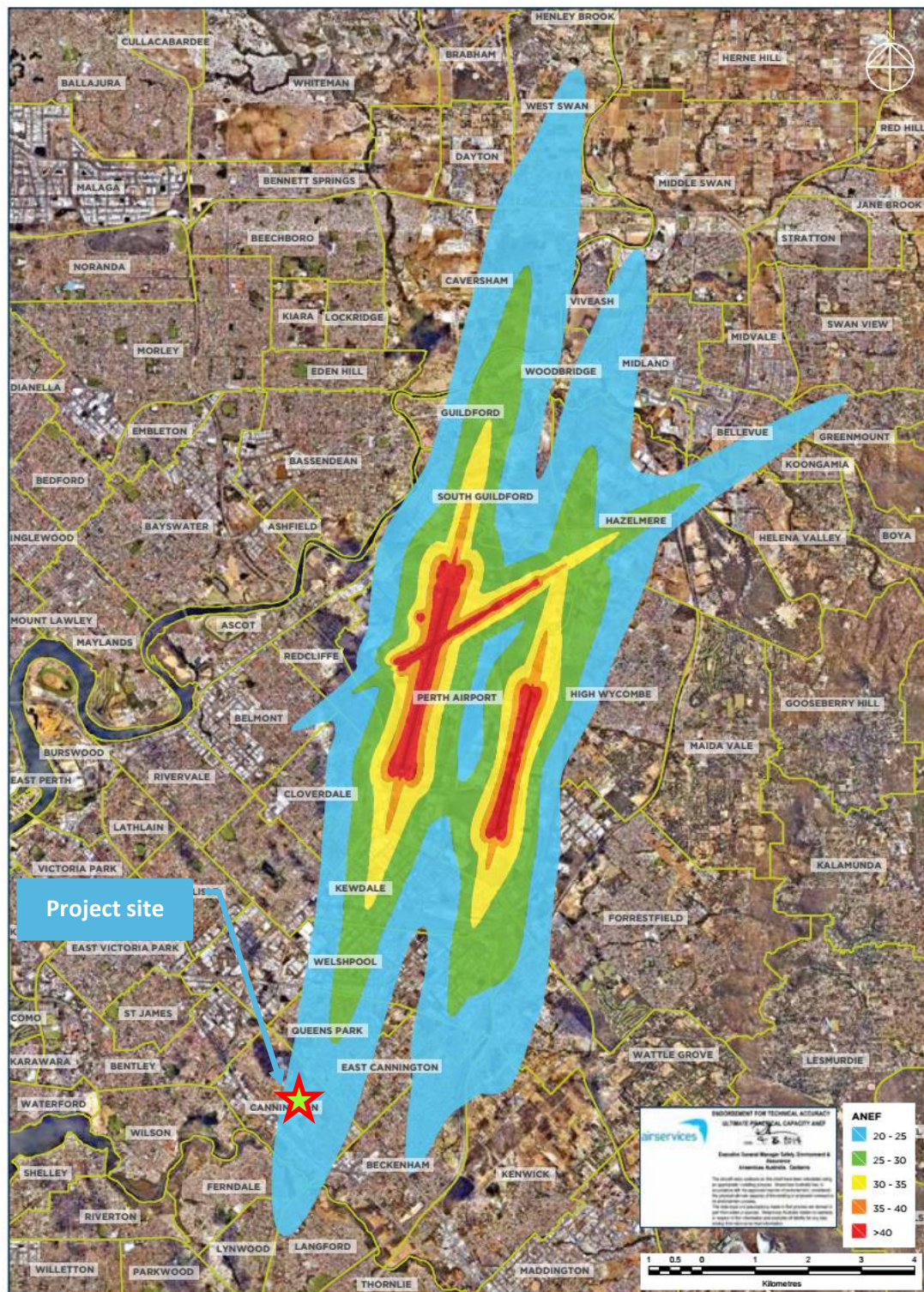
Building Type	Indoor Design Sound Level, L_{Amax} dB(A)
Houses, home units, flats, caravan parks	
Sleeping areas, dedicated lounges	50
Other habitable spaces	55

Proposed Building Site Location in Relation to ANEF Contour

The Australian Noise Exposure Forecast (ANEF) contours for Perth Airport (Perth Airport, 2014), as shown in Figure 8 below, show that the proposed development site is located between ANEF 20 and ANEF 25 contour. The proposed development site is approximately 6.8km south-west from near side of the existing Main Runway (03-21) of Perth Airport.

Based on the AS 2021:2015 (Standard Australia, 2015) criteria for building site acceptability (refer to Table 16), the proposed development site is “conditionally acceptable”. For building sites classified as ‘conditionally acceptable’, AS 2021:2015 requires the maximum aircraft noise levels for the relevant aircraft and the required noise reduction to be determined using the procedures prescribed by Clauses 3.1 and 3.2 of AS 2021:2015, and the aircraft noise attenuation to be expected from the proposed construction should be determined in accordance with Clause 3.3 of the standard.

Perth Airport Ultimate ANEF



This ANEF represents areas with expected high concentrations of aircraft noise, however all areas of Perth will have aircraft from Perth Airport, Jandakot Airport or RAAF Base Pearce flying overhead from time to time and will experience noise of varying levels.

Figure 8 Perth Airport Ultimate Capacity Australian Noise Exposure Forecast (ANEF)

(Source: Perth Airport Master Plan 2014 (Perth Airport, 2014))

Determination of Outdoor Aircraft Noise Level at Site

Perth Airport Runways

The runway configuration at Perth Airport is shown in Figure 9.

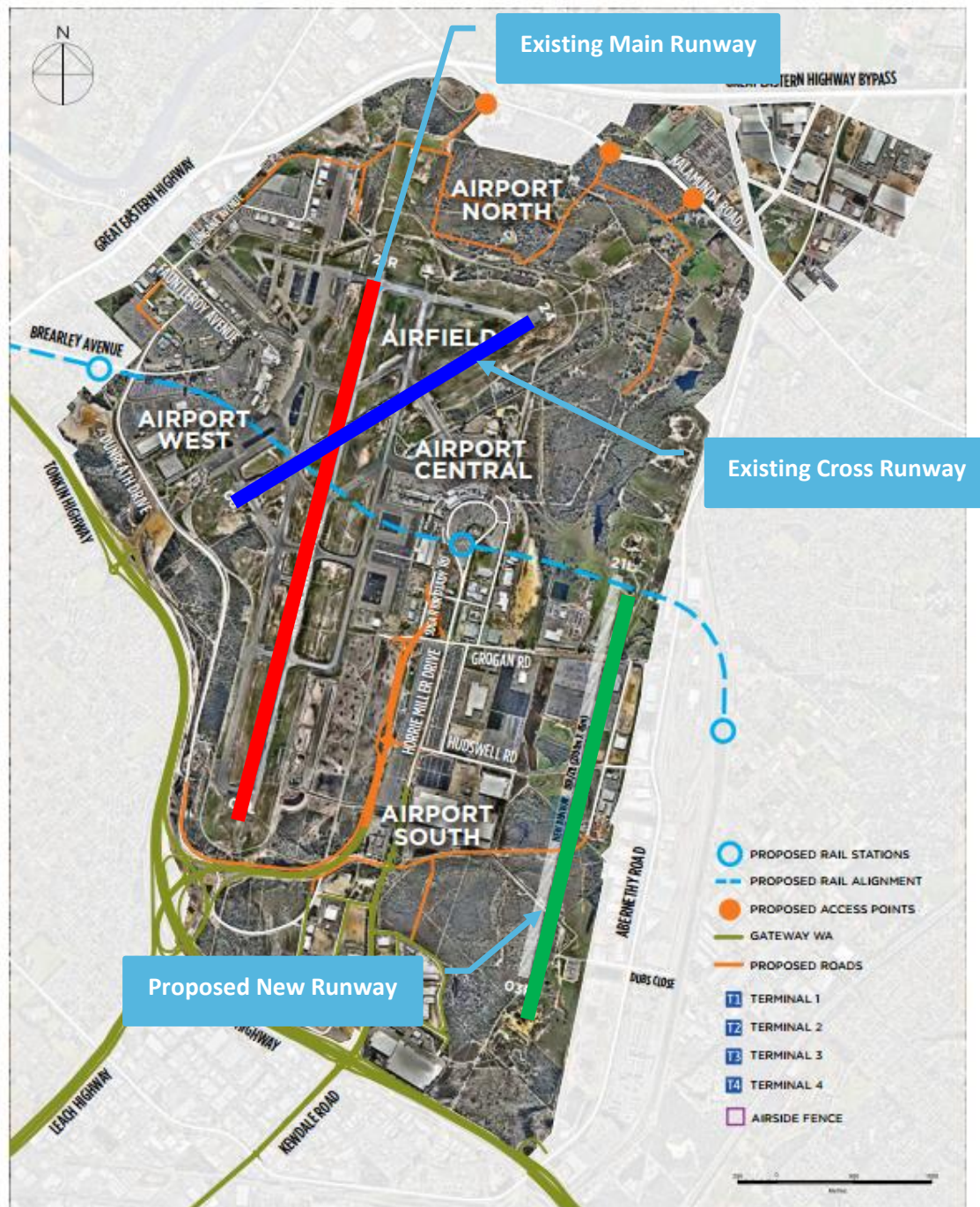


Figure 9 Runway Configuration at Moorabbin Airport

(Source: Perth Airport Master Plan 2014 (Perth Airport, 2014))

Distance Coordinates for Building Site Relative to Aerodrome Runways

Distance coordinates parameters that are required for the calculation of aircraft noise level as per AS 2021:2015 at the proposed development site are presented in Figure 10 below.

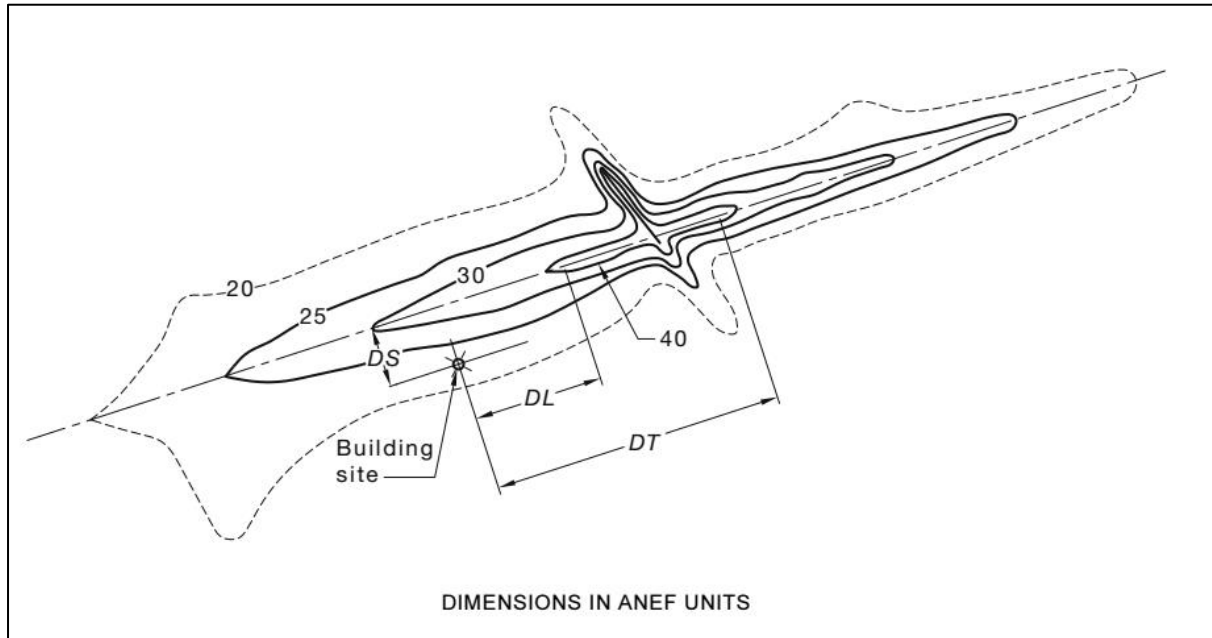


Figure 10 Illustration of the DS, DL and DT for Flight Paths (Ref: AS 2021:2015)

It is noted that:

- DS is the distance in meters from the building site to the extended runway centre-line along the sideline projection line.
- DL is the distance in meters from the closer end of the runway to the intersection of the extended runway centre-line and the sideline projection line.
- DT is the distance in meters from the further end of the runway to the intersection of the runway centre-line and the sideline projection line.
- Sideline Projection is a line that is drawn perpendicular to the extended runway centre-line and passing through the building site.

Table 18 presents the coordinates for the subject site which are calculated in accordance with Section 3 of the AS 2021:2015.

Table 18 Distance Coordinates for the Subject Site

Runway	Arrival (m)		Departure (m)		Land Height Difference* (m)	Land Height Corrections(m)		Adjusted Arrival (m)		Adjusted Departure (m)	
	DS	DL	DS	DT		DL	DT	DS	DL	DS	DT
Existing Main Runway (03-21)	585	6883	585	10630	14	+290	+110	585	7173	585	10740
Existing Cross Runway (06-24)	6075	6324	6075	9543	14	+290	+110	6075	6614	6075	9653
Proposed Future Runway (03R-21L)	2626	6085	2626	8808	14	+290	+110	2626	6375	2626	8918
*Refer to Figure 11 for the Land Height difference between the proposed development site and Perth Airport Runway.											

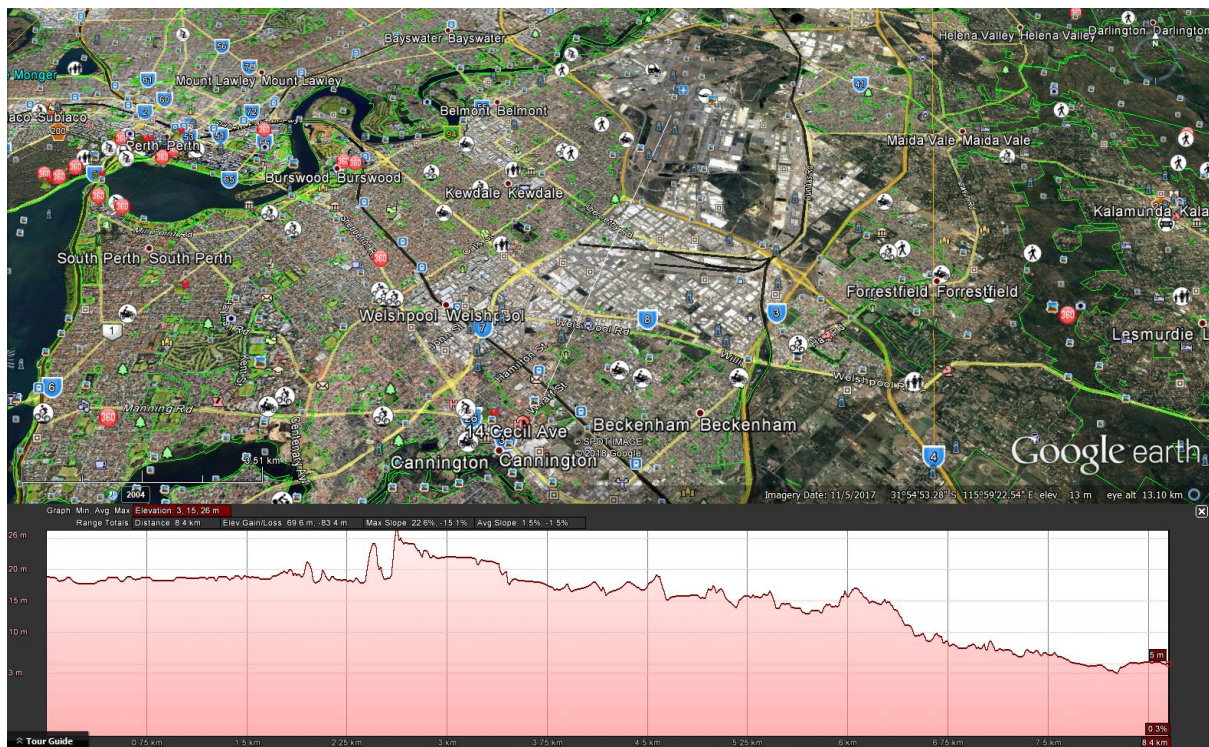


Figure 11 Elevation Difference between Proposed Development Site and Perth Airport
(Source: Google Earth)

Types of Aircraft

Based on the Webtrak by Airservices Australia (Airservices Australia, 2018), the relevant aircraft in the vicinity of the proposed development site are as follows:

- Boeing 737- 800
- Boeing 777- 300
- Boeing 712
- Boeing 738
- Boeing 772
- Airbus A380-841
- Airbus A333
- Airbus A320
- Airbus A343

Calculated Aircraft Noise Level at the Proposed Development Site

Based on the calculated distance coordinates for the subject site, the different types of aircraft flyover and the aircraft noise data presented in AS2021:2015, the aircraft noise levels at the proposed site have been calculated in accordance with AS 2021:2015 and are presented in Table 19. The maximum aircraft noise level calculated is 78 dB(A), due to Airbus 343.

Table 19 **Calculated Aircraft Noise Levels at the Development Site for Different Aircraft Types**

Aircraft Type	Aircraft Noise Level at the Site, L_{Amax} , dB(A)					
	Existing Main Runway		Existing Cross Runway		Proposed Future Runway	
	03 - 21		06 - 24		03R- 21L	
	Arrival	Departure	Arrival	Departure	Arrival	Departure
Boeing 737-800	69	72	< 57	< 58	< 57	58
Boeing 777-300	70	75	< 58	< 57	< 58	57
Boeing 712 (a)	61	67	< 48	< 51	< 48	< 52
Boeing 738 (b)	67	72	< 55	< 58	< 55	< 57
Boeing 772 (c)	72	< 70	< 60	< 60	< 60	< 60
Airbus A380-841	70	71	< 58	< 57	< 58	< 57
Airbus A333 (d)	69	74	< 58	< 57	< 57	< 57
Airbus A320	65	65	< 53	< 50	< 53	< 50
Airbus 343 (e)	78	72	< 56	< 55	< 56	< 54
(a) Noise data not available for this type. It is assumed to be similar to the Aircraft B717						
(b) Noise data not available for this type. It is assumed to be similar to the Aircraft B737						
(c) Noise data not available for this type. It is assumed to be similar to the Aircraft B767						
(d) Noise data not available for this type. It is assumed to be similar to the Aircraft A332						
(e) Noise data not available for this type. It is assumed to be similar to the Aircraft A340						

In accordance with AS 2021:2015, the maximum calculated aircraft noise level of 78 dB(A) has been adopted as the design noise level for aircraft noise intrusion at the proposed development.

Aircraft Noise Reduction (ANR) Required for the Proposed Development

Based on the design aircraft noise level and the indoor noise requirement as per AS 2021:2015, the buildings should be designed to achieve the Aircraft Noise Reduction (ANR) as listed in Table 20

Table 20 Aircraft Noise Reduction (ANR) Required for the Proposed Development

Space Usage	Outdoor Aircraft Noise Exposure Level, L_{Amax} dB(A)	Indoor Noise Criteria, L_{Amax} dB(A)	Required Aircraft Noise Reduction (ANR), dB
Sleeping areas	78	50	28
Other habitable spaces	78	55	23

NOT FOR CONSTRUCTION

Appendix F Wall Mark-up for BCA Sound Insulation Requirements

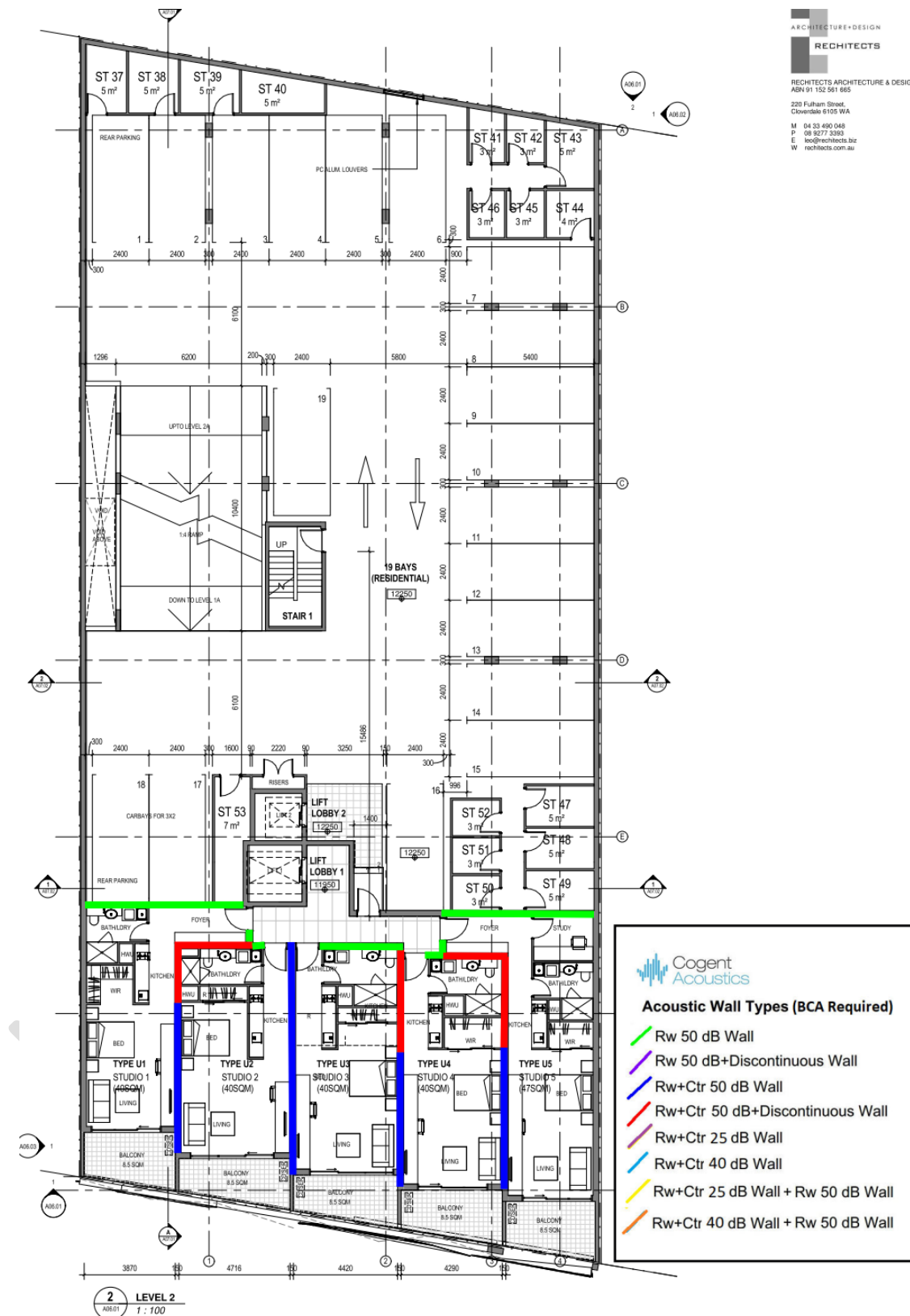


Figure 12

BCA Sound Insulation Wall Mark-up for Level 2

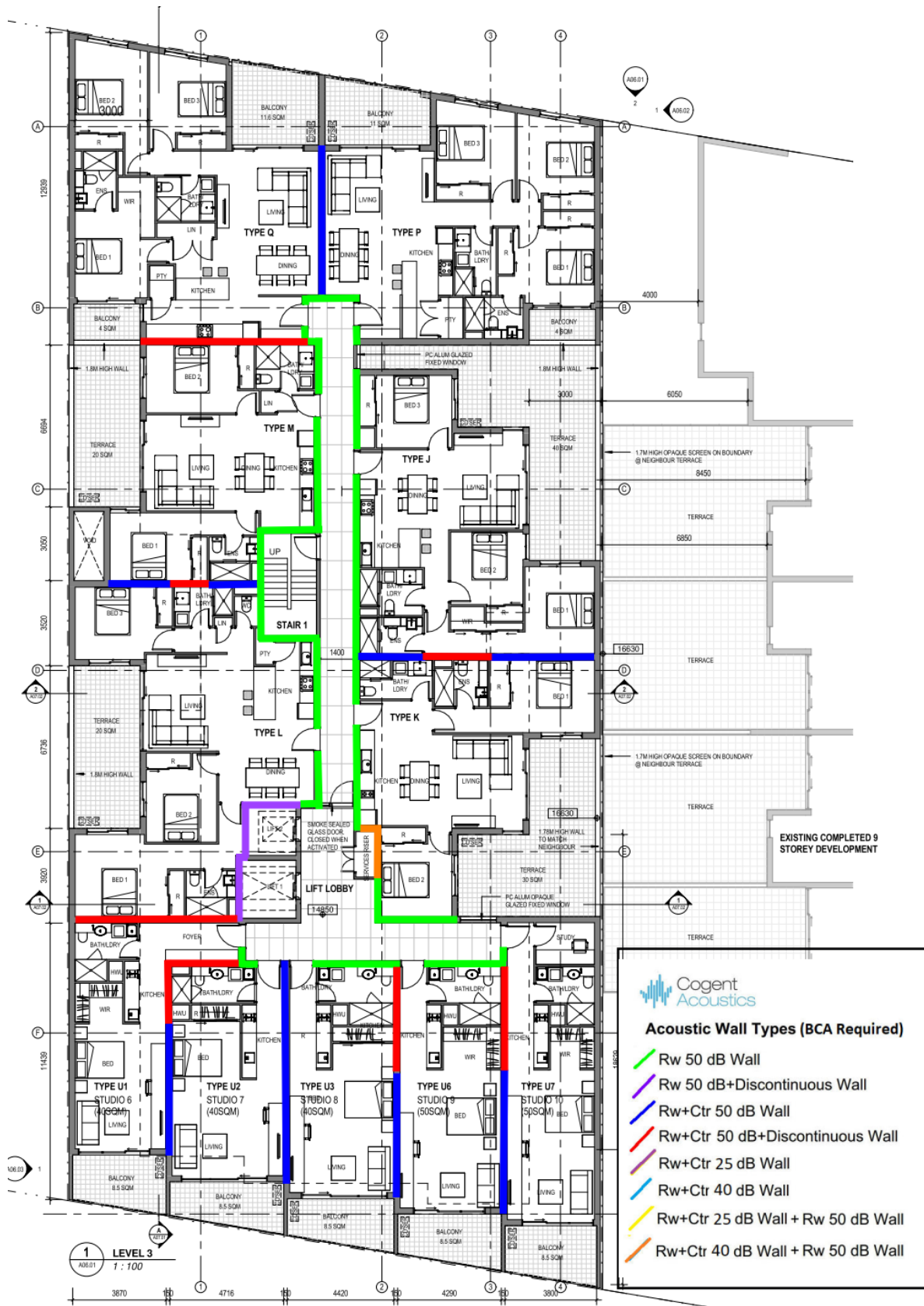


Figure 13 BCA Sound Insulation Wall Mark-up for Level 3

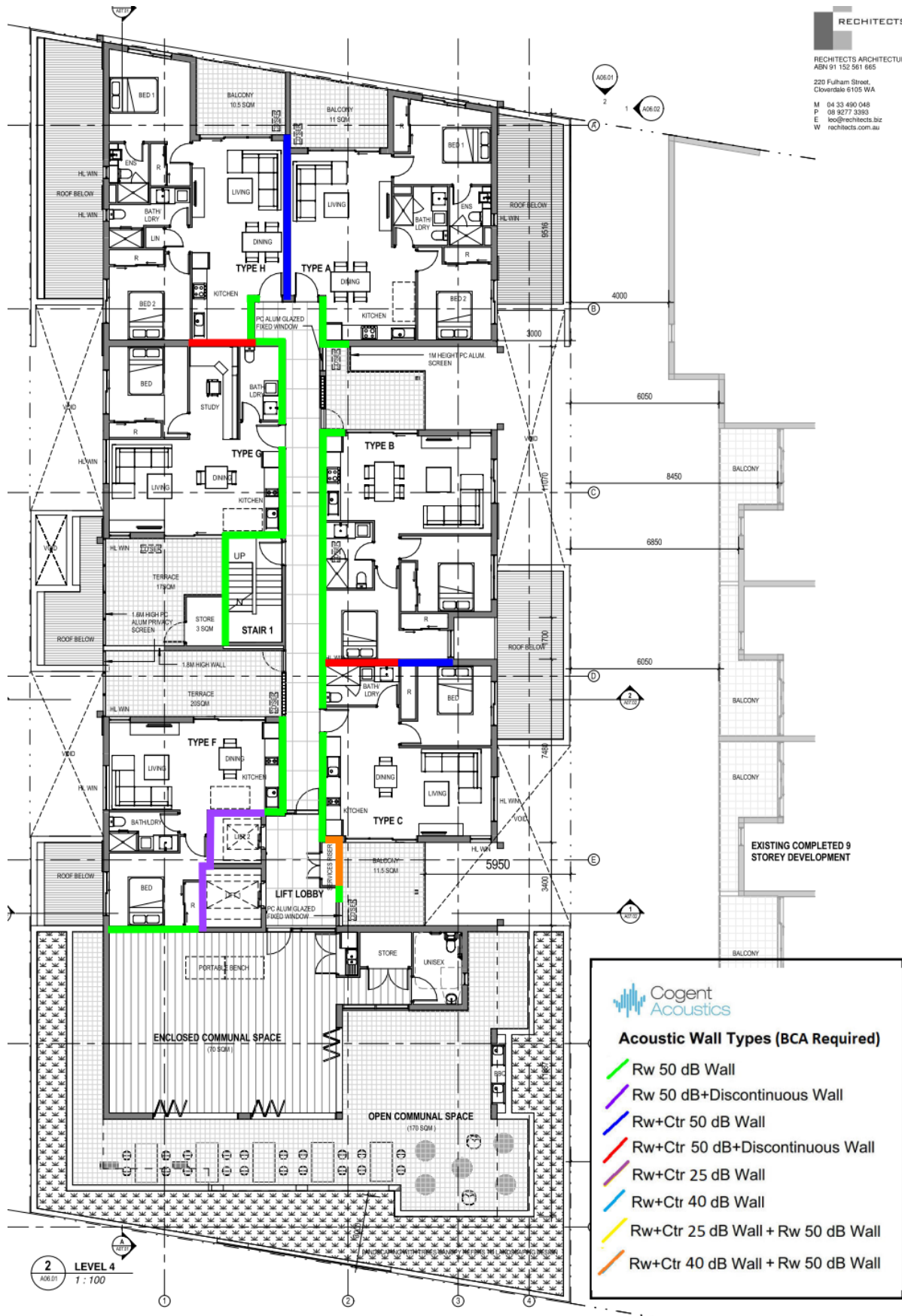


Figure 14 BCA Sound Insulation Wall Mark-up for Level 4

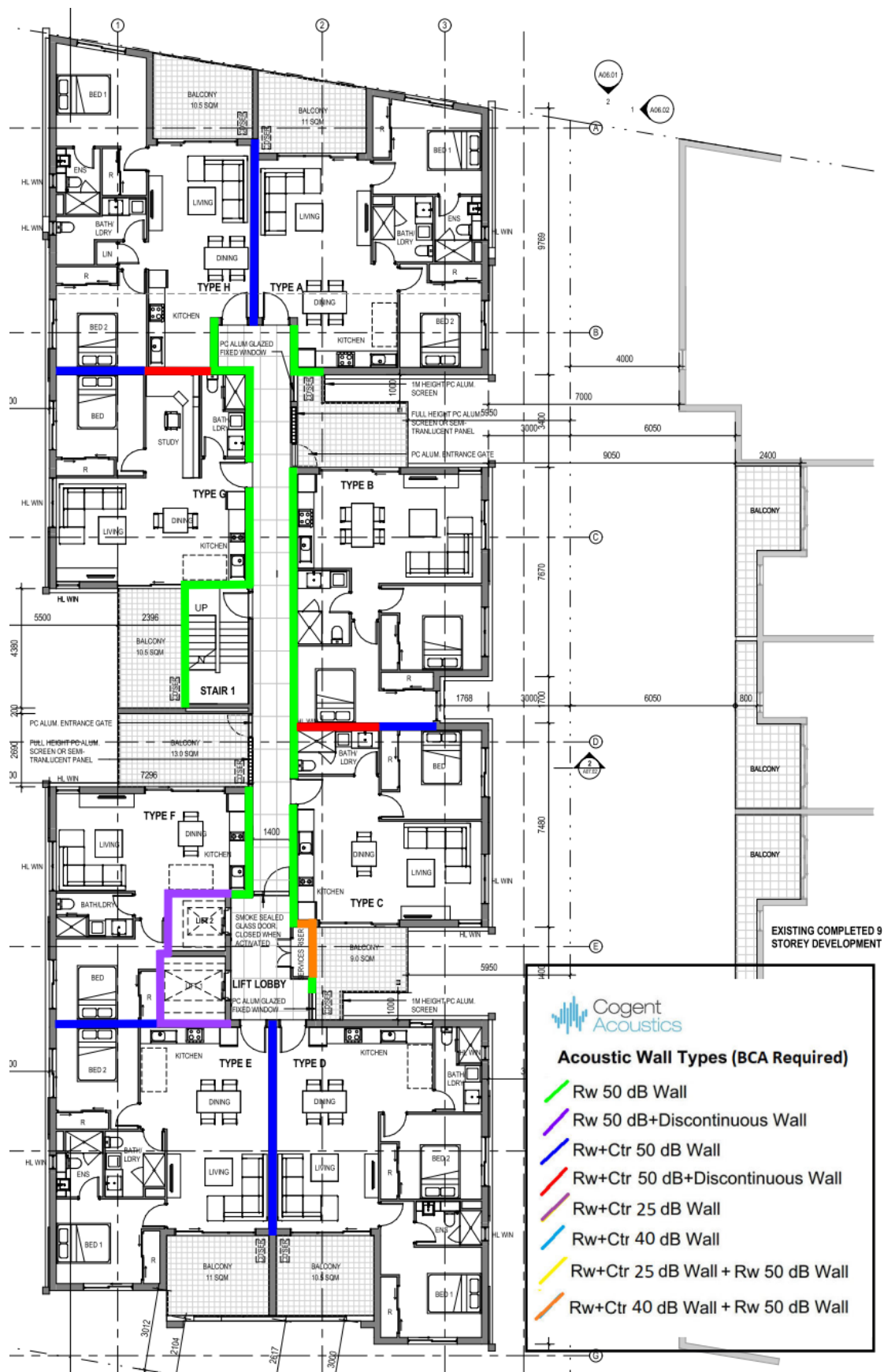


Figure 15 BCA Sound Insulation Wall Mark-up for Level 5 to Level 8

Appendix G Glazing Mark-Up

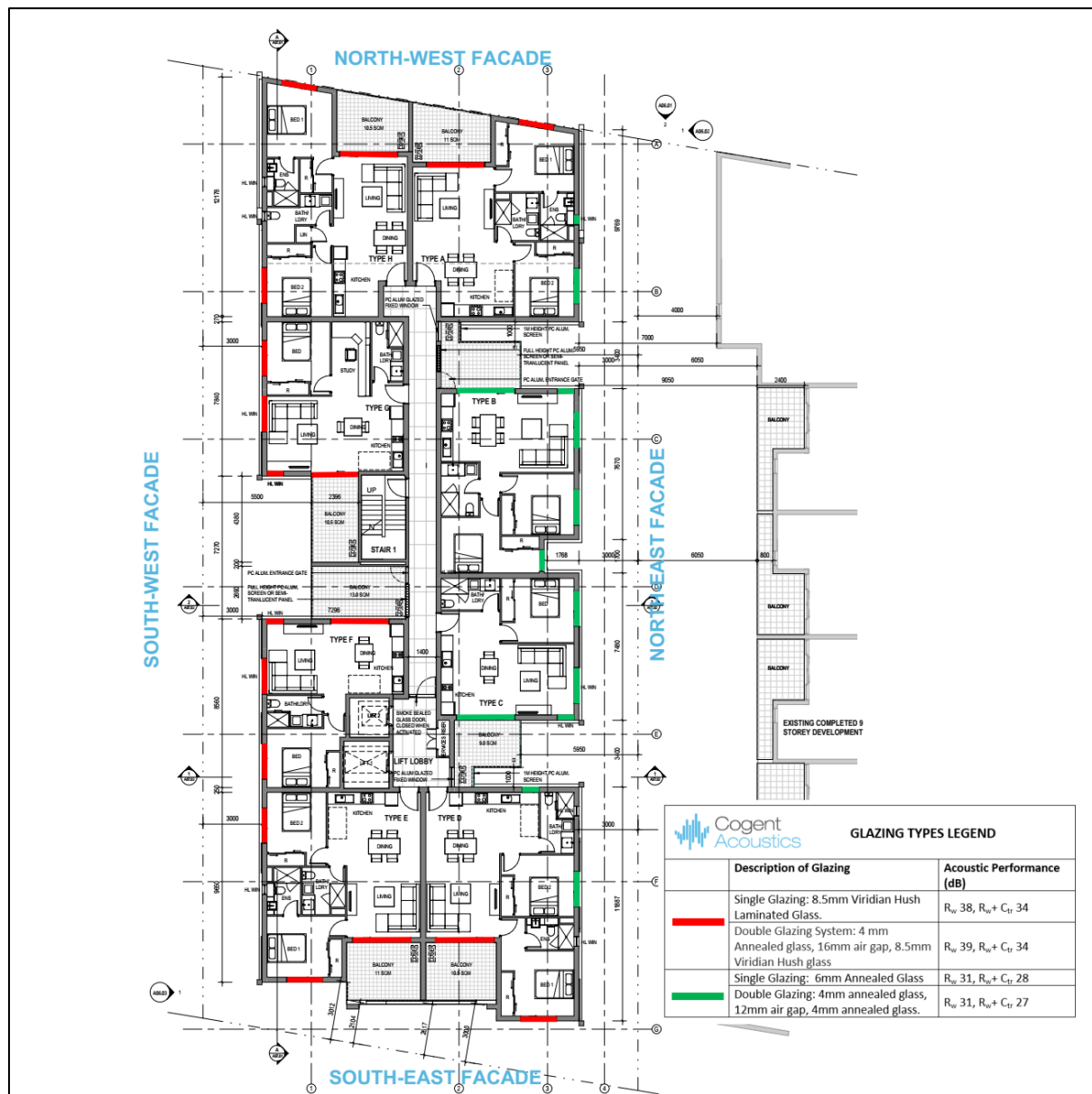


Figure 16 Typical Glazing Mark-up for the Proposed Development

To:	Chee Leo Chong	From:	Aida Leon
Email:	leo@rechitects.biz	Date:	13 April 2018
Phone:	+61 8 9177 3393	No of Pages inc. cover	13
Company:	Rechitects		
CC:			
Project:	14 Cecil Avenue, Canning, WA 6107		
Re:	Passive Design Information_R6		

Background

The development is within the jurisdiction of the City of Canning, the council has determined that for Development Approval Cross ventilation needs to be addressed to comply with Section 6.6 of the Local Policy LP08. The project has received a preliminary assessment and additional information has been required. As part of the Issues table, Item 5.5.1 Passive Design the following information needs to be provided:

1. The applicant to provide window area calculations for all applicable rooms to demonstrate compliance with 5.5.1 (b) Passive Design
2. While there may be an opportunity for minor variations from the 50% requirement – on the basis that the southern location of the COS area was recommended by the City, it is expected that a considerable portion of the COS should be without roof cover to provide.
3. The applicant to provide information on natural ventilation requirements as detailed under item (d) to the left.
4. North-West Elevation to incorporate shading to windows.
5. Items (f) and (g) to the left need to be addressed.

This memo intends to inform items 1, 3, 4 and 5 from the list above. As well, this document describes the methodology used to assess Cross ventilation against the described requirement and presents the results of the assessment undertaken.

Assessment and Documentation

This report is based on the following:

- Project discussions and email correspondences with Planning Project Officer and Rechitects
- The following architectural drawing set issued to us by Rechitects:

Drawing	Description	Rev	Date
A01.00-A40.05	Town planning set	5	29/03/2018

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To quantify the project's sustainability performance against an industry benchmark, this report uses the Design WA (draft) policy guidelines recently released by the Department of Planning Lands and Heritage.

For items 1 and 5 the information will be detailed on the specific Sections.

For Item 3, "(d) Min 60% of apartments are to be naturally cross ventilated", it has been determined that: "The diagrams provided are not informed by adequate methodology and are not acceptable".

To demonstrate compliance for Cross Ventilation, the project will be assessed against the prescriptive pathway of Compliance described on the Design WA (Draft) Natural Ventilation Section that establishes the following:

- a) Cross-over or cross-through apartments that do not exceed 18m in depth, measured glass line to glass line.
- b) Corner units that do not exceed 18m in depth
- c) Single-aspect apartments are considered for the 60% minimum requirement for natural ventilation provided they meet all the following:
 - Ventilation openings face within 45° of the prevailing cooling wind direction;
 - Ventilation openings are equivalent to 7% of the floor area of the room; and
 - Room depth is not more than 3 x ceiling height (8m for a 2.7m high ceiling).

Results

Item 1.- Windows sizes

The applicant to provide window area calculations for all applicable rooms to demonstrate compliance with 5.5.1 (b) Passive Design

"b) All living and sleeping areas to have windows of min 2m².

The applicant to provide window area calculations for all applicable rooms."

Proposed windows have been measured and results are shown below:

Type	Layout	Windows sizes				Compliant Y/N
		Bed1	Bed2	Bed3	Living	
U1	Single aspect	-	-	-	6.3	Yes
U2	Single aspect	-	-	-	7.56	Yes
U3	Single aspect	-	-	-	7.35	Yes
U4	Single aspect	-	-	-	6.3	Yes
U5	Single aspect	-	-	-	6.3	Yes
U6	Single aspect	-	-	-	6.3	Yes
U7	Single aspect	-	-	-	6.3	Yes
A	Corner/double aspect	2.97	2.01	-	6.30	Yes
B	Single aspect	3.19	2.79		9.27	Yes
C	Single aspect	2.01	-	-	10.05	Yes
D	Corner/double aspect	2.97	2.01	-	7.38	Yes

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E	Corner/double aspect	2.97	2.01	-	6.30	Yes
F	Single aspect	2.00	-	-	10.05	Yes
G	Single aspect	2.00	-	-	7.53	Yes
H	Corner/double aspect	2.97	2.01	-	6.30	Yes
J	Single aspect	2.03	3.19	2.028	6.99	Yes
K	Single aspect	2.97	2.01	-	7.38	Yes
L	Single aspect	2.78	2.31		9.27	Yes
M	Single aspect	2.00	2.03		6.30	Yes
P	Corner/double aspect	4.83	2.03	2.01	6.30	Yes
Q	Corner/double aspect	5.04	2.03	2.01	6.30	Yes

Item 3.- Cross Ventilation

All apartments have been assessed, a 75% of the total comply with the requirements of overall depth, length of breeze pathway and location of windows.

Double aspect apartments

The following apartments are located on the corners of the building therefore these are considered to be double aspect and need to comply with the following requirements:

- Cross-over or cross-through apartments that do not exceed 18m in depth, measured glass line to glass line.
- Corner units that do not exceed 18m in depth

See below a table summarising the results:

Type	Single / double aspect	Levels	Qty	Overall Depth	Compliant Y/N
A	Double	4-8	5	9.6	Yes
D	Double	5-8	3	8.4	Yes
E	Double	5-8	4	13.4	Yes
H	Double	4-8	5	13.9	Yes
P	Double	3	1	9	Yes
Q	Double	3	1	17.8	Yes
Total of apartments			19	%	36

Single Aspect apartments

Single-aspect apartments are considered for the 60% minimum requirement for natural ventilation provided they meet all the following:

- Room depth is not more than 3 x ceiling height; (7.8 m for a 2.6m high ceiling)
- Ventilation openings are equivalent to 7% of the floor area of the room; and
- Ventilation openings face within 45° of the prevailing cooling wind direction;

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Each condition will be assessed separately see results below:

A. Room depth is not more than 3 x ceiling height (7.95 m for a 2.65 m high ceiling).

Type	Single / double aspect	Levels	Qty	Depth of room				Compliant Y/N
				Bed1	Bed2	Bed3	Living	
U1	Single	2-3	2				9.4	No
U2	Single	2-3	2				6.8	Yes
U3	Single	2-3	2				7.8	Yes
U4	Single	2	1				7.9	Yes
U5	Single	2	1				12.2	No
U6	Single	3	1				7.9	Yes
U7	Single	3	1				8.9	No
B	Single	4-8	5	5.1	9.9	-	6.9	Yes
C	Single	4-8	5	3.1	-	-	6.8	Yes
F	Single	4-8	5	4			6.9	Yes
G	Single	4-8	5	4	-	-	6.9	Yes
J	Single	3	1	3.6	3.1	3.2	6.9	Yes
K	Single	3	1	5.9	2.9	-	6.9	Yes
L	Single	3	1	3.1	5.1	-	6.7	Yes
M	Single	3	1	6.1	4.7	-	7.1	Yes

B. Ventilation openings are equivalent to 7% of the floor area of the room; and

Type	Single / double aspect	Levels	Qty	Area of spaces				Area required of windows				Area provided				Compliant Y/N
				Bed 1	Bed 2	Bed 3	Liv	Bed 1	Bed 2	Bed 3	Liv	Bed 1	Bed 2	Bed 3	Liv	
U1	Single	2-3	2													No
U2	Single	2-3	2	-	-	-	30.8	-	-	-	2.2	-	-	-	2.5	Yes
U3	Single	2-3	2	-	-	-	30.6	-	-	-	2.2	-	-	-	2.5	Yes
U4	Single	2	1	-	-	-	29.3	-	-	-	2.1	-	-	-	2.1	Yes
U5	Single	2	1													No
U6	Single	3	1	-	-	-	32.1	-	-	-	2.1	-	-	-	2.5	Yes
U7	Single	3	1													No
B	Single	4-8	5	10.8	9.9	-	29.2	0.8	0.7	-	1.9	1.0	1.4	-	3.5	Yes
C	Single	4-8	5	10.4	-	-	25.8	0.7	-	-	2.0	1.0	-	-	3.0	Yes
F	Single	4-8	5	10.6	-	-	26.2	0.7	-	-	1.8	1.0	-	-	3.0	Yes
G	Single	4-8	5	12.6	-	-	32	0.9	-	-	1.8	1.0	-	-	3.0	Yes
J	Single	3	1	15	9.1	9.4	31.1	1.1	0.6	0.7	2.2	1.0	2.6	1.0	2.6	No
K	Single	3	1	12.6	9.1	-	27.1	0.9	0.6	-	2.2	1.0	1.0	-	2.6	Yes
L	Single	3	1	10	11.6		30.8	0.7	0.8	-	1.9	1.4	1.4	-	3.5	Yes
M	Single	3	1	11.9	11.4		30.9	0.8	0.8	-	2.2	1.0	1.0	-	2.1	No

From the Studio units that are facing south, Type U2, U3, U4 and U6 are considered compliant given that they have the required room depth in habitable room (not more than 7.95 m for 2.65 m ceiling height). The rest of studio units (U1, U5 & U7) are considered not compliant given that they don't

comply with condition A (room depth). All other single aspect apartments assessed demonstrated compliance, given that window areas are bigger than 7 % of the total room area and depth of room is equal or less than 7.95 m.

Given that some of the apartments assessed as single aspect have effectively windows in adjacent walls the area of these adjacent wall have been included in the 7% calculation.

The design proposed created indentations which provided balconies, these are adjacent to the living areas and will work as ventilation courtyards.

See the following statement that comes from the IEQ Section-Natural Ventilation Tool Notes- of the BESS Standard:

"If relying on a courtyard adjacent to a ventilation opening the courtyard must have a minimum depth of 3m from the window or be a minimum size of 9m²"

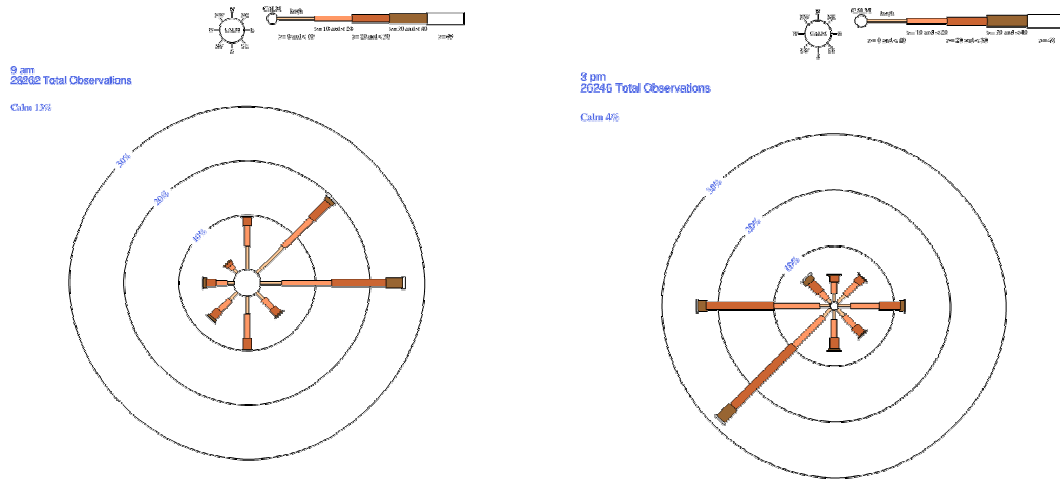
Based on this statement Type C, G and F comply with the area required in courtyards.

Effective natural ventilation relies on window orientation, as well it relies on window sizes and orientation. To draw the wind through the space, we have used larger openings on the leeward (low pressure or downwind) side of the apartment (the balcony) and smaller openings on the breeze or windward (high pressure or upwind) side (the window facing the prevailing wind). So we will face a difference in pressure that will create a breeze pathway. The proposed balconies are sized in a manner that allow the wind to move around the space.

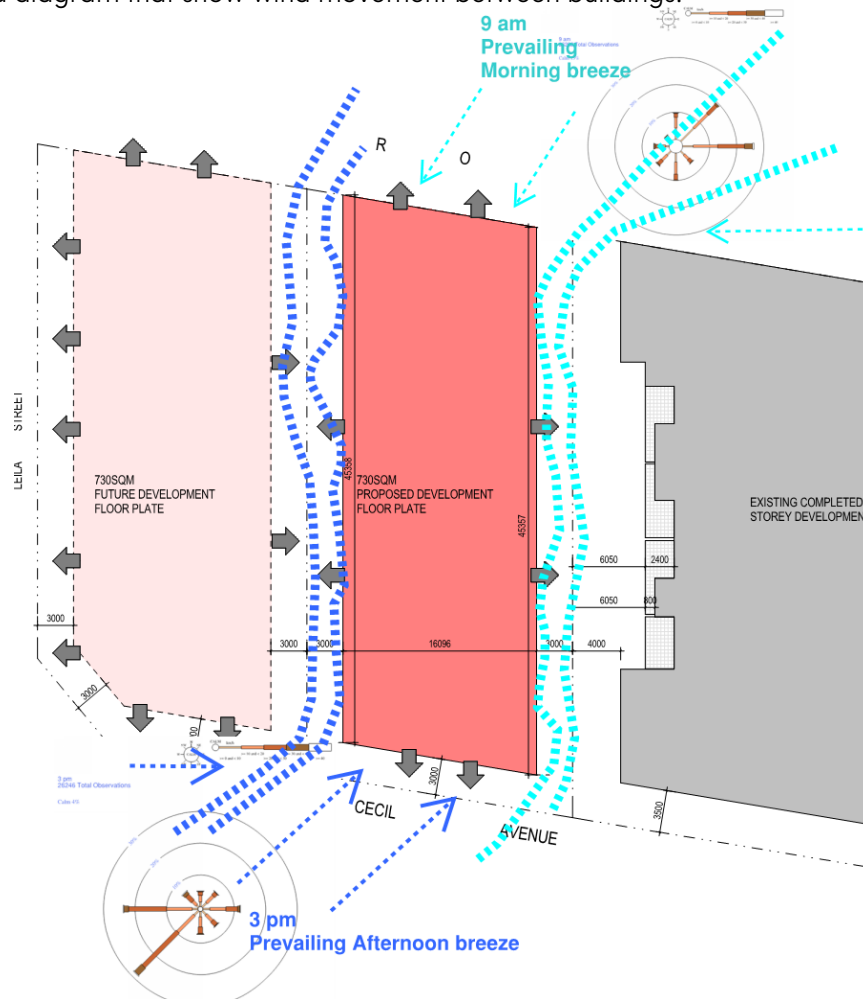
C. Ventilation openings face within 45° of the prevailing cooling wind direction;

For this project two prevailing wind direction have been considered; a Morning breeze with direction North East and an afternoon breeze with south west direction. The direction of the prevailing winds according to the Bureau of Methodology have been determined to be:

- 9 am North East direction
- 3 pm South West direction



See below a diagram that show wind movement between buildings:



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See table below summarising results for Condition C:

Type	Single / double aspect	Levels	Qty	Orientation of windows	Prevailing wind	Compliance
U1	Single	2-3	2	South	South west afternoon breeze	Not compliant with condition A
U2	Single	2-3	2	South	South west afternoon breeze	Considered to comply given that all windows are facing South
U3	Single	2-3	2	South	South west afternoon breeze	Considered to comply given that all windows are facing South
U4	Single	2	1	South	South west afternoon breeze	Considered to comply given that all windows are facing South
U5	Single	2	1	South	South west afternoon breeze	Not compliant with condition A
U6	Single	3	1	South	South west afternoon breeze	Considered to comply given that all windows are facing South
U7	Single	3	1	South	South west afternoon breeze	Not compliant with condition A
B	Single	4-8	5	East	North east morning breeze	Considered not to comply given that Bed1 (snorkel) will not get morning breeze
C	Single	4-8	5	East	North east morning breeze	Considered to comply given that all windows are facing east
F	Single	4-8	5	West	South west afternoon breeze	Considered to comply given that all windows are facing west
G	Single	4-8	5	West	South west afternoon breeze	Considered to comply given that all windows are facing west
J	Single	3	1	East	North east morning breeze	Considered not to comply given that Bed3 (indentation is too deep) will not get morning breeze
K	Single	3	1	East	North east morning breeze	Considered not to comply given that Bed2 (indentation is too deep) will not get morning breeze and not all windows are facing east
L	Single	3	1	East	North east morning breeze	Considered not to comply given that Bed1 (snorkel) will not get morning breeze
M	Single	3	1	West	North east morning breeze	Considered not to comply given that Bed1 won't get morning breeze

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See below a table summarising the results of the overall assessment:

Type	Single / double aspect	Levels	Qty	Compliant Y/N	Comments observations
U1	Single	2-3	2	No	Not Compliant with Condition A
U2	Single	2-3	2	Yes	Compliant/single aspect
U3	Single	2-3	2	Yes	Compliant/single aspect
U4	Single	2	1	Yes	Compliant/single aspect
U5	Single	2	1	No	Not Compliant with Condition A
U6	Single	3	1	Yes	Compliant/single aspect
U7	Single	3	1	No	Not Compliant with Condition A
A	Double	4-8	5	Yes	Compliant/dual aspect
B	Single	4-8	5	No	Not Compliant with Condition C
C	Single	4-8	5	Yes	Compliant/single aspect
D	Double	5-8	3	Yes	Compliant/dual aspect
E	Double	5-8	4	Yes	Compliant/dual aspect
F	Single	4-8	5	Yes	Compliant/single aspect
G	Single	4-8	5	Yes	Compliant/single aspect
H	Double	4-8	5	Yes	Compliant/dual aspect
J	Single	3	1	No	Not Compliant with Condition C
K	Single	3	1	No	Not Compliant with Condition C
L	Single	3	1	No	Not Compliant with Condition C
M	Single	3	1	No	Not Compliant with Condition C
P	Double	3	1	Yes	Compliant/dual aspect
Q	Double	3	1	Yes	Compliant/dual aspect
Total of apartments			53		
Total of compliant apartments					40
Percentage of compliant apartments					75%

See appendix A to check measurements.

Item 4. Shading and glazing

North-West Elevation to incorporate shading to windows or appropriate glazing type.

Details to be provided for Building Permit, this will be addressed by energy assessment on next stage and glazing type will be specified.

Item 5. Items (f) and (g) to the left need to be addressed.

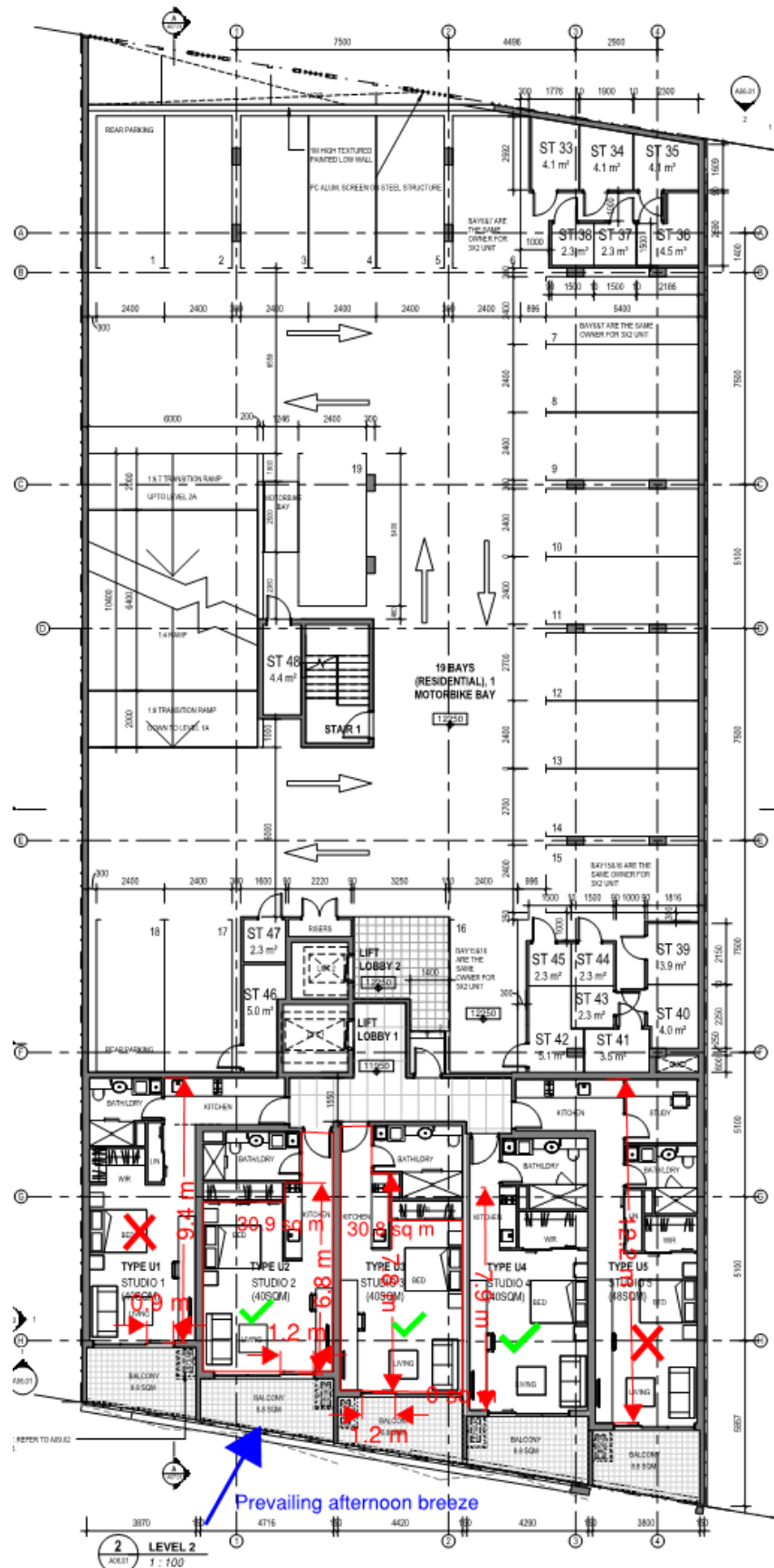
(f) For office buildings, hot air is to be removed by operable windows at night or controlled extraction (night purge).

This will be addressed by the mechanical consultant.

(g) Developments are to incorporate external materials based on their high insulating performance and other durability requirements.

This will be incorporated when during the preliminary Section J Compliance assessment.

Appendix A Plans Mark-ups



Architectural floor plan of Level 3, showing various apartment types (A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q, R, S, T, U, V, W, X, Y, Z) and their dimensions. The plan includes a north arrow, a scale bar (1:100), and a title block. The plan is divided into two main sections: the left side (A-Z) and the right side (A-Z). The left side shows a long corridor with multiple apartment units, while the right side shows a more compact arrangement. The plan includes various rooms such as bedrooms, living areas, kitchens, bathrooms, and balconies. Dimensions are provided for many of the units, such as 10.1m, 7.1m, 3.0m, 3.6m, 6.4m, 30.9 sq m, 30.6 sq m, 7.9m, 5.5m, and 4.0m. The plan also includes a title block with the text 'LEVEL 3' and '1:100'. The plan is oriented with the north arrow pointing towards the top right. The scale bar indicates a distance of 10 meters. The title block is located in the bottom left corner of the plan.

