LOT 684 (NO.135) BROADWAY, NEDLANDS.

DEVELOPMENT APPLICATION – PROPOSED SEVEN STOREY MIXED-USE DEVELOPMENT, 26 SERVICED APARTMENTS AND CAFE –
LOT 684 BROADWAY, NEDLANDS.

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APPENDICES

1.0 INTRODUCTION

Pinnacle Planning acts on behalf of the owner/s of Lot 684 (No. 135) Broadway, Nedlands (subject site), who is seeking Approval for the above mentioned subject proposal.

The subject site is located within the 'R-AC3' Local Planning Area of the City of Nedlands (City). The site comprises of one (1) landholding, legally described as:

Lot Number	Street Number	Plan/Diagram	Volume	Folio
684	135	2948	684	2948

Please refer to Appendix 1 - Certificate of Title.

The site has a combined area of 880m^2.

The subject site currently comprises an underutilized single storey dilapidated residential dwelling, with a great opportunity for short stay accommodation given the nearby proximity to a range of educational, health and retail facilities.

The proposal, subject of this Application is for mixed-use, seven-storey short stay accommodation, consisting of twenty-six serviced apartments, nine (9) of which are dual key functionality and a ground level café. The proposal aims to increase the City's desire for increased densification along the Broadway Precinct, and introduce medium density living along Broadway.

2.0 DESCRIPTION OF PROPOSAL

The proposed development seeks to better utilise the land at the subject site, which has enormous development potential given its relatively large size and its close proximity to the University of Western Australia, Sir Charles Gairdner Hospital, Hollywood Hospital and Broadway Fair Shopping Centre.

The proposed development includes a seven-storey mixed use development with twenty-six (26) serviced apartments, nine (9) of which are dual key functionality in the form of short stay accommodation. The proposal includes a range of studio, one-bedroom and two-bedroom apartments.

Nine (9) of the apartments proposed are of a dual key functionality, which have a self-contained studio accessed by a door, inside the main apartment, however, share a common hallway with separate lockable doors to each apartment.

In addition to the above, the proposal includes a variety of design features, which include:

- An on-street café;
- Internal car parking;
- Lobby area;
- Rooftop garden; and
- Communal open space.

The car parking is accessed from the right of way at the front of the site along Broadway, and includes twenty-four (24) car parking bays, as well as two (2) accessible bays.

The architectural design elements have incorporated a modern design especially along the primary streetscape, as this development will become a focal point for the locality.

Importantly, the proposal could provide short stay accommodation to cater for a range of visitors, including medical patients, students, medical professionals visiting or attending the nearby hospitals including the Sir Charles Gairdner Hospital (QEII) and the University of Western Australia (UWA).

Please refer to Appendix 2 - Plans and Elevations for further details.

3.0 PRE-LODGEMENT PROCESS

3.1 Elective Pre-Lodgement

Our Office, since the beginning of the initial design process of the proposed development at the subject site, has ensured that the City of Nedlands has been involved in all aspects of the design considerations to ensure that the Local Authority is satisfied. Given the natural slope of the subject site, the design process has been somewhat difficult to create a development that compliments the topography appropriately.

The first initial meeting with the City was on the 23 May 2019, of which our Office discussed with the Local Authority a range of design and planning elements for the proposal, including the following:

- Building heights;
- Land use;
- Parking configurations;
- Management of non-residential use;
- Interface; and Landscaping.

Our Client, was happy to incorporate a range of modifications to the proposed development to ensure that the design could positively meet the requirements set out by the City and once made out Office requested to meet with the Local Authority to discuss the modifications.

Our Office, met with the Local Authority once more on 12 June 2019, to further discuss the concept refinements of the proposal, based purely on the feedback that was received by the City at the previous meeting.

3.2 Formal Pre-Lodgement

The proposed building height over natural ground level is 5-storeys to the rear of the development, with additional building mass to the front of the subject site reaching seven (7) storeys. The building height was carefully considered to ensure that it met the requirements of the City, which was discussed during the first initial design meeting to alter the building mass to the front of the site.

After discussions in relation to the above design elements, the City appeared to have no significant concerns with respect to the design of the proposal, and saw the modifications made since the first initial meeting.

Given that the plans demonstrated a range of positive changes, Our Office underwent the formal process in submitting the draft plans for the subject site, formally for pre-lodgement, these plans were sent by our Office on the 12 June 2019 and received by the City on the 14 June 2019.

3.3 Outcomes of Pre-Lodgement

Our Office received a formal response from the City in relation to the pre-lodgement development plans at the subject site on the 28 June 2019. The assessment conducted provided a matrix with respect to the Design WA State Planning Policy 7.3 - Residential Design Codes: Volume 2 - Apartments.

The table provided below, outlines the formal preliminary comments provided by the Local Authority in accordance with the SPP 7.3 requirements, in addition to this, our Office has provided a response column in relation to each of the preliminary comments provided by the City in relation to the subject site.

Please refer to page 6 for assessment table.

	Element Objective	Preliminary Comment	Modifications/Response
PART 2	PRIMARY CONTROLS		
2.2	**Building height**		
O 2.2.1	The height of development responds to the desired future scale and character of the street and local area, including existing buildings that are unlikely to change.	The building height permitted is 6 storeys The development is 7 storeys total with the top level located further from the rear and away from the front of the building so as to ensure that the building height is 6 storeys above NGL.	Height variation accepted; no further changes proposed.
O 2.2.2	The height of buildings within a development responds to changes in topography.		
O 2.2.3	Development incorporates articulated roof design and/or roof top communal open space where appropriate.	The top level has a substantial roof terrace and large awning feature to the top level serviced apartments.	Noted. Accepted - no further change required prior to lodgement.
O 2.2.4	The height of development recognises the need for daylight and solar access to adjoining and nearby residential development, communal open space and in some cases, public spaces.	Need more information to determine where the overshadowing occurs on the neighbouring property and how this will impact future development on the site.	Please refer to plans attached.
2.3	**Street setbacks**		
O 2.3.1	The setback of the development from the street reinforces and/ or complements the existing or proposed landscape character of the street.	The ground floor commercial tenancy is setback appropriately at approximately 1.6m to provide both landscaping and covered outdoor seating area. The 1.4m setback provided on the upper floors are acceptable given the large articulations provided and the balcony protrusions only which are open in nature.	Noted. Accepted - no further change required prior to lodgement.
0.2.3.2	The street setback provides a clear trasnsition between the public and private realm.	At the subject property is mixed use, a slight more integrated setback is somewhat encouraged to provide weather protection for pedestrians and encourage ground floor activiation.	Noted. Acceptable.

O 2.3.3	The street setback assists in achieving visual privacy to apartments from the street.	The upper floors of the development are proposed to be serviced apartments with balconies providing transition between the street and the habitable areas. The balconies are partially screened to provide additional privacy when in use.	
O 2.3.4	The setback of the development enables passive surveillance and outlook to the street.	The development has excellent passive surveillance with ground floor activation.	Noted, acceptable.
2.4	**Side and rear setbacks**		
O 2.4.1	Building boundary setbacks provide for adequate separation between neighbouring properties.	3 storey boundary wall height permitte. Proposed boundary all development to 6 storeys to both the northern and southern side lot boundaries - the length is short, but the height is excessive especially to the southern side. Other setbacks determined by BS and VP Larger setbacks required to north and south for rear units due to reduced VP setbacks to bedrooms and rear balconies Provided 4.8m in lieu of 6m (VP setback) to rear lot boundary	Noted.Further discussion on amenity impact provided below in report.
O 2.4.2	Building boundary setbacks are consistent with the existing streetscape pattern or the desired streetscape character.	Reduction in the height of the boundary walls may be required - especially to the southern side.	Noted. Further discussion on amenity impact provided below in report.
O 2.4.3	The setback of development from side and rear boundaries enables retention of existing trees and provision of deep soil areas that reinforce the landscape character of the area, support tree canopy and assist with stormwater management.	Setback to the rear will allow deep soil areas which can be co-located with landscaping areas for provision of landscape buffer on lower levels.	Noted. Acceptable.

O 2.4.4	The setback of development from side and rear boundaries provides a transition between sites with different land uses or intensity of development.	The development to the north and south is likely to be similar to this subject property and the setback provided to the rear provides a transition to the R60 at the rear which is permitted to be 3 storeys.	Please refer to reviewed plans.
2.5	**Plot ratio**		
O 2.5.1	The overall bulk and scale of development is appropriate for the existing and planned character of the area.	Notwithstanding the side setbacks, the bulk and scale of the building is consistent with the intended development type. 1699m2 short stay unit area 144.3m2 lobby and café plot ratio area car parking is at or below NGL and hence not included in plot ratio area 2.09 plot ratio area if the development was a multiple dwelling development in lieu of serviced apartments, the lobby would be excluded and hence compliant with plot ratio. If the development was a multiple dwelling development in lieu of serviced apartments, the lobby would be excluded and hence compliant with plot ratio.	Noted. Acceptable, no further change required prior to lodgement.
2.6	**Building depth**		
O 2.6.1	Building depth supports apartment layouts that optimise daylight and solar access and natural ventilation.	As the apartments are proposed to be used as serviced apartments, the amount of time spent within the apartment is likely to be lower and hence the amount of sunlight able to penetrate into the rooms is not as important.	Noted. Acceptable solar access and natural ventilation.
O 2.6.2	Articulation of building form to allow adequate access to daylight and natural ventilation where greater building depths are proposed.	N/A	N/A

O 2.6.3	Room depths and/or ceiling heights optimise daylight and solar access and natural ventilation.	Less than 20m depth proposed for each apartment 3m plate heights proposed	Noted. Room depths and ceiling heights acceptable.
2.7	**Building separation**		
O 2.7.1	New development supports the desired future streetscape character with spaces between buildings.	3.55m between balconies on site Need more info for neighbouring properties	Noted. Plans updated to reflect feedback.
O 2.7.2	Building separation in in proportion to building height.		
O 2.7.3	Buildings are separated sufficiently to provide for residential amenity including visual and acoustic privacy, natural ventilation, sunlight and daylight access and outlook.	Looks to be the case on upper floors externally but not internally and require more info for lower levels to neighbouring properties.	Plans updated to reflect comments.
O 2.7.4	Suitable areas are provided for communal and private open space, deep soil areas and landscaping between buildings.	Provided landscaping to rear which will provide privacy at lower levels	Noted. Acceptable.
PART 3	**SITTING THE DEVELOPMENT**		
3.2	**Orientation**		
O 3.2.1	Building layouts respond to the streetscape, topography and site attributes while optimising solar and daylight access within the development.	Direct access to street for pedestrians and vehicles Majority of OLA has access to northern sun with all having access to communal roof top garden/ terrace Building has the majority of height located centrally Neighbouring site is undeveloped but of the same density code and hence has not overshadowing requirements	Noted. Acceptable.
O 3.2.2	Building form and orientation minimises overshadowing of the habitable rooms, open space and solar collectors of neighbouring properties during mid-winter.		Noted. Acceptable.
3.3	Tree canopy and deep soil areas		
O 3.3.1	Site planning maximises retention of existing healthy and appropriate and protects the viability of adjoining trees.	Appears to have no mature trees on site but survey plan to be submitted to confirm this. Please also provide information on the trees immediately south of the development.	Noted.

O 3.3.2	Adequate measures are taken to improve tree canopy (long term) or to offset reduction of tree canopy from pre-development condition.	Provision of min 2 medium to large trees able to be facilitated in the FSA and also to the rear and between the building which are strategic locations for in providing streetscape, amenity for residents and amenity for neighbouring residents.	Acceptable tree canopy measures.
O 3.3.3	Development includes deep soil areas, or other infrastructure to support planting on structures, with sufficient area and volume to sustain healthy plant and tree growth.	100m^2 proposed deep soil area = 11.5% and provided in area of maximum benefit to reduce the impact of the development on the neighbouring landowners with a lower density	Noted. Please refer to plans attached.
3.4	**Communal open space**		
O 3.4.1	Provision of quality communal open space that enhances resident amenity and provides opportunities for landscaping, tree retention and deep soil areas.	Rooftop terrace has planting and amenities for guests being accessible using lifts to the lobby and all floors of the development and is also open in nature and highly usable in size and location.	Noted. Acceptable.
O 3.4.2	Communal open space is safe, universally accessible and provides a high level of amenity for residents.		Noted. Acceptable.
O 3.4.3	Communal open space is designed and oriented to minimise impacts on the habitable rooms and private open space within the site and of neighbouring properties.	Please provide more information on what impact this area will have on the privacy of neighbouring properties?	Noted. Further information provided in report below.
3.5	**Visual privacy**		
O 3.5.1	The orientation and design of buildings, windows and balconies minimises direct overlooking of habitable rooms and private outdoor living areas within the site and of neighbouring properties, while maintaining daylight and solar access, ventilation and the external outlook of habitable rooms.	Please provide more information in relation to visual privacy - are there screens? Is there any obscured glazing? If not - what areas of the neighbouring properties are being overlooked? Will the landscaping provided, provide screening?	Noted. Further information provided below in relation to visual privacy.
O 3.6.1	The transition between the private and public domain enhances the privacy and safety of residents.	The public domain provides for some landscaping (namely a mature tree), minimises blank walls and activates the street while providing a well surveillance entry to the accommodation lobby.	Noted, acceptable.

3.6	Public domain interface		
O 3.6.2	Street facing development and landscape design retains and enhances the amenity and safety of the adjoining public domain, including the provision of shade.	The awning is located within the property which allows landscaping to be provided at the street level and also reduced indemnity for the applicant - no DG to require over footpath. A Landscaping plan will help to demonstrate that this objective is satisfied.	Noted. Accepted.
3.7	Pedestrian access and entries		
O 3.7.1	Entries and pathways are universally accessible, easy to identify and safe for residents and visitors.	Pedestrian access is somewhat recessed to allow more space for the café. Could be brought forward or more information provided through renders to demonstrate the identifiable nature of the entry.	Noted. Please refer to plans provide.
O 3.7.2	Entries to the development connect to and address the public domain with an attractive street presence.	Entry directly faces the street and is covered with an awning and tree with guests walking past a café	Noted, acceptable entry/ connection to the public domain.
3.8	Vehicle access		
O 3.8.1	Vehicle access points are designed and located to provide safe access and egress for vehicles and to avoid conflict with pedestrians, cyclists and other vehicles.	One vehicle access point provided in location similar to existing and hence there is no need to remove any on-street bays. The door is recessed to allow pulling into the driveway without queuing in the street and wide enough to ensure sightlines are safe. Need to demonstrate why two-way access is not required with measures to be installed to prevent conflict or queuing issues.	Noted.
O 3.8.2	Vehicle access points are designed and located to reduce visual impact on the streetscape.	Need crossover to be shown on a site plan.	Noted. Site plan to be updated prior to lodgement.

3.9	Car and bicycle parking	Broken up into bicycle / motorcycle and car parking	
O 3.9.1	Parking and facilities are provided for cyclists and other modes of transport.	Bicycle parking is located on first floor rather than ground floor with space enough for min. 3 to be provided - no publicly available bicycle parking Potentially require another bicycle parking bay to be provided at street level which is not behind a barrier - especially for the café. Space enough on property to not require location in verge. Need a motorcycle bay to be provided.	Noted.
O 3.9.2	Carparking provision is appropriate to the location, with reduced provision possible in areas that are highly walkable and/or have good public transport or cycle networks and/or are close to employment centres.		Noted.
O 3.9.3	Car parking is designed to be safe and accessible.	21 car bays are provided for the development Draft LPP requires 1 car bay and 1 bicycle bay per 30m2 café NLA. 1 car bay per 5 guest rooms. 1 bay per 2 staff members. 1 motorcycle/scooter bay required. 10% reduction permitted as within 250m of stop on HF bus route. 2.52 (3) bays required for café 5.2 (5) bays required for guest rooms 2 bays max required for staff. Provided adequate car parking without even applying reduction. Car parking concealed from view from street and conveniently located.	Noted. Acceptable, no further changes proposed prior to lodgement.
O 3.9.4	The design and location of car parking minimises negative visual and environmental impacts on amenity and the streetscape.		Noted. Acceptable, no further changes proposed prior to lodgement.

PART 4	DESIGNING THE BUILDING		
4.1	**Solar and daylight access**		
O 4.1.1	In climate zones 4, 5 and 6: the development is sited and designed to optimise the number of dwellings receiving winter sunlight to private open space and via windows to habitable rooms. (Perth is Zone 5)	Almost all apartments have access to northern sun for the units with approx. 15% receiving no sunlight. There is an opportunity to have windows (highlight or otherwise) installed to the northern walls of most units to improve light and ventilation.	Please refer to reviewed plans.
O 4.1.2	Windows are designed and positioned to optimise daylight access for habitable rooms.	All habitable rooms have windows - elevations to be provided to demonstrate the amount of glazing.	Please refer to reviewed plans.
O 4.1.3	The development incorporates shading and glare control to minimise heat gain and glare: from mid-spring to autumn in climate zones 4, 5 and 6 AND year-round in climate zones 1 and 3.	More info to be provided with elevations showing shading devices.	Please refer to reviewed plans.
4.2	**Natural ventilation**		
O 4.2.1	Development maximises the number of apartments with natural ventilation.	Minimal cross ventilation opportunities in all apartments on floors 1-5. There is an opportunity to have windows (highlight or otherwise) installed to the northern walls of most units to improve light and ventilation.	Noted. Plans updated to reflect feedback.
O 4.2.2	Individual dwellings are designed to optimise natural ventilation of habitable rooms.	Each habitable room should be provided with openable window	Noted. Reviewed.
O 4.2.3	Single aspect apartments are designed to maximise and benefit from natural ventilation.	Depth is 4x the height at worst case - more info required in relation to prevailing wind. Require ventilation diagrams	Noted. Reviewed.
4.3	**Size and layout of dwellings**		
O 4.3.1	The internal size and layout of dwellings is functional with the ability to flexibly accommodate furniture settings and personal goods, appropriate to the expected household size.	N/A - services apartments but ceiling heights appropriate.	N/A

O 4.3.2	Ceiling heights and room dimensions provide for well- proportioned spaces that facilitate good natural ventilation and daylight access.	N/A - services apartments but ceiling heights appropriate.	N/A N/A
4.4	**Private open space and balconies**		
O 4.4.1	Dwellings have good access to appropriately sized private open space that enhances residential amenity.	Private open space provided for all apartments which is appropriately sized given the tenancy is for short term apartments only which is integrated into the overall design of the building and contributes to the architectural form.	Noted. Private open space acceptable.
O 4.4.2	Private open space is sited, oriented and designed to enhance liveability for residents.		Noted.
O 4.4.3	Private open space and balconies are integrated into the overall architectural form and detail of the building.		Noted. Private open space acceptable.
4.5	**Circulation and common spaces**		
O 4.5.1	Circulation spaces have adequate size and capacity to provide safe and convenient access for all residents and visitors.	Circulation for lobbies are generous and will add to the amenity of the guests with separate entries provided for dual key.	Noted. Acceptable.
O 4.5.2	Circulation and common spaces are attractive, have good amenity and support opportunities for social interaction between residents.	No bedrooms or living areas open onto common spaces. More information to be provided with application in terms of lobby appearance	Noted. Additional information provided prior to lodgement.
4.6	**Storage**		
O 4.6.1	Well-designed, functional and conveniently located storage is provided for each dwelling.	N/A - note some storage provided which is likely to be used by hotel.	N/A
4.7	**Managing the impact of noise**		
O 4.7.1	The siting and layout of development minimises the impact of external noise sources and provides appropriate acoustic privacy to dwellings and on-site open space.	Acoustic report to be provided with DA	Noted. Please see attached Acoustic Impact Statement provided further below in report.

O 4.7.2	Acoustic treatments are used to reduce sound transfer within and between dwellings and to reduce noise transmission from external noise sources.	Acoustic report to be provided with DA	Noted. Please see attached Acoustic Impact Statement provided further below in report.
4.8	**Dwelling mix**		
O 4.8.1	A range of dwelling types, sizes and configurations is provided that caters for diverse household types and changing community demographics.	N/A - range of apartment sizes and dual key provided	N/A
4.9	**Universal design**		
O 4.9.1	Development includes dwellings with universal design features providing dwelling options for people living with disabilities or limited mobility and/or to facilitate ageing in place.	N/A - not multiple dwellings	N/A
4.10	**Façade design**		
O 4.10.1	Building façades incorporate proportions, materials and design elements that respect and reference the character of the local area.	Design statement to be provided by applicant with development application. Good use of different materials, depth,	Noted. Detailed design statement to be provided prior to lodgement.
O 4.10.2	Building façades express internal functions and provide visual interest when viewed from the public realm.	angles and textures to provide interest.	Noted. Detailed design statement to be provided prior to lodgement.
4.11	**Roof design**		
O 4.11.1	Roof forms are well integrated into the building design and respond positively to the street.	More information to be provided with application showing building services locations	Plans amended to incorporate feedback.
O 4.11.2	Where possible, roof spaces are utilised to add open space, amenity, solar energy generation or other benefits to the development.	Roof space used to provide more open space - potential to also provide solar PV	Plans amended to incorporate feedback.
4.12	**Landscape design**		
O 4.12.1	Landscape design enhances streetscape and pedestrian amenity; improves the visual appeal and comfort of open space areas; and provides an attractive outlook for habitable rooms.	Street tree provided within property - minimal other forms of landscaping provided as visible from the street	Noted. Additional landscaping to be provided along the street frontage, to meet requirements.

O 4.12.2	Plant selection is appropriate to the orientation, exposure and site conditions and is suitable for the adjoining uses.	Deep tree root zone located to provide screening to residents and ground floor amenity for guests. Detailed landscaping plan to be provided.	Please see attached landscape plan provided in report.
O 4.12.3	Landscape design includes water efficient irrigation systems and where appropriate incorporates water harvesting or water re-use technologies.		Please see attached landscape plan provided in report.
O.4.12.4	Landscape design is integrated with the design intent of the architecture including its built form, materiality, key functional areas and sustainability strategies.		Please see attached landscape plan provided in report.
4.13	**Adaptive reuse**		
O 4.13.1	New additions to existing buildings are contemporary and complementary and do not detract from the character and scale of the existing building.	N/A	N/A
O 4.13.2	Residential dwellings within an adapted building provide good amenity for residents, generally in accordance with the requirements of this policy.		
4.14	**Mixed use**		
O 4.14.1	Mixed use development enhances the streetscape and activates the street.	Non-residential provided on ground floor	Noted. Café appropriate.
O 4.14.2	A safe and secure living environment for residents is maintained through the design and management of the impacts of non-residential uses such as noise, light, odour, traffic and waste.	Need more information in relation to waste generation and collection, staffing arrangements, car parking booking system and opening hours of the café.	Noted. Additional information to be provided prior to lodgement.
4.15	**Energy efficiency**		
O 4.15.1	Reduce energy consumption and greenhouse gas emissions from the development.	Need to demonstrate energy efficiency initiative or provide NATHERS report	Noted.
4.16	**Water management and conservation**		
O 4.16.1	Minimise potable water consumption throughout the development.	N/A - services apartments	N/A

O 4.16.2	Stormwater runoff from small rainfall events is managed on- site, wherever practical.	Can condition stormwater contained on site - basement not lower than the road	Noted. Acceptable.
O 4.16.3	Reduce the risk of flooding so that the likely impacts of major rainfall events will be minimal.		Noted.
4.17	**Waste management**		
O 4.17.1	Waste storage facilities minimise negative impacts on the streetscape, building entries and the amenity of residents.	Waste storage area concealed from view and conveniently located away from apartments and close to the vehicle access point	Noted. Waste storage provided appropriate.
O 4.17.2	Waste to landfill is minimised by providing safe and convenient bins and information for the separation and recycling of waste.	Waste management plan to be provided with application and demonstration that area provided is sufficiently large to provide for development.	Noted, waste management plan will be provided as requested.
4.18	**Utilities**		
O 4.18.1	The site is serviced with power, water, gas (where available), wastewater, fire services and telecommunications/ broadband services that are fit for purpose and meet current performance and access requirements of service providers.	More information to be provided in relation to utilities location and design	Noted.
O 4.18.2	All utilities are located such that they are accessible for maintenance and do not restrict safe movement of vehicles or pedestrians.		Noted.
O 4.18.3	Utilities, such as distribution boxes, power and water meters are integrated into design of buildings and landscape so that they are not visually obtrusive from the street or open space within the development.		Noted.
O 4.18.4	Utilities within individual dwellings are of a functional size and layout and located to minimise noise or air quality impacts on habitable rooms and balconies.		Noted.

4.0 STATEMENT OF TOWN PLANNING COMPLIANCE

4.1 Town Planning Framework

4.1.1 Metropolitan Region Scheme

Under the provisions of the Metropolitan Region Scheme, the subject site is zoned 'Urban'. We confirm that the subject proposal is consistent with this zoning.

4.1.2 City of Nedlands Local Planning Scheme No.3

Under the City of Nedlands Local Planning Scheme No. 3 (LPS3) the subject site is zoned 'R-AC3'. Importantly, we note that the zoning of the subject site is not mentioned in the City's LPS3, and does not have a density coding.

We add, the subject site is bounded by 'R-AC3' zoning on the side boundaries, 'R-60' at the rear, and adjacent to the 'UWA-QEII' Precinct area.

The proposal, subject of this application is for a grouped dwelling development consisting of twenty-six serviced apartments and a ground level café.

The subject site is located within the City's Hampden/Broadway precinct, as noted in the City's Local Planning Strategy, which has been highlighted as an urban growth area that is suitable for apartments and in general encourages medium-density development to be the predominant development type. The development will provide a diverse range of dwellings, including, one, two and three-bedroom apartments.

The development requirements at this coding are discussed in detail below.

4.1.3 City of Nedlands Local Planning Strategy

The City of Nedlands's Local Planning Strategy sets out the long-term planning directions for land use and development throughout the City, which is desired to be achieved by 2030.

The subject site is located within the 'Hampden/Broadway' precinct of the Local Planning Strategy. The objectives of the precinct are listed below:

- Plan Hampden/Broadway as a medium intensity, low to medium rise Urban Growth Area within City of Nedlands;
- Provide a Transition Zone abutting Hampden/Broadway to quickly lower development intensity unto the surrounding precincts (where applicable on Broadway, the significant east-west topography variation will function as the Transition Zone);
- Focus compatible development around identified residential and non-residential pockets, acknowledging that the intensity of redevelopment will vary in response to the predominant land use;
- Careful consideration will be given to short stay and alternative stay accommodation;

- In appropriate and identified locations, consider a range of uses (particularly knowledge-based uses) and accommodation types that complement the Health/ Education/Research function of the UWA-QEII Specialized Centre on a scale that will not detract from other centres in the hierarchy; and

- Ensure strategic planning of the UWA-QEII Specialized Centre and its boundaries is completed in partnership with the affected local governments and State government instrumentalities.

In the first instance, we note that Broadway currently comprises of an eclectic mix of commercial and residential development, with a predominately low-density housing supply.

The proposed development, incorporates twenty-six (26) serviced apartments, nine (9) of which are dual key, at the underutilised existing subject site, of which comprises of a single dwelling. Short stay accommodation, we believe is appropriate at the subject site, given the nearby proximity to the University of Western Australia, a range of both private and public hospitals and retail and commercial land uses.

The short stay apartments will cater to a diverse range of visitors, including students, lecturers, medical staff, and visitors wanting to be within close proximity to the CBD, whilst also creating a medium density opportunity that complements the City of Nedlands and in general is appropriate within the Broadway urban growth area.

Clause 7.7.6 of the City's LPS makes reference to the City of Subiaco Local Planning Strategy (2013) with respect to all proposed developments adjacent to the City of Nedlands, including the following:

- UWA-QEII Precinct; and
- Adjacent to UWA.

The subject site is referred to in the Local Planning Strategy as an 'Urban Growth Area' based on the easy accessibility to public transport and the best opportunities for increased dwelling densities. The City's Strategy states

> "It is expected the Urban Growth Areas will contain the most intense development in the City of Nedlands and that multiple dwellings (apartments) will be the predominant development type in these areas. These areas are also ideal locations for some non-residential land uses".

Given the above, the proposal clearly meets the requirements set out by the City in relation to the Broadway precinct and should be supported by the Council.

4.1.4 State Planning Policy 7.3 - Residential Design Codes (Apartments)

The WAPC State Planning Policy No. 7.3 - Residential Design Codes Volume 2: Apartments of Western (SPP7.3), provides planning and design standards for residential apartments coded R40 and above, within mixed-use development and activity centres.

In order to provide information regarding the proposed built form, we have elected to include relevant sections of the R-Codes Volume 2 in the Development Standards Table. These sections are included as a guide, for apartments zoned 'Mid-rise Urban Centre R-AC3'.

4.1.5 City of Nedlands Draft Local Planning Policy - Parking

The City of Nedlands has released a copy of its draft Local Parking Policy for parking, we acknowledge that the Policy is being presented for Approval and referral to the WAPC for final Approval. We make reference to the Policy as part of this report given that is has been formally advertised to the public.

5.0 DEVELOPMENT STANDARDS SUMMARY

SPP 7.3 (Residential Design Codes Volume 2) Part 2.1 outlines a primary control table applicable to R-AC3 mid-rise urban centres.

The following table outlines the requirements and provisions and where applicable, provides appropriate justification is provided in the following sections.

Mid-rise Urban Centres		Proposed	Compliant
Building Height (storeys) (m)	6 (21 metres)	7 (24 metres)	No
Boundary wall height (storeys) (m)	3 (12 metres)	4 (15 metres)	No
Minimum primary and secondary street setback	2m or nil	Nil	Yes
Minimum side setback	Nil	Nil	Yes
Minimum rear setback	Nil	Nil	Yes
Average side setback where building length exceeds 16m	N/A	N/A	N/A
Plot Ratio	2.0	2.0	Yes

With respect to the above, the development proposes a minor single storey variation in building height and to the boundary wall setback at the subject site.

Since the pre-lodgement meeting with the City of Nedlands, the boundary wall of the proposed development has been reduced to four (4) storeys from natural ground level, along the southern side of the subject site. These modifications were made based off the feedback provided by the City, to ensure the commentary was dealt with appropriately before lodgement.

In the first instance, whilst we acknowledge that the development proposes a single storey variation to the permitted boundary wall height, however, we believe that the variation is relatively minor in nature and capable of support by the Council.

Given the natural dramatic slope of the subject site, the design process has been somewhat difficult to create a development that not only compliments the topography.

Importantly, we note the development is 7 storeys total with the top level located further from the rear and away from the front of the building so as to ensure that the building height is 6 storeys above natural ground level. The top level has a substantial roof terrace and large awning feature to the top level short stay apartments.

The building mass was carefully considered, based on the feedback from the City, however, we believe that the additional single storey is appropriate along Broadway and within the Broadway Precinct, given that the subject site is surrounded by higher density coding.

In addition, the proposal has taken advantage of the opportunity for densification, given the relatively large lot sizes along Broadway. We believe that the proposed design has appropriately considered the natural slope of the subject site, and created a development that compliments the topography accordingly.

The following table outlines the car parking requirements and provisions at the subject site, as per the R-Codes.

Parking Types		Location A	Proposed	Required	Compliant
Car parking	1 Bedroom Dwellings	0.75m per dwelling	21 bays including 2 ACROD bays	19	Yes
	2+ Bedroom dwellings	1 bay per dwelling		9	No
	Visitor	1 bay per four dwellings up to 12 dwellings 1 bay per eight dwellings for the 13th dwelling and above	Nil Nil	3 2	No
Bicycle parking	Resident	0.5 space per dwelling	Nil	13	No
	Visitor	1 Space per 10 dwellings	4	3	Yes
	Café	1 bicycle space per 30m2 NLA	Nil	3	No

The table above demonstrates the residential R-Code parking requirements applicable to the proposed development. However, given that the requirements listed above are primarily for residential apartments, and not serviced apartments, which are subject of this application, we believe that the provided on site car parking is appropriate.

Practically, the actual shortfall is a result of a lack of visitor parking bays. The decision to not include visitor bays is two-fold. Firstly, visitors have access to the on street parking provided out the front of the subject site and along Broadway.

Secondly and most importantly, the proposal is for commercial serviced apartments, which as a result given that visitors will be staying for short periods of time that they are more than likely to result in walking or using the public transport accessible to them directly outside of the development site.

In addition to the above, we acknowledge that the development only incorporates one allocated motorcycle parking bay for residents, however, given that the development is for short stay apartments, we believe that visitors are less inclined to have car requirements, and most likely will result in using the public transport services provided to them. Four bicycle parking bays have been provided for visitors in front of the proposed café area.

We confirm that by the standards of the R-Codes, the development does provide enough parking for short stay apartments. More importantly, the proposal aims to fulfil LPP 7.3 desire to reduce car dependency and encourage walking, cycling and the use of public transport.

The decision is supported by the walkable nature of the existing surrounding streets which are well connected and incorporate adequate lighting, as well as the activated street frontages of the development and along Broadway, which encourage vitality and social interaction.

Despite the apparent shortfall, the development is clearly fully capable of being serviced by the proposed and existing car parking on and off-site, as well as the various public transport options in the near vicinity. For these reasons, we contend that the proposed car parking is acceptable and should be supported.

6.0 ACOUSTIC IMPACT STATEMENT

An Environmental Noise Assessment has been prepared by Herring Storer Acoustics to assess the compliance of the proposed development with the Environmental Protection (Noise) Regulations 1997.

The assessment was based on the key components of the proposed development which would be the main sources of noise, these included the following:

1. **Car-park ventilation fans;**
   Noise emissions from the car park exhaust fan, will need to comply with the Regulatory requirements, however, should not be hard to achieve if careful fan selection is incorporated.

2. **Air-conditioning units;**
   The proposed design suggests that the noise mitigation would be minimal and should be easily achieved to meet the noise requirements permitted.

3. **Noise emissions from the café tenancy;**
   Given the location of the tenancy and the separation to the apartments within the development, compliance should not be difficult to achieve.

The overall assessment suggested that each of the above mentioned noise components should be easily achieved to meet the compliance Regulations. However, still require an additional assessment to occur once development has been completed, of which it will then all be assessed with the respective assigned levels of the Environmental Protection (Noise) Regulations 1997.

In conclusion, the assessment found that compliance with the assigned appropriate noise levels is considered achievable with the implementation of measures in the future development process.

7.0 TRAFFIC IMPACT STATEMENT

Cardno were appointed to conduct a Traffic Impact Assessment of the current proposal, focusing on traffic operations, access and car parking, with additional discussions regarding pedestrian, cycle parking and public transport.

The assessment concluded that the expected number of trips generated by the development is unlikely to have a material impact on the surrounding road network, and further analysis is therefore not required.

It is considered, based on the parking table provided below, that the subject proposal provides an adequate number of car parking bays and bicycle bays for short stay apartments and café, given the ample public transport options within the immediate locality.

Land Use	Car Parking Requirements	Car Parking Requirements	Car Parking Provision
Residential (from R Codes)			
1 bedroom dwelling (19 units)	1 bay per dwelling	19 bays	21 bays including 2 ACROD bays
2+ bedroom dwellings (7 units)	1.25 bays per dwelling	9 bays	
Visitor Parking	1 bay per four dwellings up to 12 dwellings 1 bay per eight dwellings for the 13th dwelling and above	3 bays 2 bays	
Total		**33 bays**	**21 bays**
Café (from Local Planning Policy)			
	3 bays (1 car bay per 30m2 of NLA)	3 bays	
Total		**3 bays**	**21 bays**

Bicycle and motorcycle Parking

Land Use	Parking Requirements	Parking Requirements	Parking Provision
Residential	0.5 space per dwelling	13 spaces	
Visitor Parking	1 space per 10 dwellings	3 spaces	4 spaces
Cafe	1 bicycle space per 30m² of NLA	3 spaces	
Total		19 bays	4 spaces

Land Use	Parking Requirements	Parking Requirements	Parking Provision
Residential	Developments exceeding 20 dwellings provide 1 motorcycle/scooter space for every 10 car bays	3 bays	
Total		3 bays	1 bay

The report concludes that the provided on-site car parking is appropriate for short stay apartments and should be supported by the City.

Please refer to Appendix 4 - Traffic Impact Assessment.

8.0 WASTE MANAGEMENT PLAN

A waste management plan has been created by Tails Delivering Solutions for the subject site, that identifies how the on-site waste is to be stored and collected.

The site proposes to have two bins located within each short stay apartment for the separate disposal of refuse and recyclables. Waste from these internal bins will be transferred by staff/cleaners to the bin storage area which will consist of the following:

- Two 1,100L refuse bins, collected twice each week; and
- Two 1,110L recycling bins, collected once each week.

The bin numbers and storage space within the Bin Storage Area will be monitored by the caretaker during the operations of the Proposal to ensure that the number of bins and collection frequency is sufficient.

A private contractor will service the proposal onsite, and collect directly from the bin storage area in accordance with the waste truck manoeuvring diagram provided.

Bulk waste materials will be removed from the site as generated. Removal of bulk waste will be monitored by the caretaker, who will liaise with staff, cleaners and tenants to assist with the removal of bulk waste, as required.

The report concludes, that the proposal provides a sufficient sized bin storage area for storage of refuse and recyclables, and indicated that an adequately designed bin storage area has been allocated for the site.

Please refer to Appendix 5 - Waste Management Plan.

9.0 ARCHITECTURAL DESIGN STATEMENT

The proposed seven multi-storey commercial development at the subject site has been designed to a high standard, whilst incorporating a range of interactive spaces throughout the entire development.

The high end design has combined a range of well thought out design features and spaces have been created to ensure the development contributes to the land use diversity as well as being a positive contribution to the locality.

A range of special design considerations have been chosen to ensure the highest levels of comfort and enjoyment are achieved at the site, some of these include the following:

- Café;
- Lobby;
- Courtyard;
- Rooftop terrace;
- Apartment living spaces have been positioned to ensure optimal solar access;
- Bathrooms act as a buffer for main circulation areas; and
- Communal areas are centrally located and directly connected to circulation spine.

The above mentioned design elements were selected to ensure that the development encourages the activation of communal spaces, creating spaces for visitors and those staying at the development site to have opportunities for interaction. Whilst the café, and the balconies at the front of the subject site assist in enhancing the streetscape.

The design of the apartments themselves have been positioned strategically on angles to ensure each apartment receives optimal northern sun. whilst, the apartments located on the east, open out to the street with certain alfresco areas offering views overlooking the Swan River.

Whilst the west facing apartments provide a direct connection to the courtyard, which will create a sense of place and allow for a space of interaction between visitors. Each of the apartments have been designed to receive ample natural light and ventilation with a focus on open outdoor living.

The architectural concept itself has been chosen to create an attractive outcome to the neighbourhood and the street front. The concept of the carved out pockets and north facing angles were selected to create a visually interesting street façade, with the building mass set to mimic the weathered limestone as seen along the WA coastline.

Please refer to Appendix 6 - Statement of Design Intent.

10.0 LANDSCAPE DESIGN STATEMENT

The landscaping and materials have been carefully selected for the proposed development to ensure a diverse and appropriate selection was chosen that best complements the subject site.

The planting selection has taken into account areas of the subject site including the street frontage, western landscapes, eastern landscapes and areas of full shade. The typical planting palette has incorporated a mix of full-sun, sun/shade and full shade species, and given the relatively large nature of the subject site, includes over twenty-three different plants and shrub types.

A range of established trees are also proposed on site, all of which have been carefully selected and placed in appropriate zones, some examples include:

- Magnolia - rear boundary;
- Banksia - side screen;
- Citrus - courtyards and terrace;
- Eucalyptus - signature tree;
- Malus - entry façade; and
- Dracaena - courtyard.

The proposed paving materials include stone/ceramic tiles, exposed aggregate concrete and consolidated fines and timber decking. Whilst the typical fencing will include galvanised painted seel posts, off-form concrete plinth and brushwood panels.

The landscaping and planting selection at the subject site took into consideration the comments provided by the City.

Please refer to Appendix 7 - Landscape Plan.

11.0 AMENITY IMPACT STATEMENT

11.1 Current Amenity Proposition

The surrounding locality is currently one in transition, with certain zones being identified as key locations for increased intensification. The City's Local Planning Strategy highlights the desire to create greater residential development and encourage further medium density development within the Broadway precinct

Broadway currently is one of a more eclectic mix of commercial and residential development, with the immediate locality surrounding the subject site predominantly comprising of large lot single dwellings, consisting of 2-3 storey residential homes. The Broadway precinct is recognised for the dramatic topography sloping west to south, where the garages of residential development are located along the street front, and the residential dwellings on the highest portion of land.

The housing quality along Broadway in particular is of a relatively low quality with a majority of the lots underutilised and left for redevelopment opportunities, whilst other neighbouring streets consist of a higher quality of development such as Kingsway. Currently, there is a project under development which has taken advantage of the opportunity for densification at 150 Broadway, which includes twenty-nine (29) boutique apartments.

The locality is surrounded by a range of medical and educational facilities, in particular the University of Western Australia (UWA) is located approximately 1 kilometre from the subject site, with both Perth Children's Hospital and Sir Charles Gairdner Hospital approximately 2 kilometres from the subject site.

In the wider locality, more recent examples are presenting such as the mixed-use developments throughout Perry Lakes in Floreat and Claremont. Both of which consist of high standard infill developments within the western suburbs, similar to that proposed at the subject site.

Given the above, the proposal will provide a short stay apartment use and primarily cater for students, visiting academics, visitors, and outpatient accommodation opportunities. We believe, given the surrounding locality is one that caters for a high proportion of student share accommodation, given the close proximity to UWA, that the proposal is appropriate.

In general terms, the current amenity is summarised by two-three storey residential dwellings, with a recent shift towards densification, and is characterised by a range of educational, medical and retail facilities.

11.2 Analysis of Proposal

As mentioned above, the amenity proposition of the locality is one of transition, through the process of intensification and high potential for redevelopment. Therefore, there is neither a fully realised high level of amenity desired to be protected, or a poor amenity that requires serious redevelopment to bring about urban regentrification.

Being an area in transition, it is somewhat more difficult to define the appropriate amenity outcome, and is therefore appropriate that we default to the aspirations of the local authority, in their planning framework, and their key vision and aims for the locality to encourage the intensification of multiple dwellings within urban growth areas such as the Broadway precinct.

in this regard, we confirm that the proposal, the subject of this Application, is conceived with high regard for the City's Local Planning Strategy and takes into account the best practice design principles to ensure a diverse housing density is provided.

The proposal includes a total of twenty-six (26) serviced apartments, across seven storeys which will provide the locality with an increased diversity for short stay accommodation, in a manner slowly demonstrated within the locality and considered in the City's Local Planning Strategy as suitable within the Broadway Precinct.

Whilst we acknowledge the development consists of minor variations to the building height and boundary wall setback, we believe that the proposed design has appropriately considered the natural slope of the subject site, and created a development that compliments the topography accordingly.

Importantly, we note the development is 7 storeys total with the top level located further from the rear and away from the front of the building so as to ensure that the building height is 6 storeys above natural ground level. The top level has a substantial roof terrace and large awning feature to the top level short stay apartments.

The multiple dwellings have been custom designed to a high standard and incorporate a café on the ground level along the streetscape, with a common terrace and landscaping located directly above. Passive surveillance has been considered through the placement of balconies and windows facing and overlooking the street.

We note, that the proposed development has been architecturally designed to a high quality standard. The choice of materials, landscaping and finishes has been carefully selected to ensure the development creates a contribution to the locality.

Importantly, the development has had no legacy concerns in relation to traffic, waste, acoustic, landscape and common amenities. The proposal itself has been carefully selected to ensure that the final product is one of a well resolved and appropriate infill development.

11.3 Resultant Amenity

The resulting amenity proposition is one of a high quality grouped dwelling development, that will provide an injection of housing diversity in an area well-suited to increased densification. The proposal has undergone appropriate architectural design considerations in conjunction with the requirements of the City.

As the City prepares to introduce densification throughout certain urban growth areas, and essentially transition from primarily low-density development, towards medium-density proposed by 2050. In particular, the application positively meets the desire to increase the housing density provided along Broadway.

The design of the proposed development will provide a range of potential housing opportunities through the short stay accommodation (apartment) use. Importantly, the twenty-six apartments proposed will provide short stay accommodation to service patients, doctors, visitors and students, given the close proximity of Broadway to the University of Western Australia and Hospitals.

Overall, the proposal is a reasonable development with no legacy issues within the City of Nedlands and within the Broadway precinct. We believe, given the close proximity to the university, private and public hospitals and retail land uses, that the proposal has been designed to cater to the community.

The design process of the subject site has taken into account a range of considerations, in regard to the appropriateness of the design and land use within its western suburb's context, and to ensure that the application was far more than just a basic infill development within the City of Nedlands.

The incorporation of mixed uses, especially the café located on the lower ground floor will assist in creating a vibrant streetscape and improve the existing amenity along Broadway. Whilst the introduction of twenty-six short stay apartments will provide medium density, as desired by the City.

12.0 CONCLUSION

Given the above, the following conclusions are evident:

- The proposal consists of seven-storey short stay accommodation, which includes of twenty-six apartments (nine dual key) with a ground floor café;
- The subject site is located within an urban growth area which the City encourages medium-density development, and components of non-residential development;
- The development will provide for a better utilisation of the current low quality subject site;
- The proposal provides adequate short accommodation facilities for a range of visitors, including patients visiting Sir Charles Gairdner Hospital and Hollywood Private Hospital, as well as student housing options for the nearby University of Western Australia; and
- The proposal is compatible with the emerging amenity of the locality and will fulfil the City's desire for increased housing diversity and density in the area.

Ultimately, we seek that the City of Nedlands provide a positive recommendation to the Metro-West Joint Development Assessment Panel, for the reasons contained within the above and attached aspects of this report.

APPENDICIES

APPENDIX 1 - Certificate of Title

WESTERN AUSTRALIA

REGISTER NUMBER	
684/P2948	
DUPLICATE EDITION: 4	DATE DUPLICATE ISSUED: 21/12/2017

VOLUME 1077 FOLIO 903

RECORD OF CERTIFICATE OF TITLE

UNDER THE TRANSFER OF LAND ACT 1893

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

REGISTRAR OF TITLES WESTERN AUSTRALIA

LAND DESCRIPTION:

LOT 684 ON PLAN 2948

REGISTERED PROPRIETOR:
(FIRST SCHEDULE)

CEDAR COVE PTY LTD OF 91 RILEY STREET TUART HILL WA 6060

(T N782819) REGISTERED 7/12/2017

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

1. N782820 MORTGAGE TO PAUL WILLIAM MCGARRY REGISTERED 7/12/2017.

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:	1077-903 (684/P2948)
PREVIOUS TITLE:	436-86
PROPERTY STREET ADDRESS:	135 BROADWAY, NEDLANDS.
LOCAL GOVERNMENT AUTHORITY:	CITY OF NEDLANDS

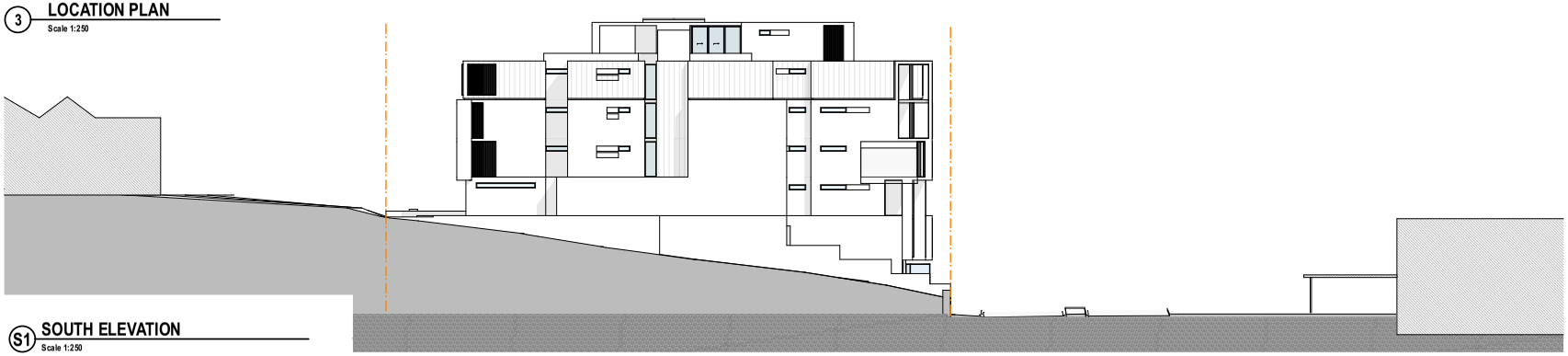
APPENDIX 2 - Plans and Elevations

BROADWAY APARTMENTS

135 BROADWAY PERTH 25/7/19

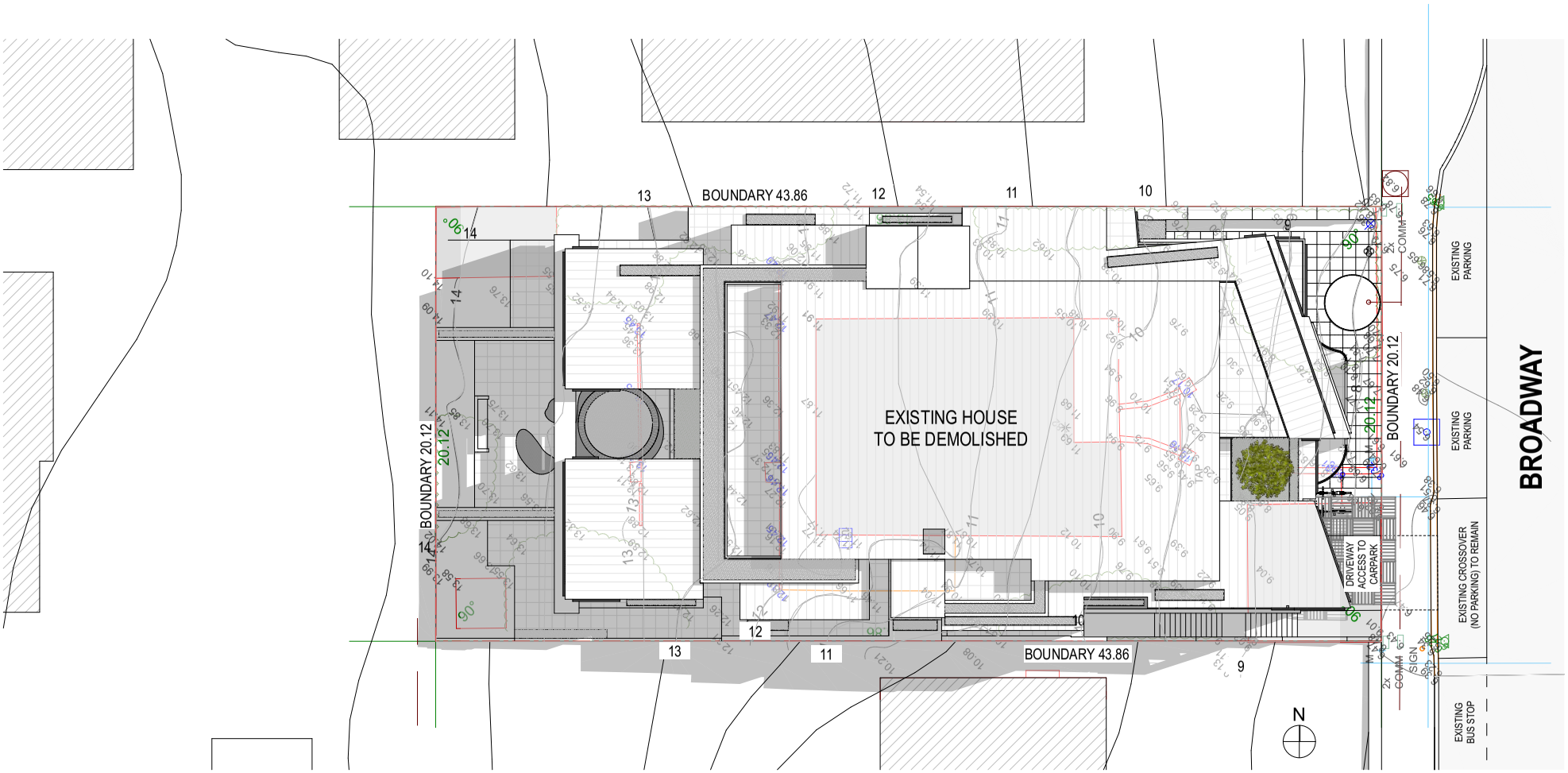
maarch*

3 **LOCATION PLAN**
Scale 1:250



S1 **SOUTH ELEVATION**
Scale 1:250

maarch* MARK ARONSON ARCHITECTURE L1, 41 Hampden Road, Nedlands, WA 6009 E: info@maarch.net.au • T: +61 8 6262 8169	PROJECT: BROADWAY APARTMENTS	CLIENT: CLIENT	ADDRESS: 135 BROADWAY PERTH	DATE: 25/7/19	SCALE: 1:250@ A3	DRAWN: MC/JM/MA	DRAWING: LOCATION PLAN	N	REV: A	PROJECT NO.: 19006	DRAWING ID: DA-1



10 **SITE PLAN**
Scale 1:125

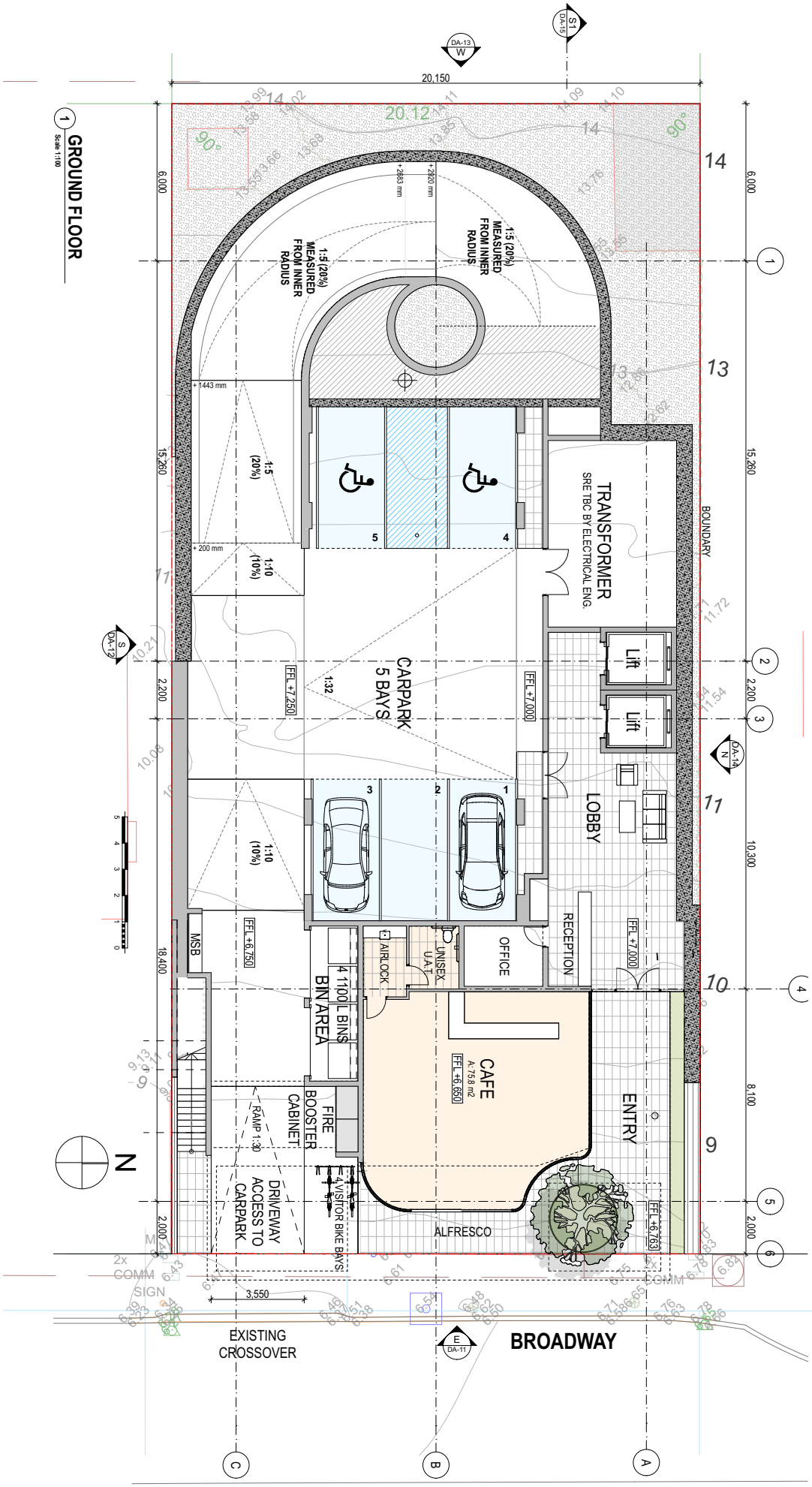
PROJECT CONSTRAINS	
AREA	884.40
RZONE	R-AC 3
PLOT RATIO	2.0
BUILDING HEIGHT	6 STOREYS
BOUNDARY WALL H	3 STOREYS
MIN PRIMARY ST SETBACK	2M OR NIL
MIN SIDE SETBACK	NIL
MIN REAR SETBACK	NIL

PLOT RATIO AREA BY FLOOR	
FLOOR	PLOT RATIO AREA
SECOND	359
THIRD	382
FOURTH	383
FIFTH	375
SIXTH	143
	1,642 m²

APPROXIMATE AREAS	
UNIT	AREA
UNIT 1	68
UNIT 2	70
UNIT 3a	62
UNIT 3b	34
UNIT 4a	40
UNIT 4b	58
UNIT 5	80
UNIT 6	80
UNIT 7a	63
UNIT 7b	35
UNIT 8a	40
UNIT 8b	58
UNIT 9	80
UNIT 10	80

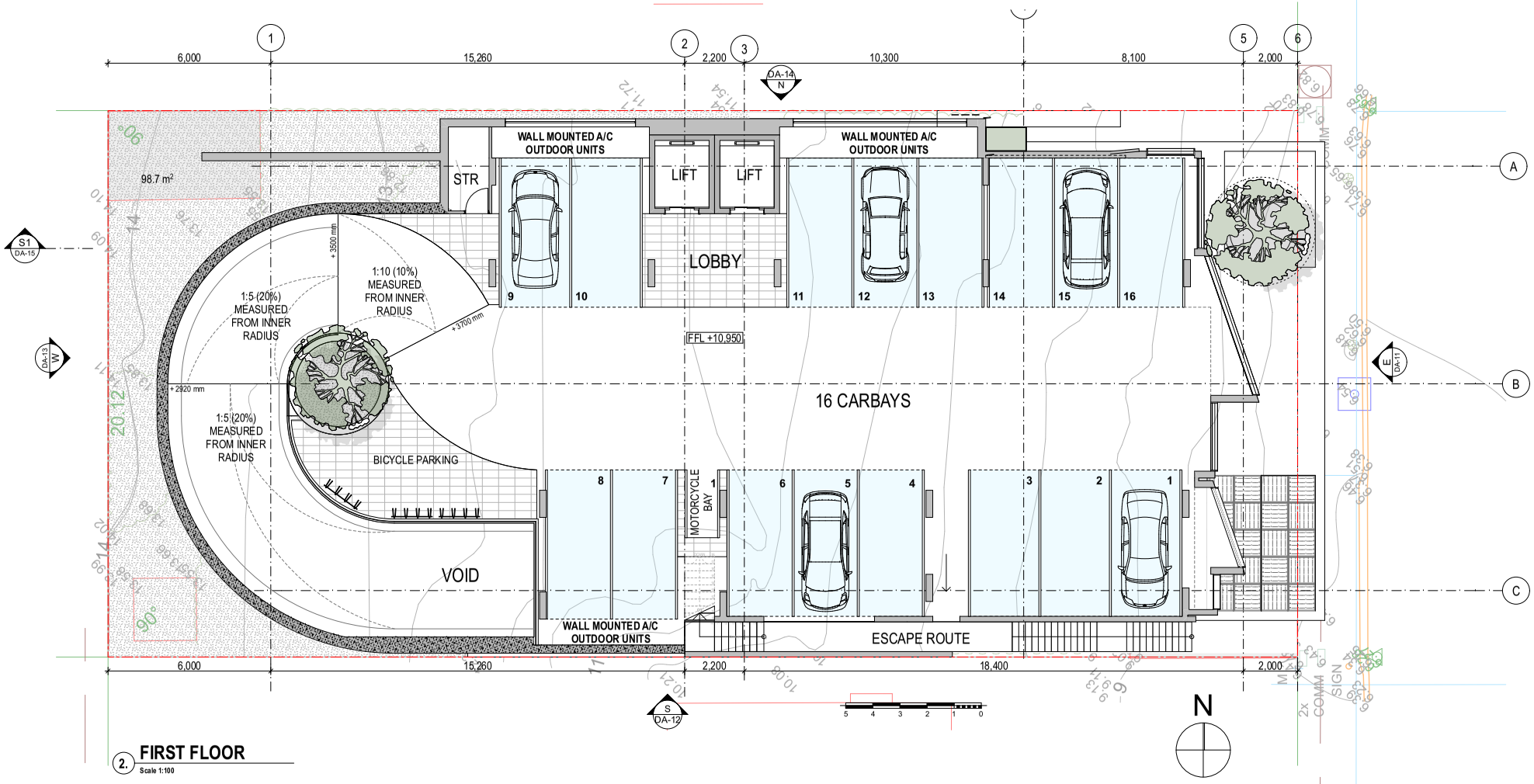
APPROXIMATE AREAS	
UNIT	AREA
UNIT 11a	62
UNIT 11b	35
UNIT 12a	42
UNIT 12b	58
UNIT 13	80
UNIT 14	80
UNIT 15a	61
UNIT 15b	35
UNIT 16a	39
UNIT 16b	55
UNIT 17a	89
UNIT 17b	47
	1,531 m²

maarch* MARK ARONSON ARCHITECTURE L1, 41 Hampden Road, Nedlands, WA 6009 E: info@maarch.net.au • T: +61 8 6262 8169	PROJECT BROADWAY APARTMENTS	CLIENT CLIENT	ADDRESS 135 BROADWAY PERTH	DATE 25/7/19	SCALE: 1:125@ A3	DRAWN MC/JM/MA	DRAWING **SITE PLAN**	REV A	PROJECT NO. 19006	DRAWING ID **DA-2**



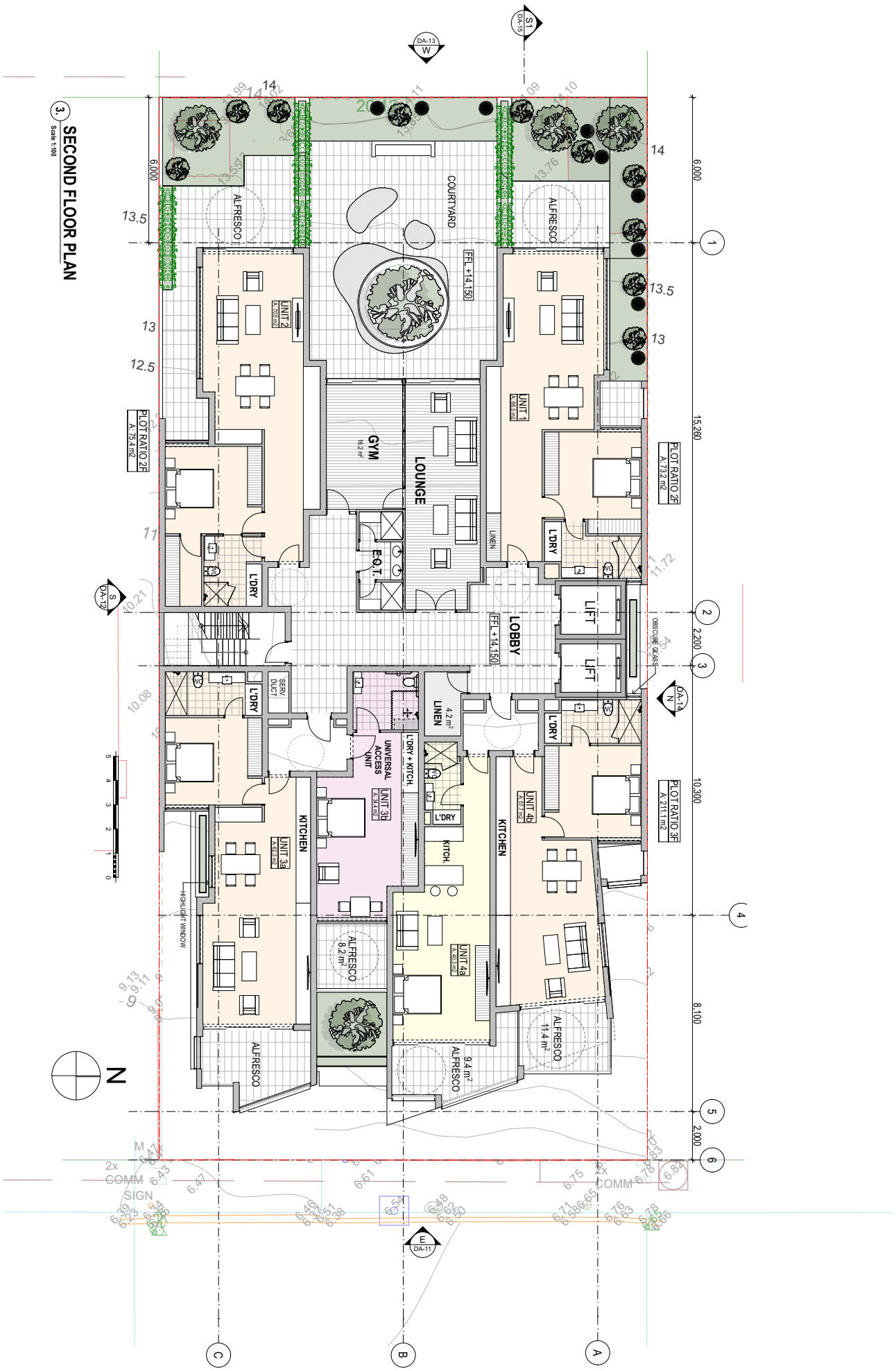
maarch*
MARK A RONSON ARCHITECTURE
Lv 4/1 Hampden Road Nedlands WA 6009
E: info@maarch.net.au T: +61 8 6382 8169

PROJECT	BROADWAY APARTMENTS
CLIENT	CLIENT
ADDRESS	135 BROADWAY PERTH
DATE	25/7/19
SCALE	1:100@A3
DRAWN	MC/JM/MA
DRAWING	GROUND FLOOR PLAN
REV	A
PROJECT NO.	19006
DRAWING ID	DA-3

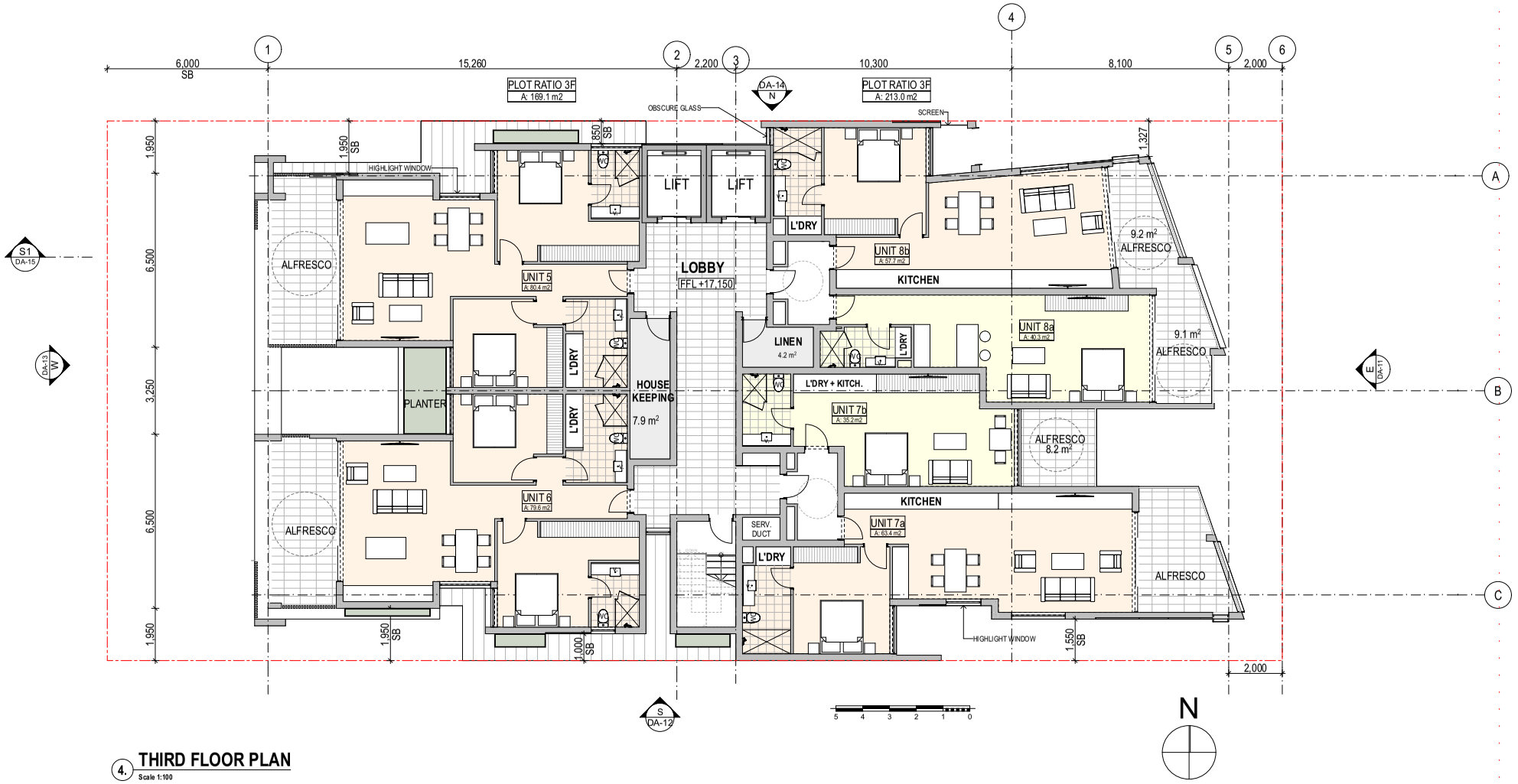


2. FIRST FLOOR
Scale 1:100

maarch* MARK ARONSON ARCHITECTURE L1, 41 Hampden Road, Nedlands, WA 6009 E: info@maarch.net.au • T: +61 8 6262 8169	PROJECT BROADWAY APARTMENTS	CLIENT CLIENT	ADDRESS 135 BROADWAY PERTH	DATE 25/7/19	SCALE: 1:100@A3	DRAWN MC/JM/MA	DRAWING FIRST FLOOR PLAN	REV A	PROJECT NO. 19006	DRAWING ID DA-4



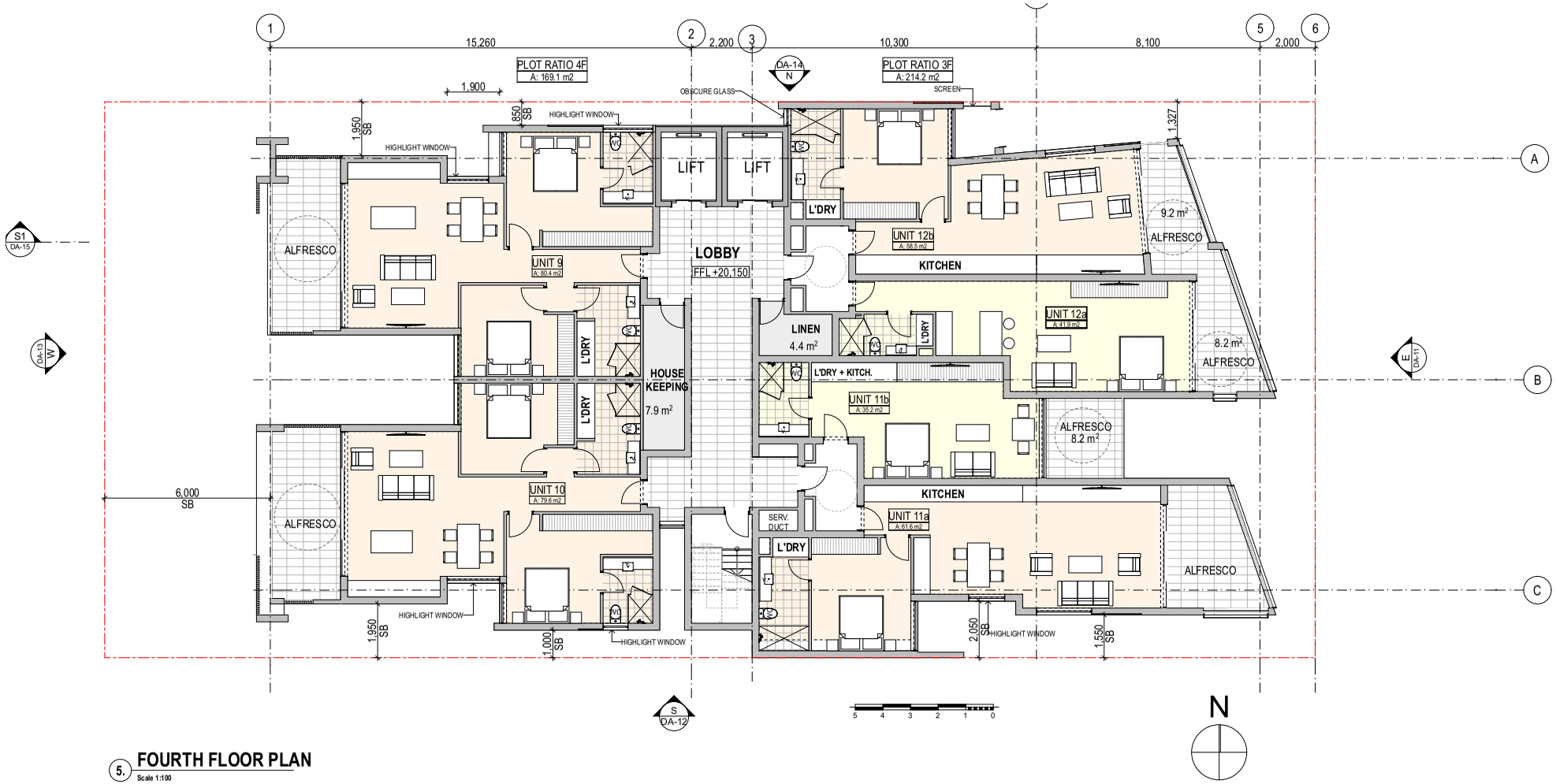
maarch*	MARK ARCHIBALD ARCHITECTURE
PROJECT	BROADWAY APARTMENTS
CLIENT	CLIENT
ADDRESS	135 BROADWAY PERTH
DATE	25/7/19
SCALE	1:100@A3
DRWN	MC/JM/MA
DRAWING	SECOND FLOOR PLAN
REV	A
PROJECT NO.	1906
DRAWING ID	DA-5



4. THIRD FLOOR PLAN

Scale 1:100

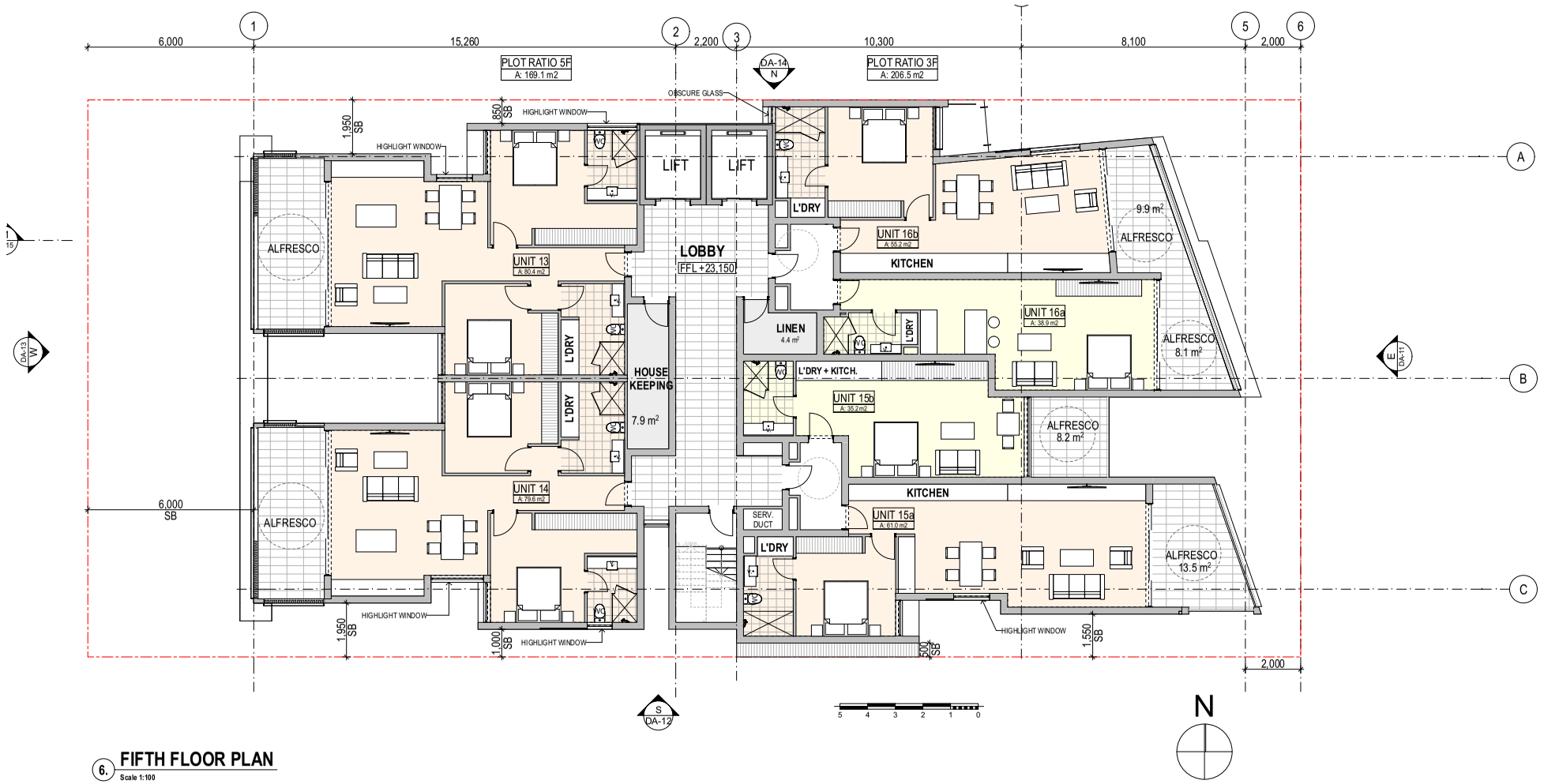
maarch* MARK ARONSON ARCHITECTURE L1, 41 Hampden Road, Nedlands, WA 6009 E: info@maarch.net.au • T: +61 8 6262 8169	PROJECT: BROADWAY APARTMENTS	CLIENT: CLIENT	ADDRESS: 135 BROADWAY PERTH	DATE: 25/7/19	SCALE: 1:100@A3	DRAWN: MC/JM/MA	DRAWING: THIRD FLOOR PLAN	REV: A	PROJECT NO.: 19006	DRAWING ID: DA-6



5. FOURTH FLOOR PLAN

Scale 1:100

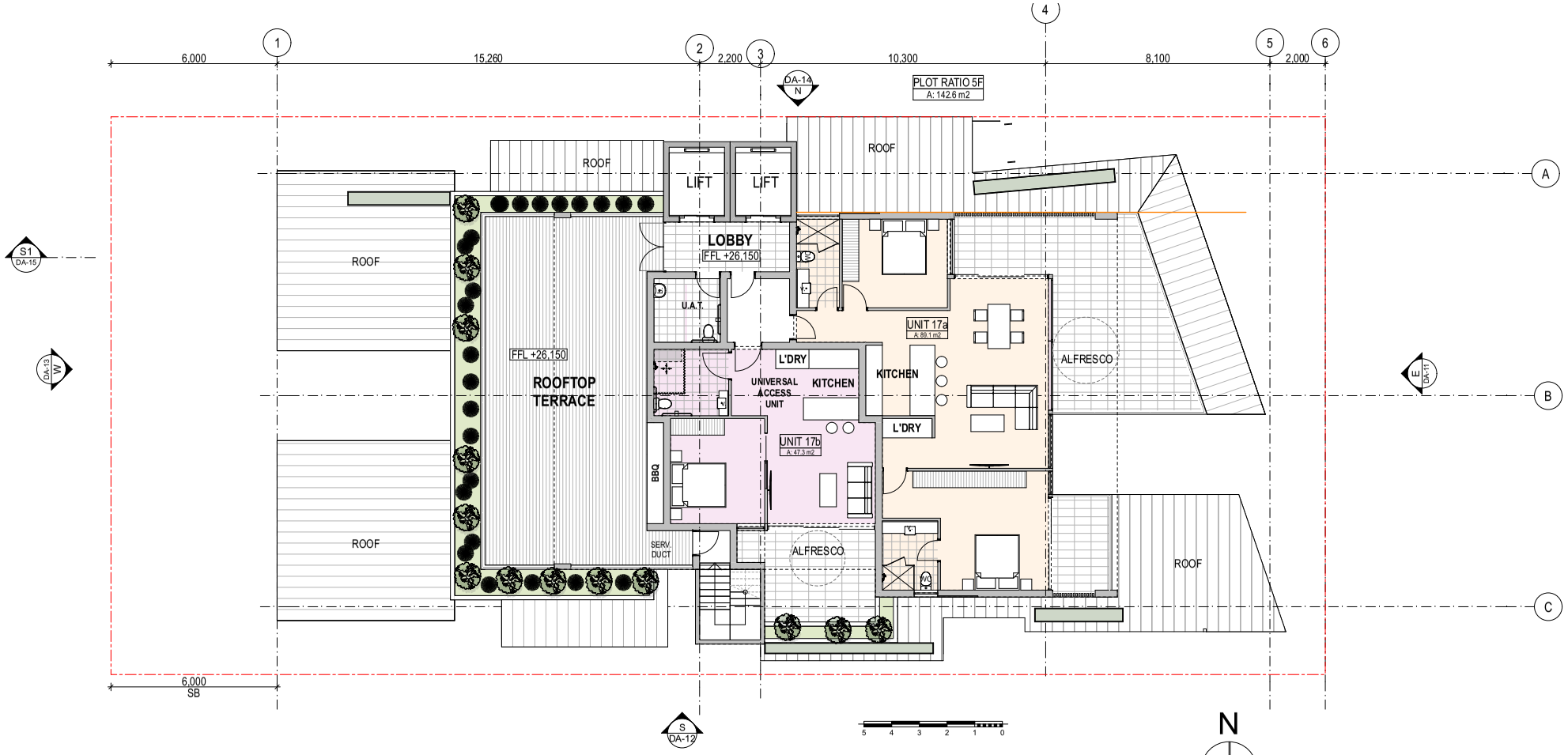
maarch* MARK A RONSON ARCHITECTURE L1, 41 Hampden Road, Nedlands, WA 6009 E: info@maarch.net.au • T: +61 8 6262 8169	PROJECT BROADWAY APARTMENTS	CLIENT CLIENT	ADDRESS 135 BROADWAY PERTH	DATE 25/7/19	SCALE: 1:100@A3	DRAWN MC/JM/MA	DRAWING FOURTH FLOOR PLAN	REV A	PROJECT NO. 19006	DRAWING ID DA-7



6. FIFTH FLOOR PLAN

Scale 1:100

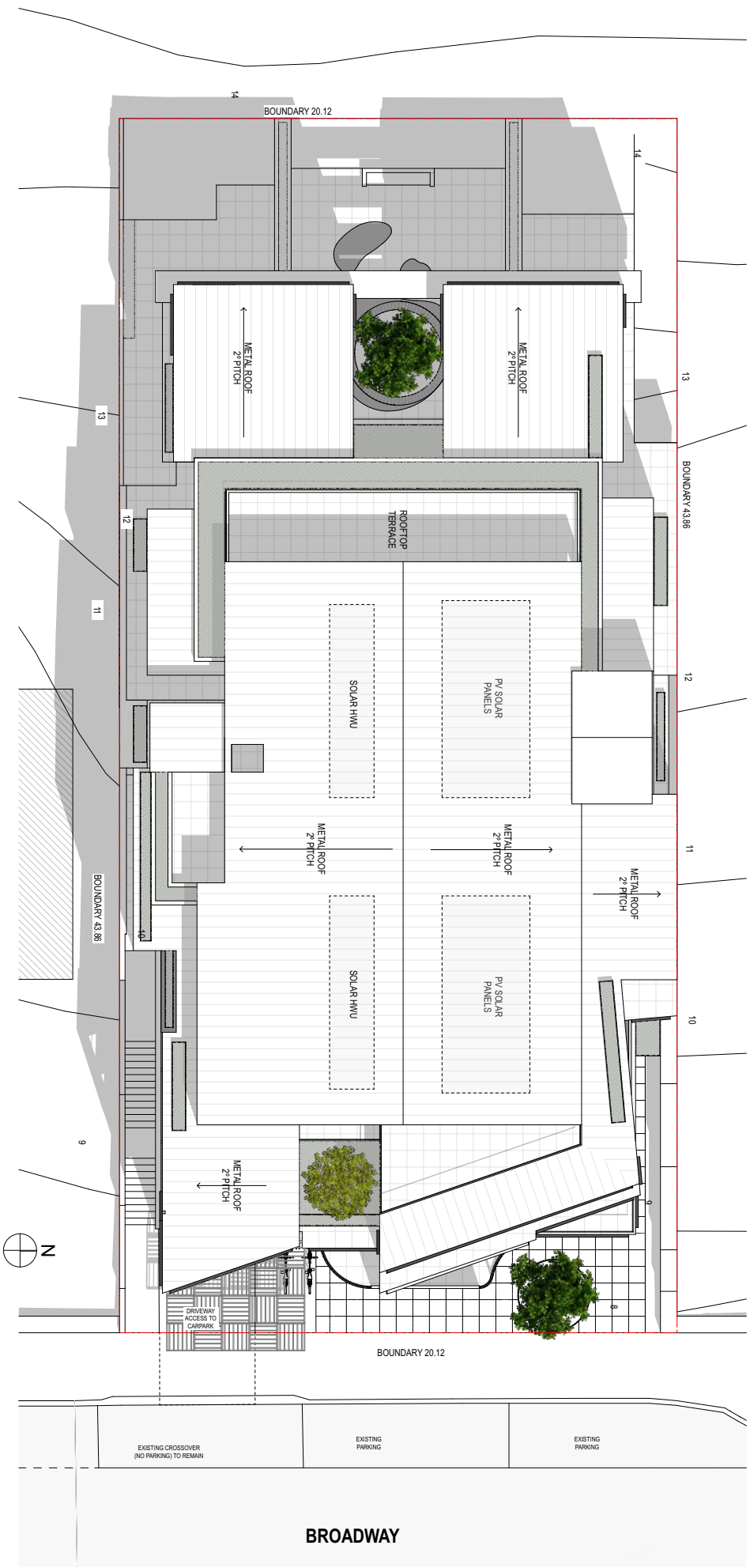
maarch* MARK ARONSON ARCHITECTURE. Lt. 41 Hampden Road, Nedlands, WA 6009 E: info@maarch.net.au • T: +61 8 6262 8169	PROJECT: BROADWAY APARTMENTS	CLIENT: CLIENT	ADDRESS: 135 BROADWAY PERTH	DATE: 25/7/19	SCALE: 1:100@A3	DRAWN: MC/JM/MA	DRAWING: FIFTH FLOOR PLAN	REV: A	PROJECT NO.: 19006	DRAWING ID: DA-8



7. SIXTH FLOOR PLAN

Scale 1:100

maarch* MARK ARONSON ARCHITECTURE L1, 41 Hampden Road, Nedlands, WA 6009 E: info@maarch.net.au • T: +61 8 6262 8169	PROJECT BROADWAY APARTMENTS	CLIENT CLIENT	ADDRESS 135 BROADWAY PERTH	DATE 25/7/19	SCALE 1:100@ A3	DRAWN MC/JM/MA	DRAWING SIXTH FLOOR PLAN	REV A	PROJECT NO. 19006	DRAWING ID DA-9



maarch*

MARK ARCHISON ARCHITECTURE
L1 41 Hampden Road, Nedlands, WA 6009
E info@maarch.net.au T +61 8 6382 8189

PROJECT	BROADWAY APARTMENTS
CLIENT	CLIENT
ADDRESS	135 BROADWAY PERTH
DATE	25/7/19
SCALE	1:100@A3
DRAWN	MC/JM/MA
DRAWING	ROOF PLAN
REV	A
PROJECT NO	19006
DRAWING ID	DA-10

Painted White Render

Metal Cladding to architect's selection Colorbond Matt Finish

Limestone Wall Tiles

E FRONT ELEVATION
Scale 1:100

maarch* MARK ARONSON ARCHITECTURE L1, 41 Hampden Road, Nedlands, WA 6009 E: info@maarch.net.au • T: +61 8 6262 8169	PROJECT: BROADWAY APARTMENTS	CLIENT: CLIENT	ADDRESS: 135 BROADWAY PERTH	DATE: 25/7/19	SCALE: 1:100@ A3	DRAWN: MC/JM/MA	DRAWING: FRONT ELEVATION	REV: A	PROJECT NO.: 19006	DRAWING ID: DA-11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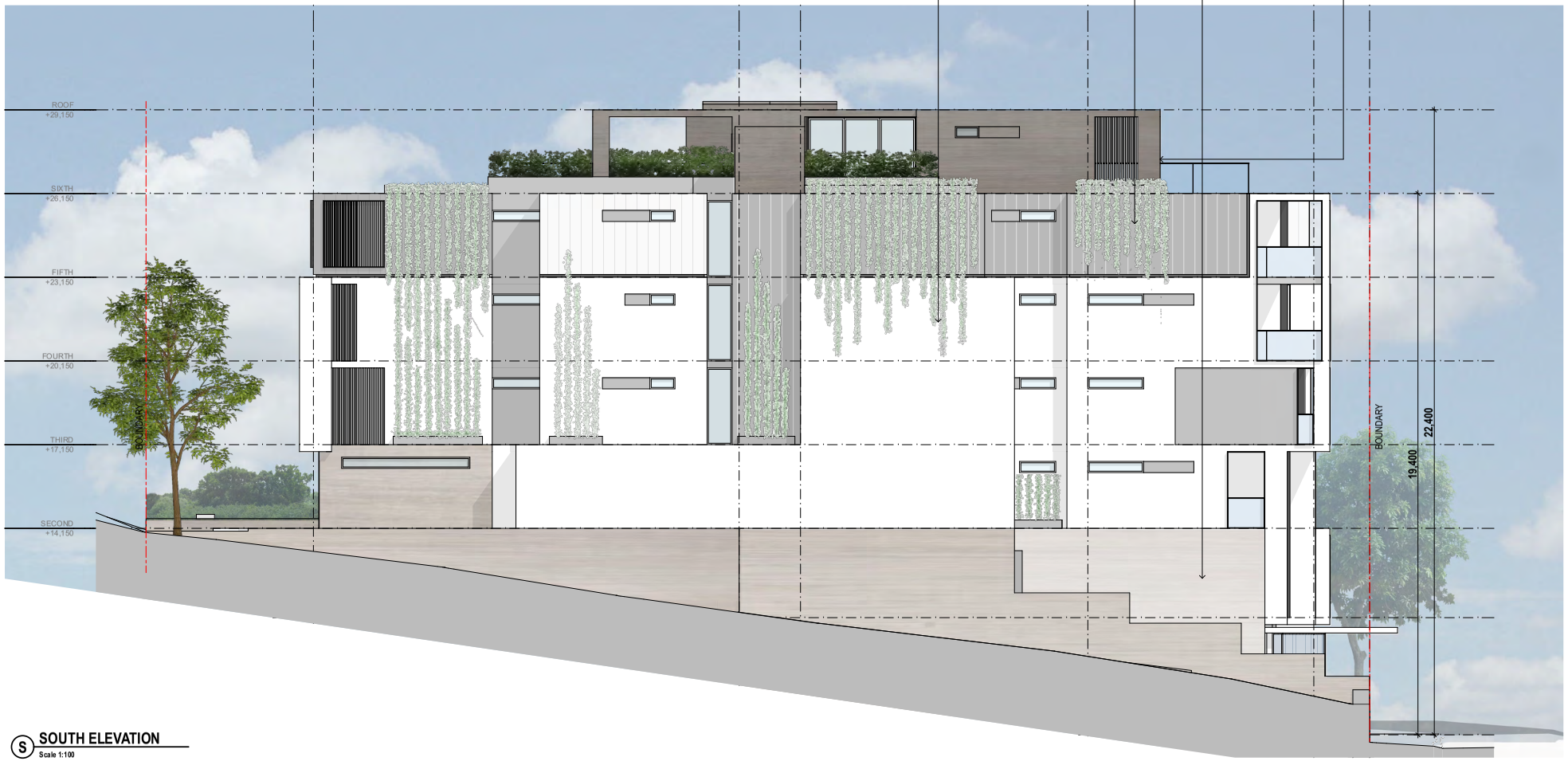

S SOUTH ELEVATION
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Painted White Render

Metal Cladding to architect's selection Colorbond Matt Finish

Limestone Wall Tiles

W WEST ELEVATION
Scale 1:100

maarch* MARK A RONSON ARCHITECTURE L1, 41 Hampden Road, Nedlands, WA 6009 E: info@maarch.net.au • T: +61 8 6262 8169	PROJECT BROADWAY APARTMENTS	CLIENT CLIENT	ADDRESS 135 BROADWAY PERTH	DATE 25/7/19	SCALE: 1:100@A3	DRAWN MC/JM/MA	DRAWING **WEST ELEVATIONS**	REV. A	PROJECT NO. 19006	DRAWING ID **DA-13**


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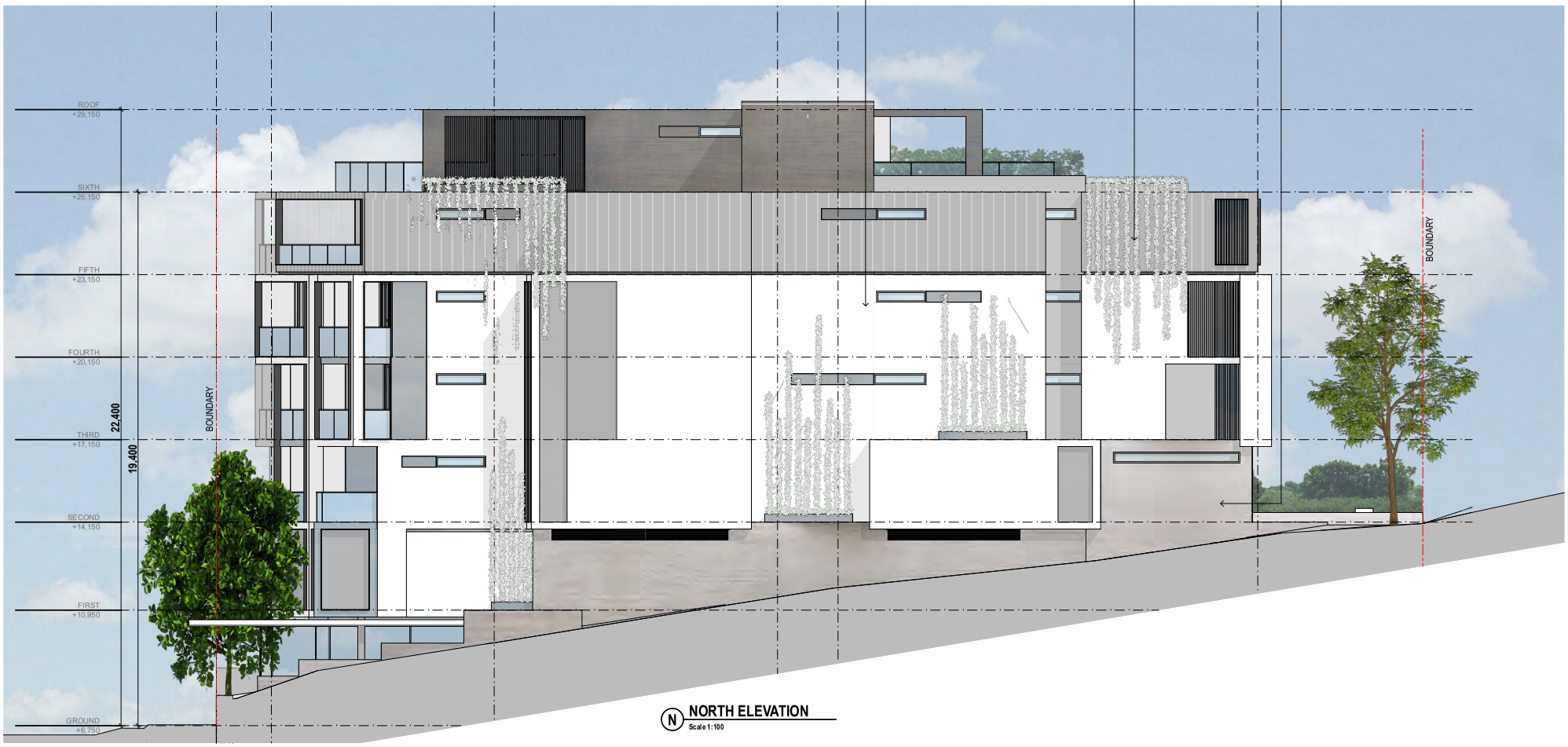

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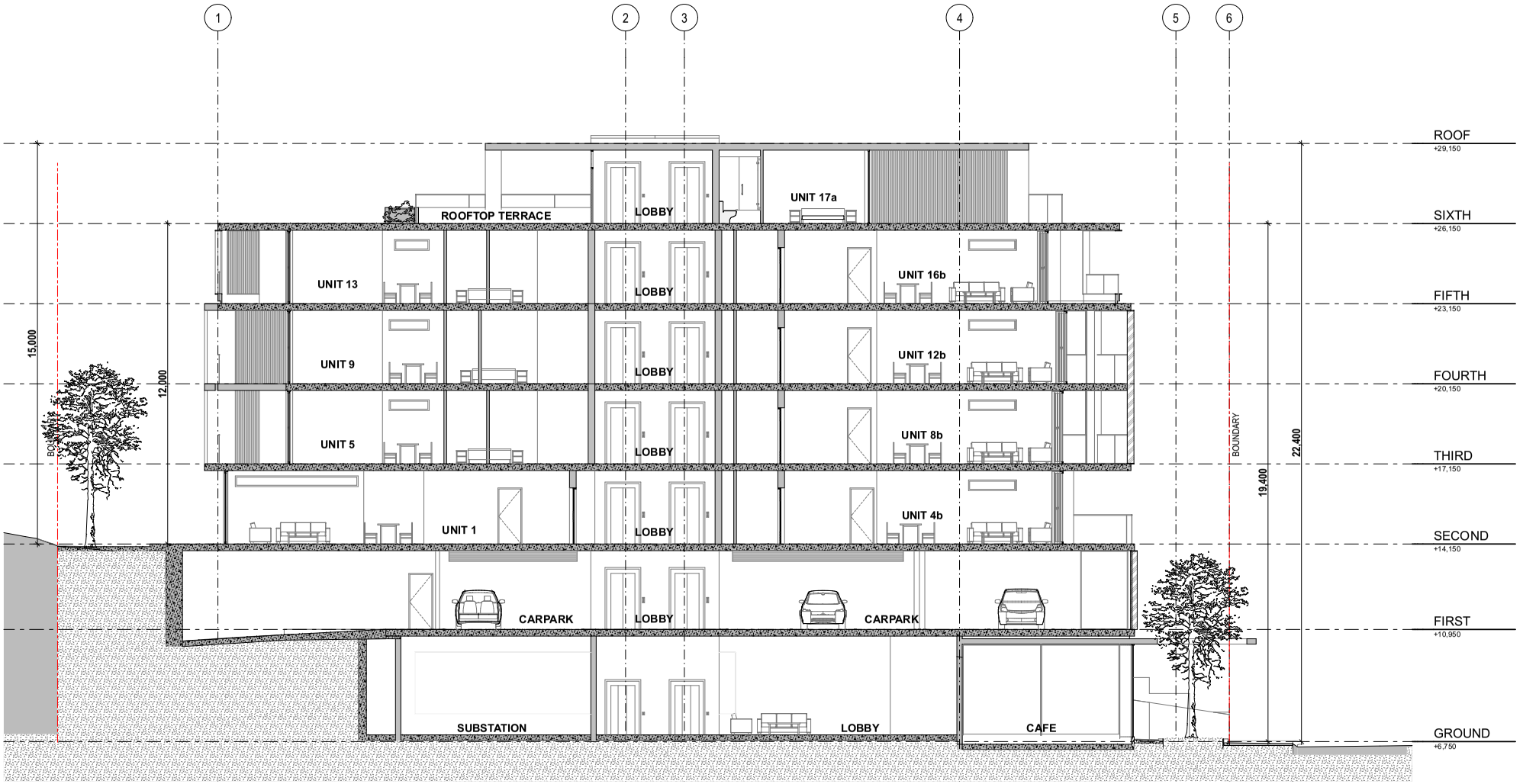

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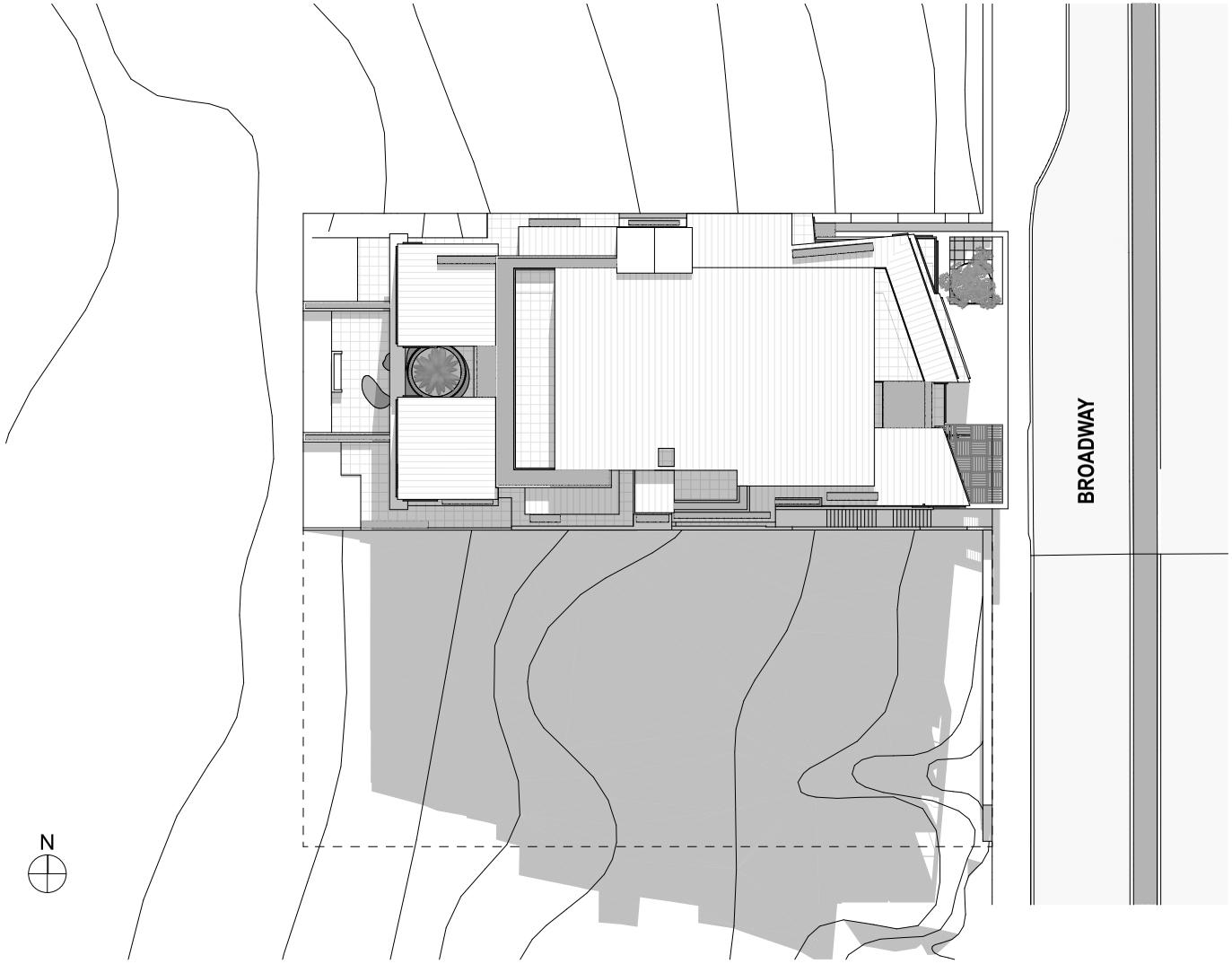

11 **OVERSHADOWING 21 JUNE 12 NOON**
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maarch*
MARK ARONSON ARCHITECTURE
L1, 41 Hampden Road, Nedlands, WA 6009
E: info@maarch.net.au • T: +61 8 6262 8169

PROJECT	CLIENT	ADDRESS	DATE	SCALE	DRAWN	DRAWING	REV	PROJECT NO.	DRAWING ID
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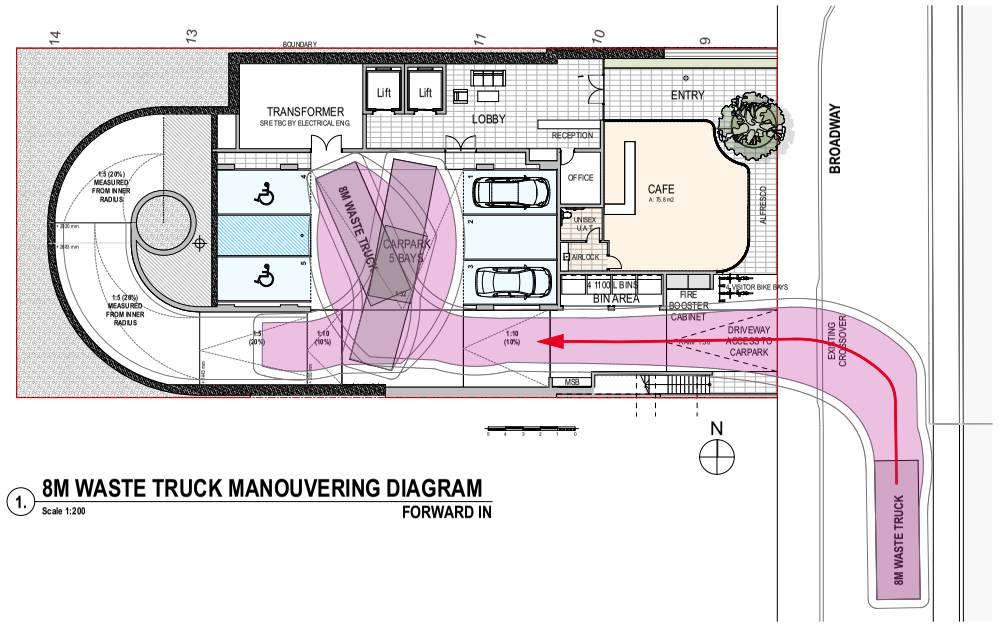

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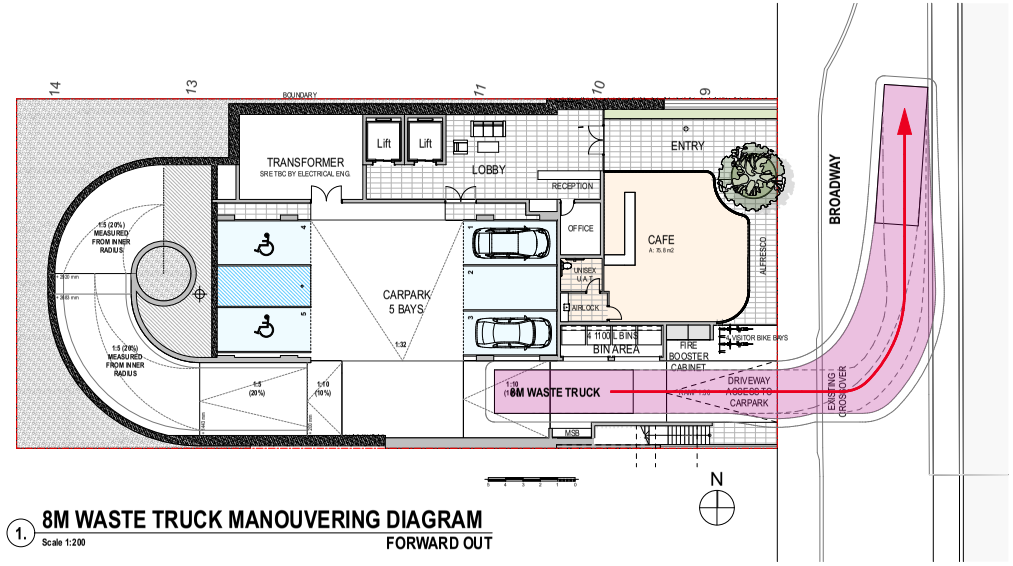

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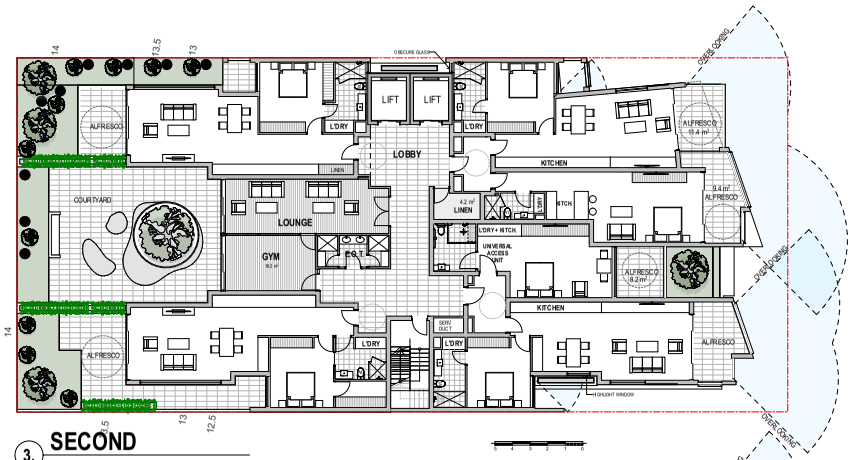

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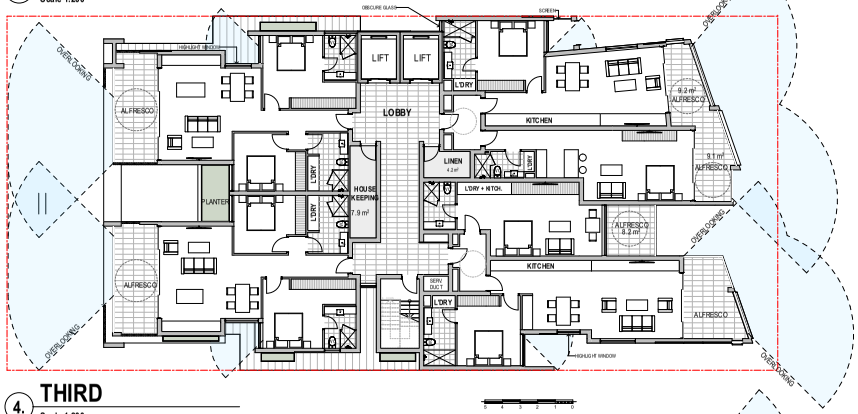

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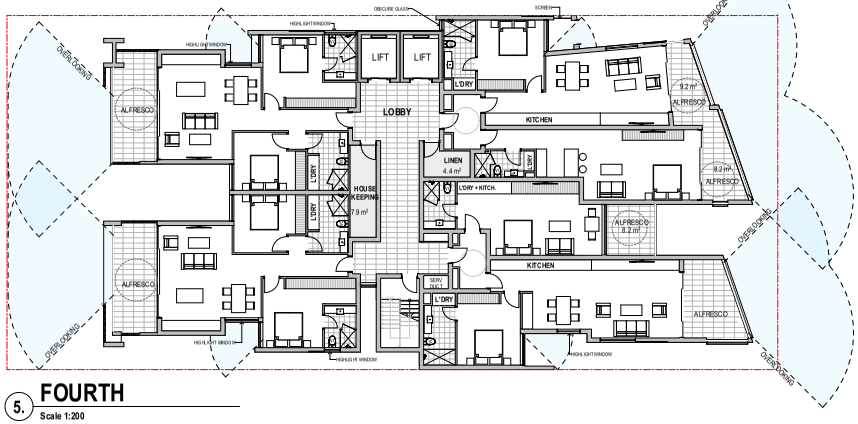

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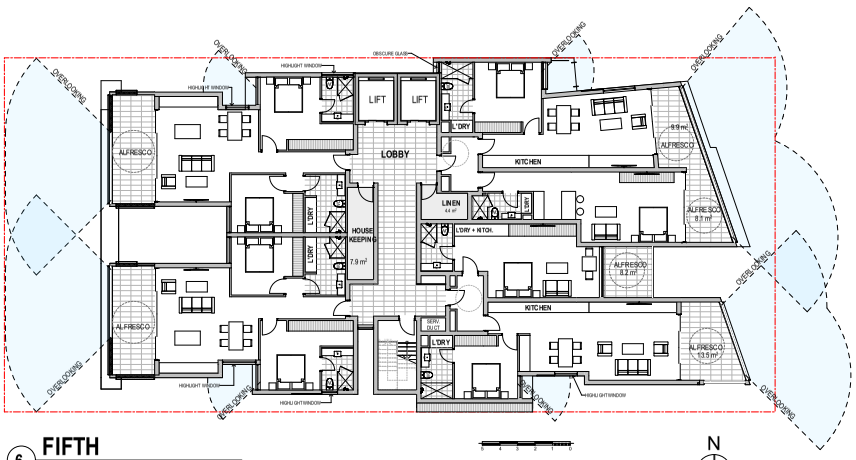

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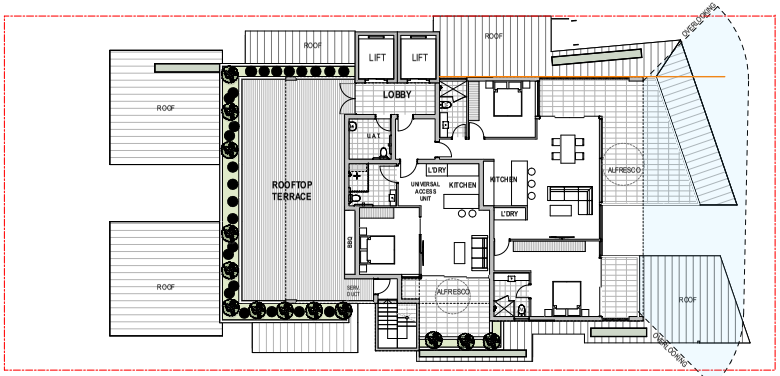

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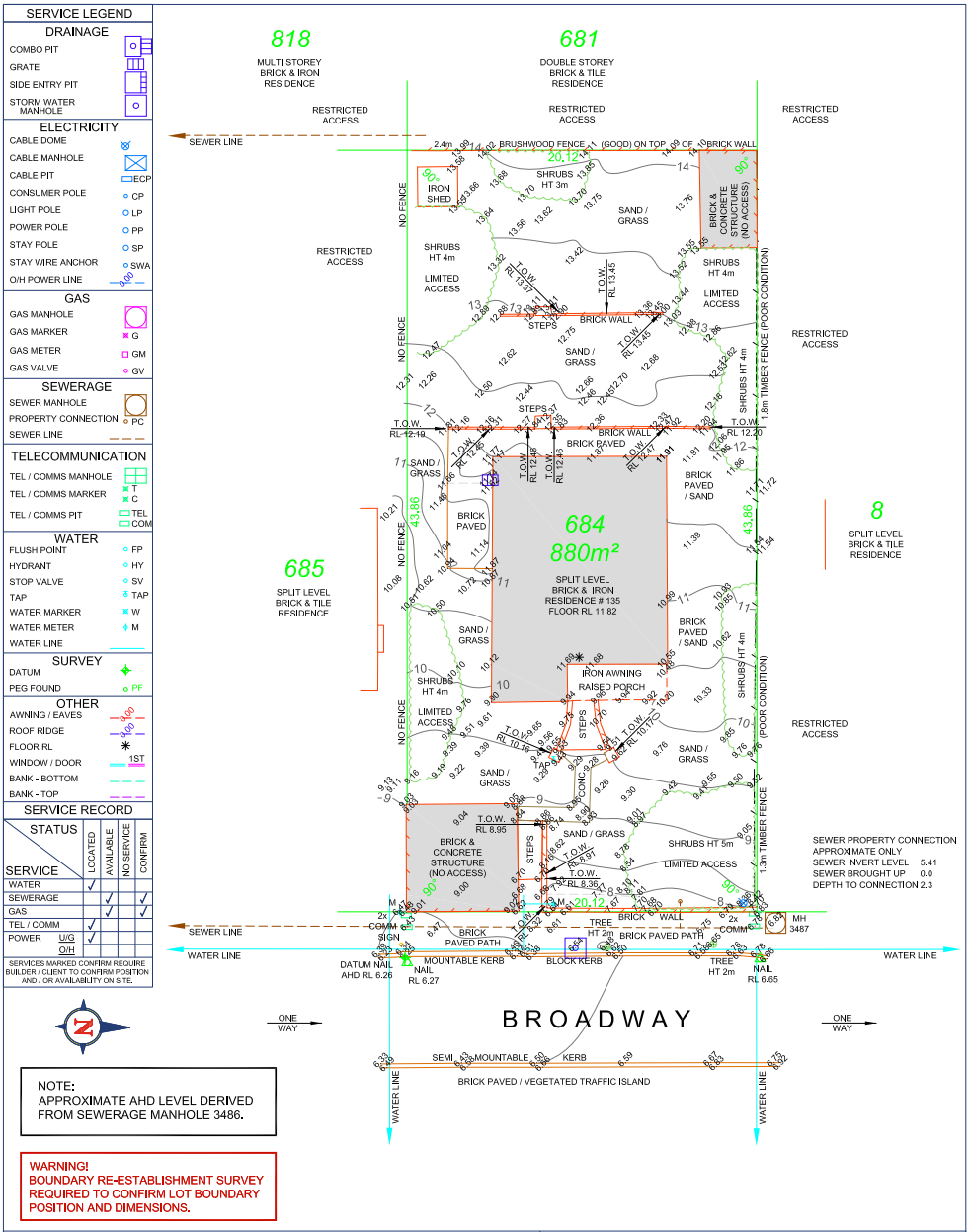
maarch* MARK ARONSON ARCHITECTURE L1, 41 Hampden Road, Nedlands, WA 6009 E: info@maarch.net.au • T: +61 8 6262 8199	PROJECT BROADWAY APARTMENTS	CLIENT CLIENT	ADDRESS 135 BROADWAY PERTH	DATE 25/7/19	SCALE: 1:200@A3	DRAWN MC/JM/MA	DRAWING **OVERLOOKING DIAGRAMS**	REV A	PROJECT NO. 19006	DRAWING ID **DA-18**

maarch*
MARK ARCHISON ARCHITECTURE
Lt. 41 Hampton Road, Nedlands, WA 6009
E: info@maarch.net.au T: +61 8 6262 9 999

PROJECT: BROADWAY APARTMENTS
CLIENT: CLIENT
ADDRESS: 135 BROADWAY PERTH
DATE: 25/7/19
SCALE: @ A3
DRAWN: MC/JMMA
DRAWING: SURVEY PLAN
REV: A
PROJECT NO: 19006
DRAWING ID: DA-19



LOT	: 684 (# 135) BROADWAY		CLIENT	: CEDAR COVE Pty Ltd	
SUBURB	: NEDLANDS	PLAN 2948	SURVEYED ON	: 10/04/2019	
AUTHORITY	: NEDLANDS	C/T : 1077 / 903	SURVEYOR	: DS	DRAFTER : NP

BUILDERS / CLIENTS: SITE SURVEY only. The information shown on this plan is current at the time of survey. Verify boundary information, easements etc. from the Certificate of Title, Plan / Diagram or a Boundary Repeg. Boundary position approximate only. Location of boundary pegs or fences in relation to the boundary lines are not guaranteed. Sewer / water may vary from schematic presentation, clearances to be checked on site. Confirm service information with relevant Authorities. Refer to "Dial Before You Dig" for underground service confirmation. Consult Land Surveys on any anomaly before design and construction.

Land Surveys
19 Brennan Way
BELMONT WA 6104
Telephone (08) 9477 4477
Fax (08) 9477 4499
admin@landsurveys.net.au

SCALE : 1:200 @ A3 Portrait

JOB No : 1900402 - PLAN: FS - DRG: 001 - REV. A SHEET 1 OF 1

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APPENDIX 3 - Acoustic Impact Statement

HERRING STORER ACOUSTICS

PINNACLE PLANNING

135 BROADWAY
NEDLANDS

DEVELOPMENT APPLICATION
ACOUSTIC REPORT

JUNE 2019

OUR REFERENCE: 24471-2-19154

Rochdale Holdings Pty Ltd A.B.N. 85 009 049 067 trading as:
HERRING STORER ACOUSTICS
P.O. Box 219, Como, W.A. 6952
(08) 9367 6200
hsa@hsacoustics.com.au

DOCUMENT CONTROL PAGE

DA ACOUSTIC REPORT

135 BROADWAY
NEDLANDS

Job No: 19154

Document Reference : 24471-2-19154

FOR

PINNACLE PLANNING

DOCUMENT INFORMATION			
Author:	George Watts	**Checked :**	Tim Reynolds
Date of Issue :	24 June 2019		

REVISION HISTORY				
Revision	**Description**	**Date**	**Author**	**Checked**
1	Revision to reflect change to development approval drawings	26/7/2019	GW	TR

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CONTENTS

1.0 INTRODUCTION

Herring Storer Acoustics was commissioned by Pinnacle Planning to conduct a preliminary review of the proposed development at 135 Broadway, Nedlands.

This report has been based on the Development Application drawings provided.

2.0 PROPOSED DEVELOPMENT

The proposed development site is located on the western side of Broadway, Nedlands, to the south of the intersection of Broadway and Princess Road.

The development is predominantly residential apartments; however, the development also contains a ground floor café tenancy.

The following summarises the development:

Ground Floor

- Parking
- Café Tenancy.

First Floor

- Parking.

Levels 02 to 06

- Residential Apartments

3.0 CRITERIA

3.1 BCA PROVISIONS

For Class 2 or 3 buildings, Part F5 of the National Construction Code (NCC), outlines the minimum acoustic isolation of apartments and in this case, the hotel rooms. The following summarises the acoustic criteria:

3.1.1 Walls

Wet to wet	$R_W + C_{tr}$ not less than 50 dB.
Living to living	$R_W + C_{tr}$ not less than 50 dB.
Wet to living construction.	$R_W + C_{tr}$ not less than 50 dB plus discontinuous
Kitchens to living construction.	$R_W + C_{tr}$ not less than 50 dB plus discontinuous

Note: Where kitchens are part of an open living area, we consider the kitchen to be part of the living area and in these cases a discontinuous construction is required. This also includes cases where kitchens are back-to-back, however, discontinuous construction is only required on one side.

3.1.2 Floors

Floors	$R_W + C_{tr}$ not less than 50 dB.
Impact Isolation	$L_{n,w}$ not more than 55 dB is recommended.

Note: The impact isolation criteria under the BCA is an $L_{n,w}$ of not more than 62 dB. However, as a member firm of the Association of Australasian Acoustic Consultants, (AAAC) we recommend a criteria of an $L_{n,w}$ of not more than 55 dB be adopted for a development of this type.

3.1.3 Service Risers

to Habitable Rooms	$R_W + C_{tr}$ not less than 40 dB.
to Non-Habitable Rooms	$R_W + C_{tr}$ not less than 25 dB.

3.1.4 Hydraulics

The above requirements also apply to storm water down pipes.

3.1.5 Doors

Door (Connecting)	R_W not less than 30 dB.

The development will be designed to comply with the requirements of Part F5 of the BCA.

3.2 ENVIRONMENTAL PROTECTION (NOISE) REGULATIONS 1997

The *Environmental Protection (Noise) Regulations 1997* stipulate the allowable noise levels at any noise sensitive premises from other premises. The allowable or assigned noise levels for noise sensitive premises are determined by the calculation of an influencing factor, which is added to the baseline criteria set out in Table 1 of the Regulations. The baseline assigned noise levels are listed in Table 3.1. For commercial premises, the allowable or assigned noise levels are the same for all hours of the day. Table 3.1 also lists the assigned noise levels for commercial premises.

TABLE 3.1 – ASSIGNED NOISE LEVELS

Premises Receiving Noise	Time of Day	Assigned Level (dB)		
		$L_{A\ 10}$	$L_{A\ 1}$	$L_{A\ max}$
Noise sensitive premises within 15 metres of a dwelling	0700 - 1900 hours Monday to Saturday	45 + IF	55 + IF	65 + IF
	0900 - 1900 hours Sunday and Public Holidays	40 + IF	50 + IF	65 + IF
	1900 - 2200 hours all days	40 + IF	50 + IF	55 + IF
	2200 hours on any day to 0700 hours Monday to Saturday and 0900 hours Sunday and Public Holidays	35 + IF	45 + IF	55 + IF

Note: The L_{A10} noise level is the noise that is exceeded for 10% of the time.
The L_{A1} noise level is the noise that is exceeded for 1% of the time.
The L_{Amax} noise level is the maximum noise level recorded.

It is a requirement that noise from the site be free of annoying characteristics (tonality, modulation and impulsiveness) at other premises, defined below as per Regulation 9.

"impulsiveness" means a variation in the emission of a noise where the difference between L_{Apeak} and $L_{Amax\ Slow}$ is more than 15dB when determined for a single representative event;

"modulation" means a variation in the emission of noise that –

(a) is more than 3dB $L_{A\ Fast}$ or is more than 3dB $L_{A\ Fast}$ in any one-third octave band;
(b) is present for more at least 10% of the representative assessment period; and
(c) is regular, cyclic and audible;

"tonality" means the presence in the noise emission of tonal characteristics where the difference between –

(a) the A-weighted sound pressure level in any one-third octave band; and
(b) the arithmetic average of the A-weighted sound pressure levels in the 2 adjacent one-third octave bands,

is greater than 3 dB when the sound pressure levels are determined as $L_{Aeq,T}$ levels where the time period T is greater than 10% of the representative assessment period, or greater than 8 dB at any time when the sound pressure levels are determined as $L_{A\ Slow}$ levels.

Where the above characteristics are present and cannot be practicably removed, the following adjustments are made to the measured or predicted level at other premises.

TABLE 3.2 – ADJUSTMENTS FOR ANNOYING CHARACTERISTICS

Where tonality is present	Where modulation is present	Where impulsiveness is present
+ 5 dB	+ 5 dB	+ 10 dB

From a review of the development, the influencing factor for this development would be 4 dB, based on the following :

Secondary Roads within inner circle;
Broadway + 2 dB

Commercial Premises within the inner circle;
40 % + 2 dB

Commercial Premises within the outer circle;
10 % + 0.5 dB

Total IF **+4.5 (Rounded down to 4 dB)**

Hence the influencing factor would be + 4 dB and the assigned noise levels would be as listed in Table 3.3.

TABLE 3.3 - ASSIGNED OUTDOOR NOISE LEVEL

Premises Receiving Noise	Time of Day	Assigned Level (dB)		
		L_{A10}	L_{A1}	L_{Amax}
Noise sensitive premises within 15 metres of a dwelling	0700 - 1900 hours Monday to Saturday	49	59	69
	0900 - 1900 hours Sunday and Public Holidays	44	54	69
	1900 - 2200 hours all days	44	54	59
	2200 hours on any day to 0700 hours Monday to Saturday and 0900 hours Sunday and Public Holidays	39	49	59

Note: L_{A10} is the noise level exceeded for 10% of the time.
L_{A1} is the noise level exceeded for 1% of the time.
L_{Amax} is the maximum noise level.

We note that noise emissions from the premises need to comply with the requirements of the *Environmental Protection (Noise) Regulations 1997*. This not only includes noise associated with mechanical services (ie air conditioning and ventilation systems), but also noise from commercial premises within the site.

3.3 NOISE INGRESS

Inbound Noise Levels

It is proposed to adopt an internal noise level design criteria, similar to other areas within Perth. The aim of the criteria is to design the residential building façade to achieve the following internal sound levels :

- L_{eq} 35 dB(A) in sleeping areas (bedrooms); and
- L_{eq} 40 dB(A) in living/work areas and other habitable rooms.

It is noted that these internal design sound levels are congruent with other noise ingress policies (such as the WAPC State Planning Policy 5.4 and the Town of Vincent Sound Attenuation Policy).

4.0 BCA REQUIRMENTS

The proposed development will be constructed to comply with the requirements of Part F5 of the NCC.

5.0 NOISE INGRESS

5.1 NOISE SOURCE IDENTIFICATION

The area of the proposed development was examined to ascertain the applicable noise sources.

Noise levels were recorded during peak hour traffic conditions to ascertain the most critical for the design of the development.

Residual breakout noise from entertainment venues were identified and quantified as a part of this process.

Traffic noise is considered to be the only significant noise source in terms of noise impact.

Given the above noise source identification, it was determined that noise levels during peak traffic were the most pertinent for the design of the development.

5.1 MEASUREMENTS

Noise level measurements were recorded on the 24th June 2019 at approximately 8:30am to quantify ambient noise in the area. Ambient noise was primarily traffic noise.

The measure noise levels, including octave band data, are listed below in Table 5.2.1.

Table 5.2.1 – Measured Noise level Data

Noise Source	Octave Band Centre Frequency (Hz) / Noise Level dB								
	63	125	250	500	1K	2K	4K	8K	dB(A)
Traffic	74	61	59	58	57	54	48	43	61

The noise levels recorded were typical of the area, being noise associated with peak hour traffic.

Based on the measured noise levels, the traffic noise during peak hour dictates the acoustic design of the façade.

The criteria used for noise ingress was:

Bedrooms	-	L_{Aeq} of 35 dB(A)
Living and work spaces	-	L_{Aeq} of 40 dB(A)

To determine the acoustic requirements of the developments construction, preliminary calculations were undertaken to ascertain the typical façade treatment that may be required. Generally, this dictates the minimum glazing requirements of the development. Based on the results of the preliminary modelling, the acoustic rating for the glazing would be standard glazing (i.e. an R_w of around 22 – 25 dB), and it is considered highly likely that other design requirements, such as energy/thermal efficiency will dictate glazing requirements.

6.0 NOISE FROM DEVELOPMENT

The main source of noise from the proposed development will be from mechanical services consisting of a car-park ventilation fans and air-conditioning condenser units. Noise received at neighbouring premises from these items need to comply with the assigned noise levels as determined under the *Environmental Protection (Noise) Regulations 1997*.

Car park stacking systems are noted in the design of the building. The noise impact of the use of these systems are negligible, as the systems typically utilise a hydraulic lifting system, with the noise levels associated with their use less than that associated with an idling car.

6.1 COMMERCIAL TENANCIES

Noise emissions from the proposed café tenancy, would need to comply with the requirements of the environmental regulations. An assessment of these noise emissions will be undertaken when the details of the cafe are known. However, given the separation to the closest apartments and neighbouring premises, compliance with the Regulations should be easily achieved.

6.2 MECHANICAL SERVICES

The main source of noise from the proposed development will be from mechanical services consisting of a car-park ventilation fans and air-conditioning plant and condenser units. Noise received at residence (neighbours and residence within the development) from these items need to comply with the assigned noise levels as determined under the *Environmental Protection (Noise) Regulations 1997*.

As the mechanical services could operate during the night, noise emissions from the development needs to comply with the assigned L_{A10} night period noise level of 39 dB(A) at residential premises. Potentially, noise emissions from mechanical services could be tonal, in which case an +5 dB(A) penalty for a tonal component could be applied to the resultant noise levels. Therefore, the design level at the neighbouring residential premises would be 34 L_{A10} dB.

6.2.1 Café Tenancy

Noise emissions associated with the cafe tenacy associated with the project will be assessed and appropriate noise controls will be incorporated into the design to ensure compliance with the requirements of the *Environmental Protection (Noise) Regulations 1997*. However, we do not believe that compliance will be difficult to achieve, given the location of the tenancy and the separation to the apartments within the development.

6.2.2 Apartments

The air conditioning for the apartments is not yet known.

Once the design of the system is finalised, an acoustic assessment will be carried out of noise emissions from the mechanical plant and any noise amelioration required will be incorporated into the design to ensure compliance with the *Environmental Protection (Noise) Regulations 1997*. However, we believe that compliance would be easily achieved and any noise mitigation would be minimal, with the proposed design.

6.2.3 Car Park Exhaust Fan

Noise emissions from the carpark exhaust fan, will also need to comply with the Regulatory requirements. From previous projects, we believe that with careful fan selection and the incorporation of either 1D or 2D unpodded silencers, compliance with the *Environmental Protection (Noise) Regulations 1997* is normally achieved.

An assessment of noise emissions will be carried out once equipment has been selected and submitted for approval.

APPENDIX 4 - Traffic Impact Assessment

Transport Impact Statement

135 Broadway, Nedlands

CW1076700

Prepared for
Cedar Cove Pty Ltd ATF Coolbinia Trust

31 July 2019

Cardno

Contact Information

Cardno (WA) Pty Ltd
ABN 77 009 119 000

11 Harvest Terrace
West Perth WA 6005
Australia

www.cardno.com
Phone +61 8 9273 3888
Fax +61 8 9486 8664

Document Information

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Project Name	135 Broadway, Nedlands
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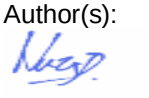
Job Reference	CW1076700
Date	31 July 2019
Version Number	A

Author(s):



Nuzra Davahir
Graduate Traffic Engineer

Effective Date 31/07/2019

Approved By:

Ray Cook
Manager – Traffic and Transport Planning

Date Approved 31/07/2019

Document History

Version	Effective Date	Description of Revision	Prepared by	Reviewed by
A	31/07/19	For Issue	ND	SGL

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Appendices

Tables

Figures

1 Introduction

1.1 Background

Cardno was commissioned by Cedar Cove Pty Ltd ATF Coolbinia Trust ('the Client') to prepare a Transport Impact Statement (TIS) for the proposed multi storey development located at 135, Broadway, Nedlands within the *City of Nedlands* (**Figure 1-1***).*

This TIS has been prepared in accordance with the *Western Australian Planning Commission (WAPC) Transport Impact Assessment Guidelines for Developments: Volume 4 – Individual Developments (2016)* and the checklist is included at **Appendix A.**

Figure 1-1 Aerial Image of Site location

Source: Nearmap

The Site is zoned as 'mixed use' within the *City of Nedlands Planning Scheme No.3.* **Figure 1-2** depicts the land use zones of the Site and the surrounding area.

Figure 1-2 Zoning

Source: City of Nedlands Local Planning Scheme No.3

1.2 Existing Road Network

The Site is surrounded by Broadway to the east and other residential land uses to the north, south, and west. The surrounding road network is further described in **Table 1-1.**

Table 1-1 Surrounding Road Network

Street Names	Road Hierarchy		Road Network			
	Road Hierarchy	Jurisdiction	No. of Lanes	No. of Footpaths	Width (m)	Posted Speed (km/h)
Broadway	Distributor B	Local Govt.	2	2	9.6 (2m median)	50
Princess Road	Local Distributor	Local Govt.	2	2	7.2	50
Kingsway	Access Road	Local Govt.	2	1	6	50

Figure 1-3 shows the hierarchy of the surrounding road network as per the *Main Roads Road Information Mapping System.*

Figure 1-3 Road Network

Source: Road Information Mapping System

1.3 Traffic Volumes

Traffic volumes were obtained from the City of Nedlands and are summarised in **Table 1-2** below.

Table 1-2 Traffic Volumes

Road Name	Year	Average Weekday Daily Traffic Volume	% HV
Broadway (Between Elizabeth & Capon)	2015	7,455	6.8%
Kingsway (Between Princess Road and Melvista Avenue)	2007	263	1.9%
Princess Road (Between Kingsway and Broadway)	2006	5,410	1.2%

2 Public Transport Facilities

2.1 Existing Public Transport Facilities

The nearest bus stops are located on Broadway as shown in **Figure 2-1**. The bus stop is serviced by Route 24 travelling to East Perth and Claremont Station. Other bus stops are located on Bruce Street (approximately 400 m away), serviced by Route 23 to Elizabeth Quay Bus Station and Fairway (approximately 180 m away), serviced by Route 97 to Crawley.

Figure 2-1 Nearest Bus Stops

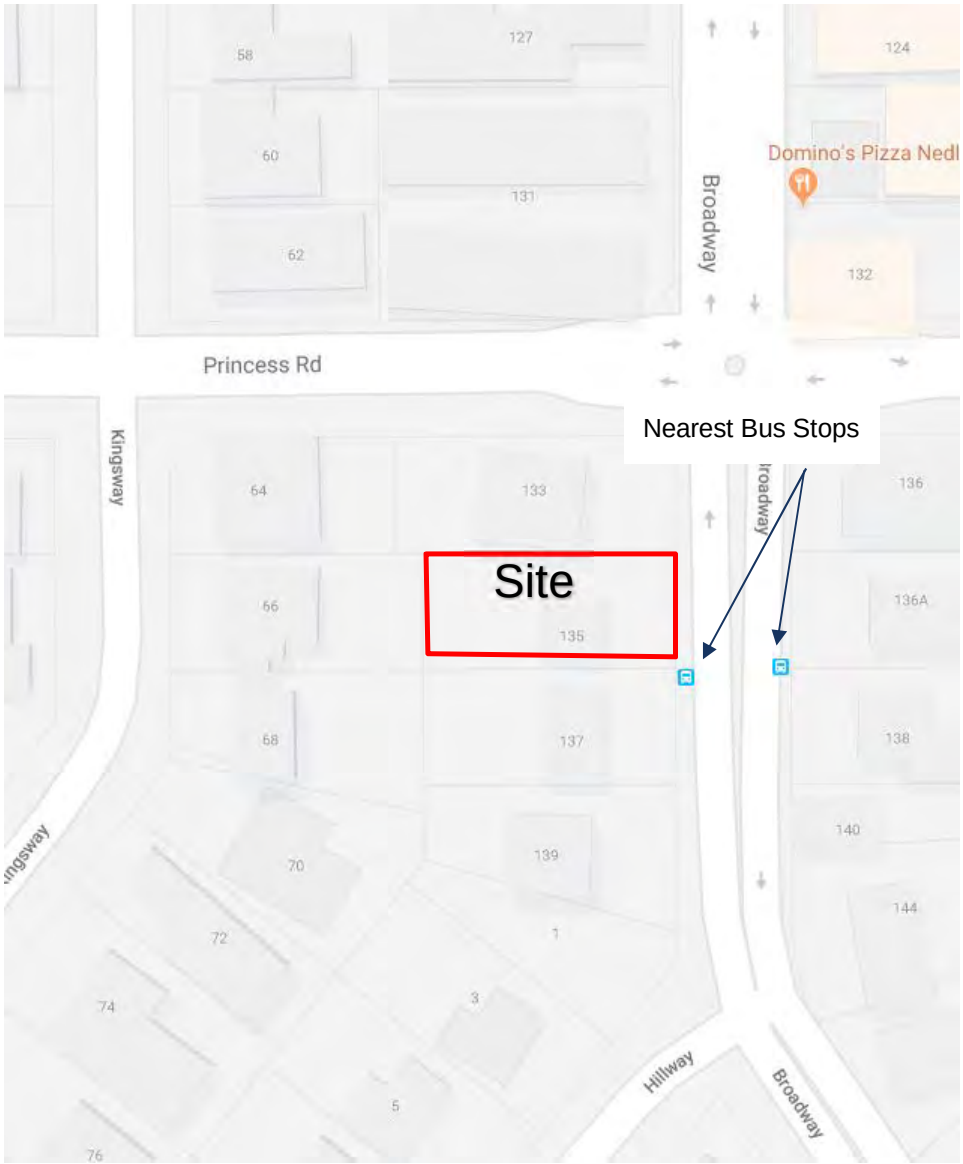
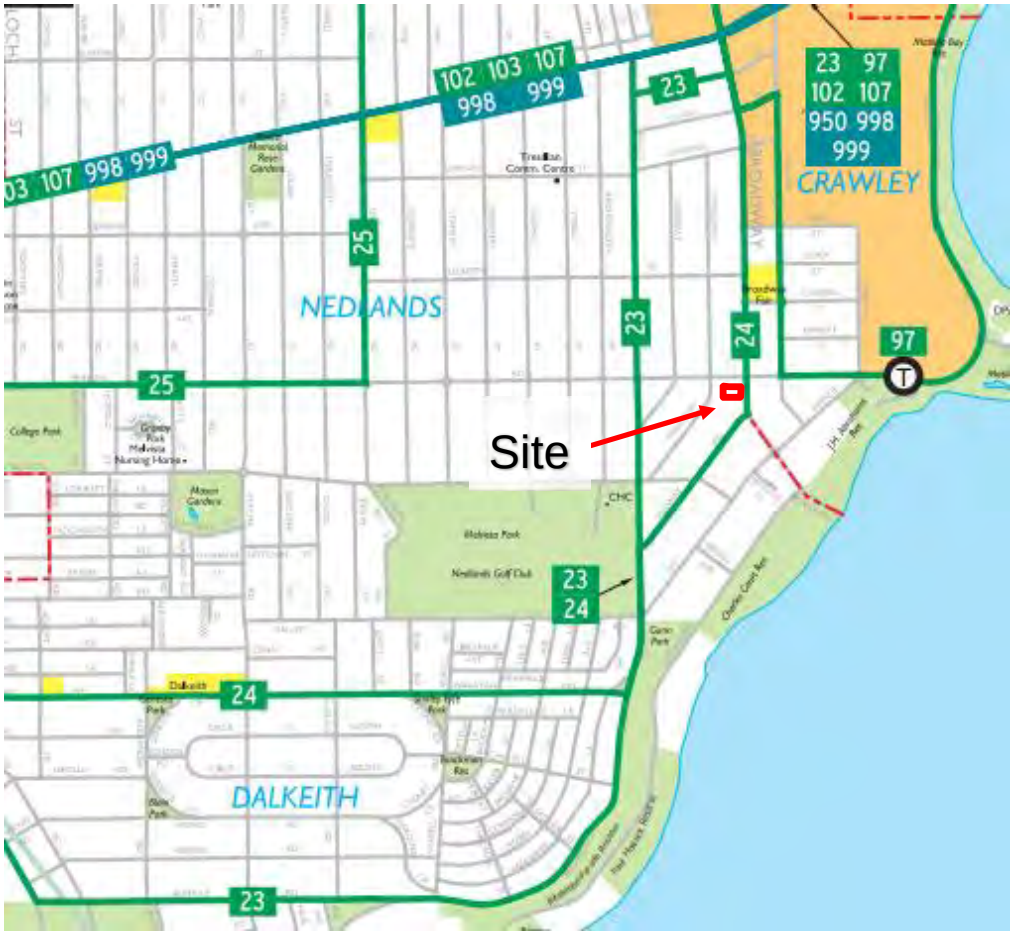


Figure 2-2 shows the bus routes in the area.

Figure 2-2 Existing Public Transport Facilities



2.2 Future Public Transport Facilities

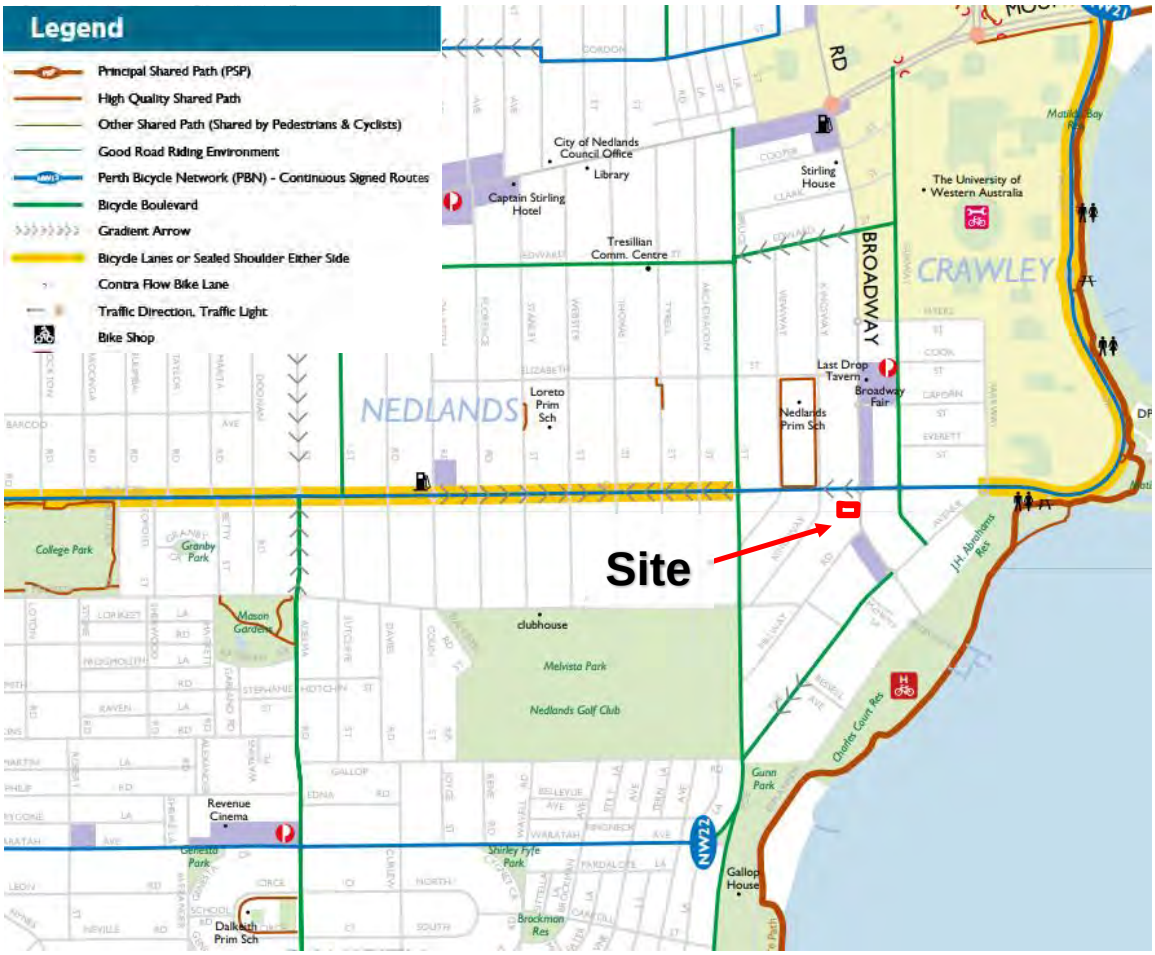
Cardno contacted the relevant authorities and understand there are no impending changes to the network in this area.

3 Pedestrian/Cycle Networks and Facilities

3.1 Existing Pedestrian/Cycle Network Facilities

The Perth Bicycle Network and bicycle lanes run along Princess Road as shown in **Figure 3-1.** Bicycle boulevards run along Fairway, The avenue and other surrounding roads. Overall, the Site is facilitated by excellent pedestrian/cycling networks.

Figure 3-1 Existing Pedestrian/cycling Facilities



3.2 Future Pedestrian/Cycle Network Facilities

Cardno contacted the relevant authorities and understand that there are no changes planned for the immediate area.

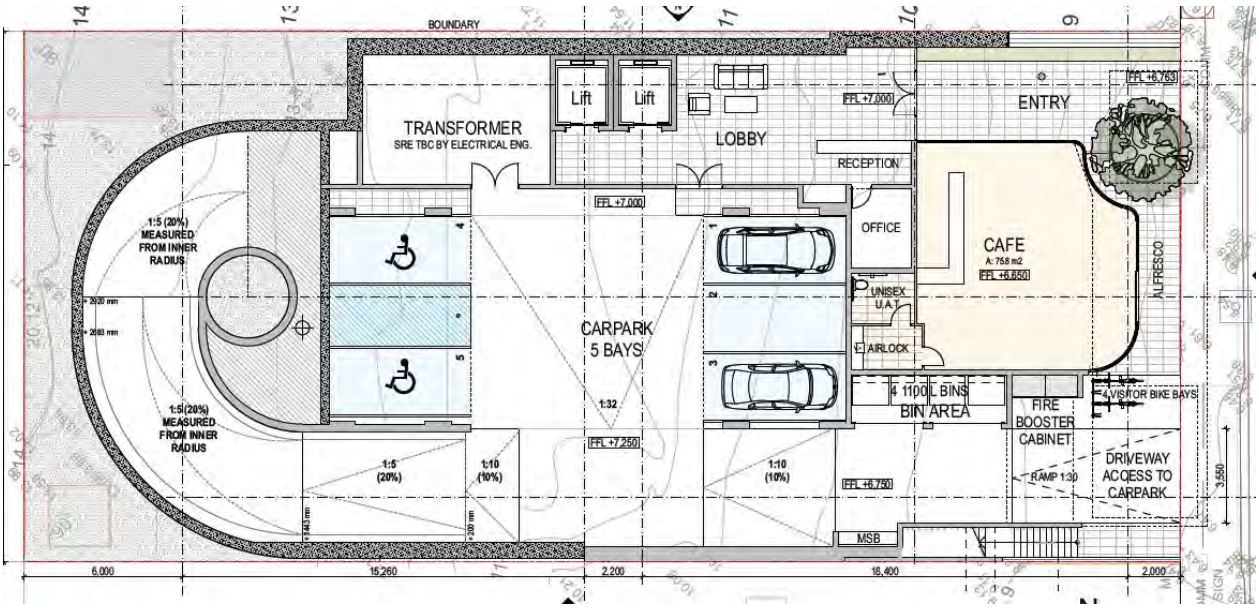
4 Proposed Development

The proposed development a 6 storey building consisting of:

- 19 x 1-bedroom apartments;
- 7 x 2-bedroom apartments;
- Ground floor café – 75.8m^2 GFA

Figure 4-1 shows the ground floor plan of the proposed development. Larger versions are included in **Appendix B**.

Figure 4-1 Ground Floor Plan



4.2 Access Arrangements

Vehicular access to/from the Site will be via a 3.5m wide crossover located on Broadway. This crossover is compliant with AS2890.1:2004 requirements for Category 1 access driveways.

A 3.5m wide curved ramp provides access to the Level 1 car park (16 bays). As the ramp is only wide enough for one-way traffic, traffic flows will be managed by signals or other similar mechanisms. There is sufficient room at the foot of the ramp and the top of the ramp for vehicles travelling in opposite directions to pass each other.

4.3 Traffic Generation

Trip generation rates from the *Institute of Transportation Engineers (ITE) "Trip Generation" 10th Edition* were used to estimate the number of vehicle trips generation by the Site.

Table 4-1 Trip Generation Rate

Land Use	ITE Code/Source	AM Peak	PM Peak
Residential	221	0.32 trips per dwelling	0.41 trips per dwelling
Café	932	10.70 per 100 m^2	10.52 per 100 m^2

Table 4-2 Directional Distribution

Land Use	ITE Code/Source	AM Peak		PM Peak	
		In	Out	In	Out
Residential	221	27%	73%	60%	40%
Café	932	55%	45%	62%	38%

Table 4-3 Total Trip Generation

Land Use	ITE Code/Source	AM Peak		PM Peak	
		In	Out	In	Out
Residential	221	3	7	7	5
Café	932	5	4	5	4
Total		**8**	**11**	**12**	**9**

The estimated peak hour trip generation is 19 vehicles in the AM Peak Hour and 21 vehicles in the PM Peak Hour. This low volume of trip generation is anticipated to have minimal impact on the surrounding road network.

4.4 Provision for Service Vehicles

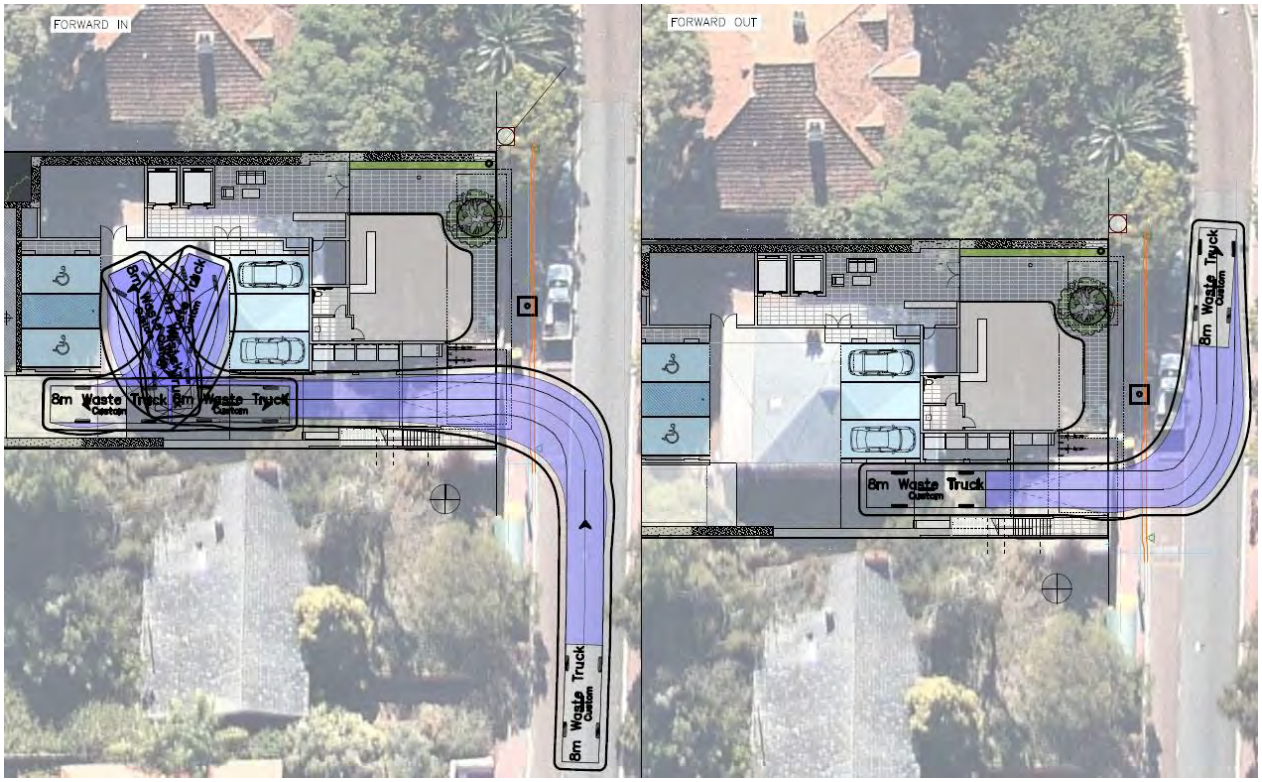
Waste collection will be undertaken within the Site, using vehicles up to maximum of 8.0m in length.

Figure 4-2 illustrates the swept path of the waste collection vehicle entering the Site in forward gear, pulling into the ground floor parking aisle to collect the waste, then exiting the Site in forward gear. As waste collection will occur infrequently and for short periods (e.g. 5 minutes) it is anticipated that no inconvenience will occur to vehicles entering and exiting the ground floor parking bays.

It is noted that the waste collection vehicle exiting the Site impacts one of the existing two time-limited on-street parking bays on the Site frontage. It is recommended that this bay be marked 'No Stopping' to allow the vehicle to exit the Site safely.

A larger version of the swept path plans are included at **Appendix C**.

Figure 4-2 Waste Collection Vehicle Swept Path



5 Parking

5.1 Parking Requirements

The *City of Nedlands' Draft Local Planning Policy for Parking* outlines the parking requirements and has due regard status. **Table 5-1** shows the parking requirements and the provision on site.

Table 5-1 Car Parking Provision

Land Use	Car Parking Requirements	Car Parking Requirements	Car Parking Provision
Residential (from R Codes)			
1 bedroom dwelling (19 units)	1 bay per dwelling	19 bays	21 bays including 2 ACROD bays
2+ bedroom dwellings (7 units)	1.25 bays per dwelling	9 bays	
Visitor Parking	1 bay per four dwellings up to 12 dwellings 1 bay per eight dwellings for the 13th dwelling and above	3 bays 2 bays	
Café (from Local Planning Policy)	3 bays (1 car bay per 30m^2 of NLA)	3 bays	
Total		**36 bays**	**21 bays**

Please refer to the Planning Report for justification regarding the parking shortfall.

5.2 Bicycle and Motorcycle Parking

The bicycle parking provision as per the requirements of the *City of Nedlands' Local Planning Policy* are shown in **Table 5-2** and the motorcycle parking requirements and provision are shown in **Table 5-3**.

Table 5-2 Bicycle Parking Requirements and Provision

Land Use	Parking Requirements	Parking Requirements	Parking Provision
Residential	0.5 space per dwelling	13 spaces	
Visitor Parking	1 space per 10 dwellings	3 spaces	4 spaces
Cafe	1 bicycle space per 30m^2 of NLA	3 spaces	
Total		**19 bays**	**4 spaces**

Please refer to the Planning Report for justification regarding the parking shortfall.

Table 5-3 Motorcycle Parking Requirements and Provision

Land Use	Parking Requirements	Parking Requirements	Parking Provision
Residential	Developments exceeding 20 dwellings provide 1 motorcycle/scooter space for every 10 car bays	3 bays	1 bay
Total		**3 bays**	**1 bay**

Please refer to the Planning Report for justification regarding the parking shortfall.

With regards to End of Trip facilities, the Local Planning Policy states:

"Where 5 or more long term bicycle parking bays are required to be provided, end-of-trip facilities are to be provided. End of trip facilities are to be designed in accordance with the following criteria:
(a) A minimum of one unisex shower, change room, for every 10 bicycle parking bays up to a maximum of 6 male and 6 female showers (or 12 unisex); and
(b) A locker of functional and suitable size to be provided for every bicycle parking bay provided."

Therefore, 2 unisex showers, change room facilities are required for the development. An End of Trip facility has been provided on the second floor of the development.

6 Site-Specific Issues

6.1 Crash Assessment

A search of the *Main Roads WA Reporting Centre* for traffic crash data was carried out for reported crashes between 1 January 2014 and 31 December 2018 for the following road sections:

- Broadway Midblock SLK 1.27 to SLK 0.72
- Intersection of Broadway and Princess Road
- Princess Road Midblock SLK 1.90 to SLK 2.33

Princess Road Midblock SLK 1.90 to SLK 2.33 midblock had no reported crashes.

Table 6-1 to **Table 6-2** provide the vehicle crashes on Broadway and near the Site.

Table 6-1 Broadway Midblock SLK 1.27 to SLK 0.72

Type of Crash	Fatal	Hospital	Medical	Major Property Damage	Minor Property Damage	Total Crashes
Rear End	-	-	-	1	-	1
Right Angle	-	-	-	1	-	1
Sideswipe Same Direction	-	-	-	2	-	2
Other	-	-	-	-	1	1
Total	**-**	**-**	**-**	**4**	**1**	**5**

Table 6-2 Intersection of Broadway and Princess Road

Type of Crash	Fatal	Hospital	Medical	Major Property Damage	Minor Property Damage	Total Crashes
Rear End	-	-	-	1	1	2
Right Angle	-	1	-	-	1	2
Total	**-**	**1**	**-**	**1**	**2**	**4**

A summary of the crash data is as follows:

- A total of 5 vehicular crashes occurred at Broadway, 4 of them causing major property damage and 1 causing minor property damage.
- A total of 2 rear end crashes and 2 right angle crashes occurred at the intersection of Broadway and Princess Road: 1 required hospitalisation, 1 crash caused minor property damage and 2 caused minor property damage.

7 Summary

This Transport Impact Statement outlines the transport aspects of the proposed Place of Worship development focusing on traffic operations, access and provision of car parking. Included are discussions regarding pedestrian, cycle, and public transport considerations.

This statement has been prepared in accordance with the *WAPC Transport Assessment Guidelines for Developments: Volume 4 – Individual Developments (2016).*

The following are conclusions about the proposed development:

- The development proposal is for a 6-storey building comprising 26 apartments and a ground floor café, located within the suburb of Nedlands.
- A total of 21 parking spaces are provided.
- The proposed development is expected to have a total trip generation of approximately 19 vehicles in the AM peak hour and 21 vehicles during the PM peak hour. This level of traffic generation is anticipated to have minimal impact on the surrounding road network.
- Access to the Site is facilitated by the Perth Bicycle Network and other bicycle boulevards within the surrounding area.
- Public transportation is facilitated by the bus stops located across the Site serving Route 24 travelling to East Perth and Claremont Station
- Overall, it is considered unlikely that the Site will cause any material impact to the surrounding road network.

135 Broadway, Nedlands

APPENDIX A

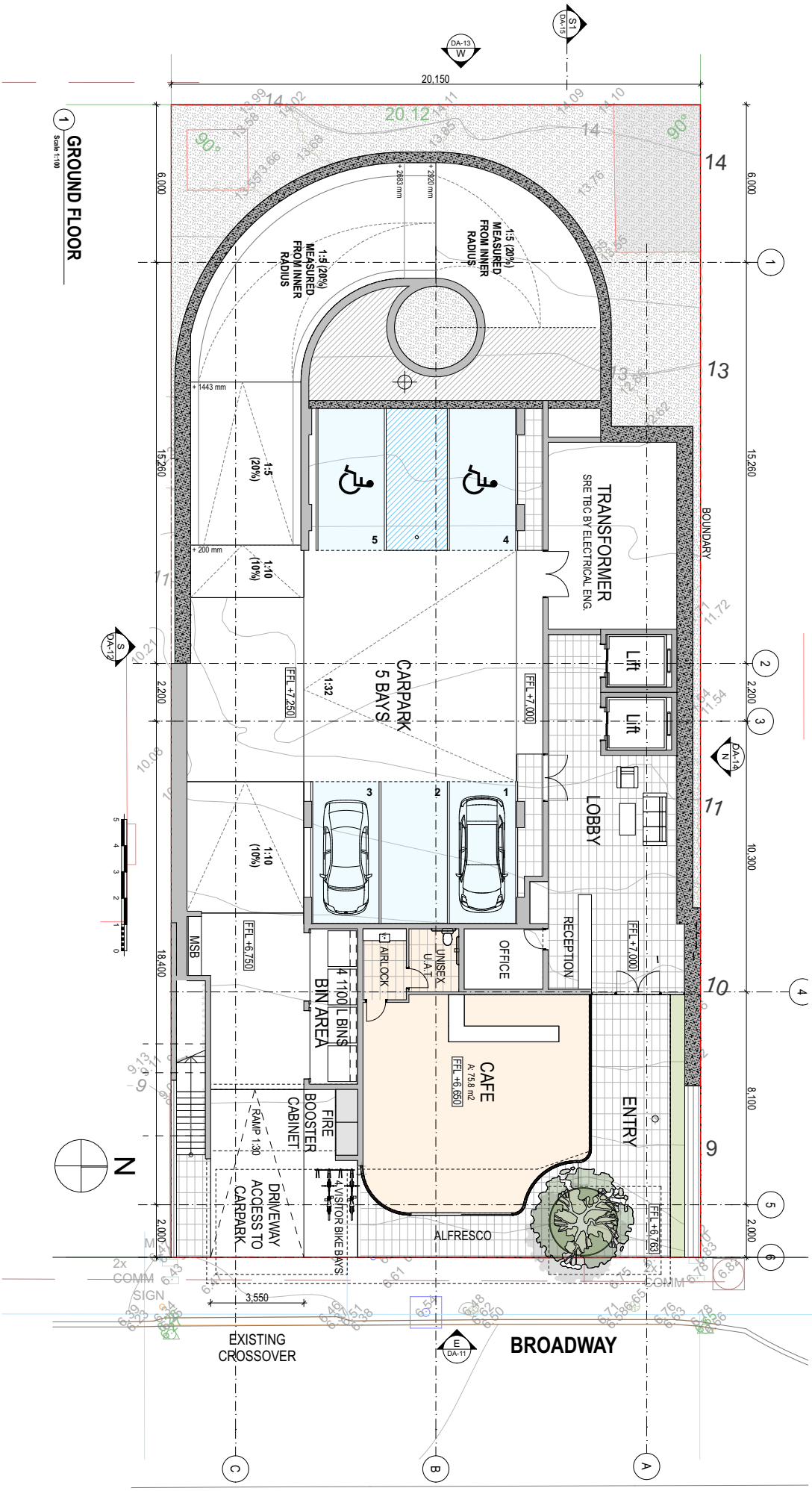
WAPC CHECKLIST

Item	Status	Comments/Proposals
Proposed subdivision		
proposed land use	Section 4	
existing land uses	Section 1	
context with surrounds	Section 1	
Vehicular access and parking		
access arrangements	Section 4	
public, private, disabled parking set down / pick up	Section 5	
Service vehicles (non-residential)		
access arrangements	Section 4	
on/off-site loading facilities	N/A	
Service vehicles (residential)		
Rubbish collection and emergency vehicle access	Section 4	
Hours of operation (non-residential only)	N/A	
Traffic volumes		
daily or peak traffic volumes	Section 1	
type of vehicles (e.g. cars, trucks)	Section 1	
Traffic management on frontage streets		
Public transport access		
nearest bus/train routes	Section 2	
nearest bus stops/train stations	Section 2	
pedestrian/cycle links to bus stops/train station	Section 3	
Pedestrian access/facilities		
existing pedestrian facilities within the development (if any)	Section 3	
proposed pedestrian facilities within development	Section 3	
existing pedestrian facilities on surrounding roads	Section 3	
proposals to improve pedestrian access	NA	
Cycle access/facilities		
existing cycle facilities within the development (if any)	Section 3	
proposed cycle facilities within the development	Section 5	
existing cycle facilities on surrounding roads	Section 3	
proposals to improve cycle access	N/A	
Site specific issues	Section 6	
Safety issues		
identify issues	N/A	
remedial measures	N/A	

135 Broadway, Nedlands

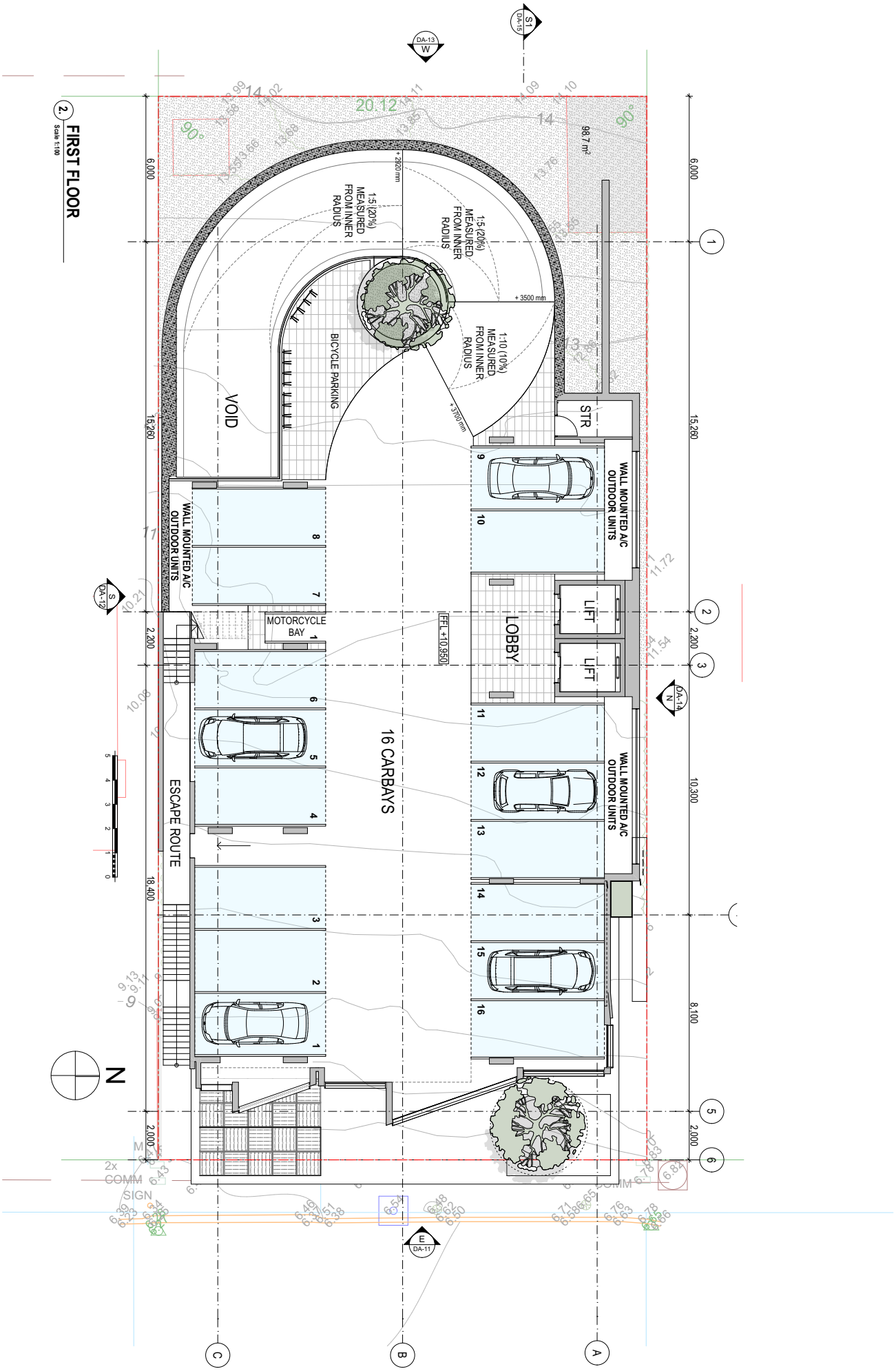
APPENDIX B

SITE PLANS



maarch*
MARK ARONSON ARCHITECTURE
L: 41 Hampden Road, Nedlands, WA 6009
E: info@maarch.net.au T: +61 8 6262 8199

PROJECT	BROADWAY APARTMENTS
CLIENT	CLIENT
ADDRESS	135 BROADWAY PERTH
DATE	25/7/19
SCALE	1:100@ A3
DRAWN	MC/JM/MA
DRAWING	GROUND FLOOR PLAN
REV.	A
PROJECT NO.	19006
DRAWING ID	DA-3



maarch*

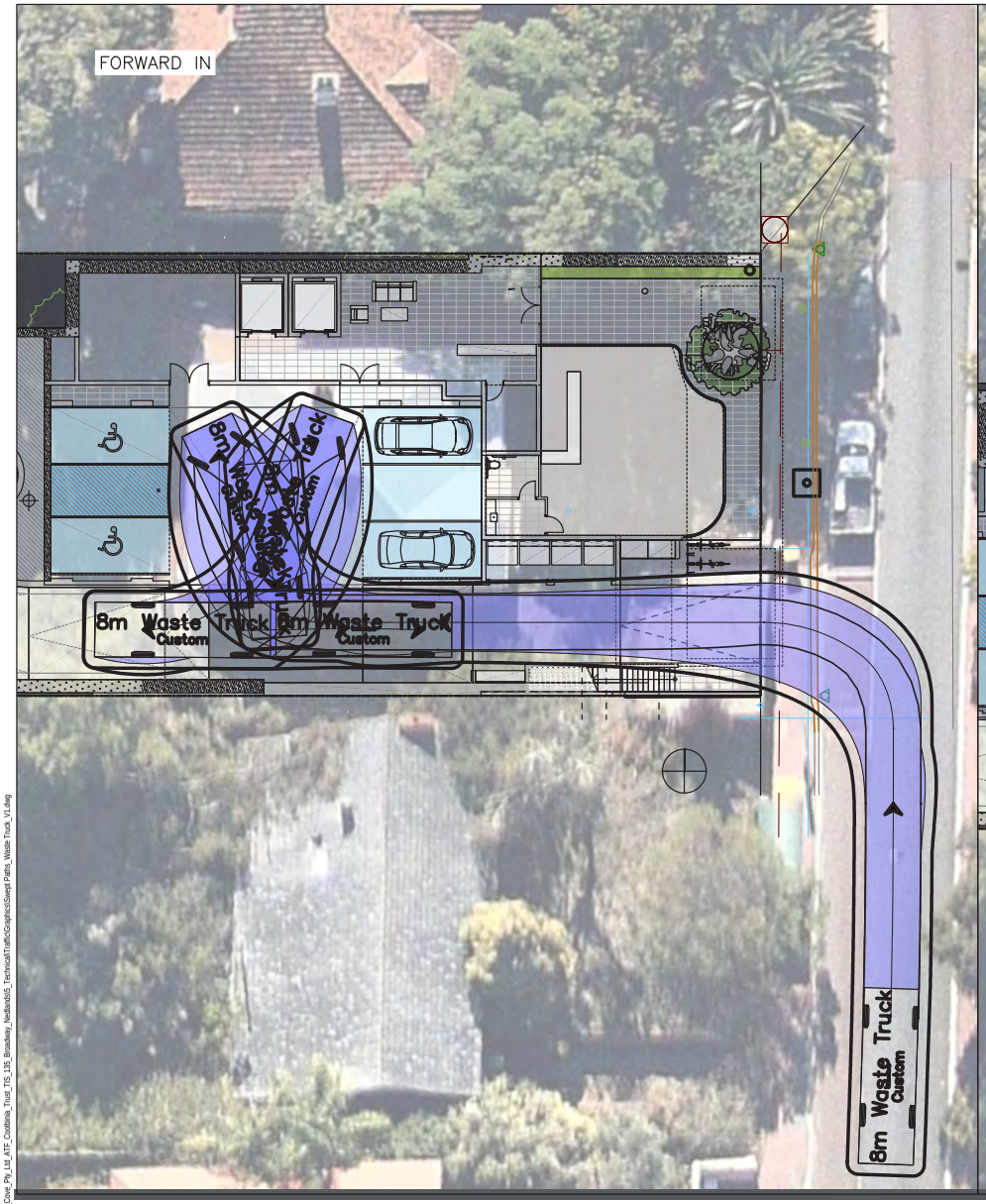
MAARK ARCHITECTURE

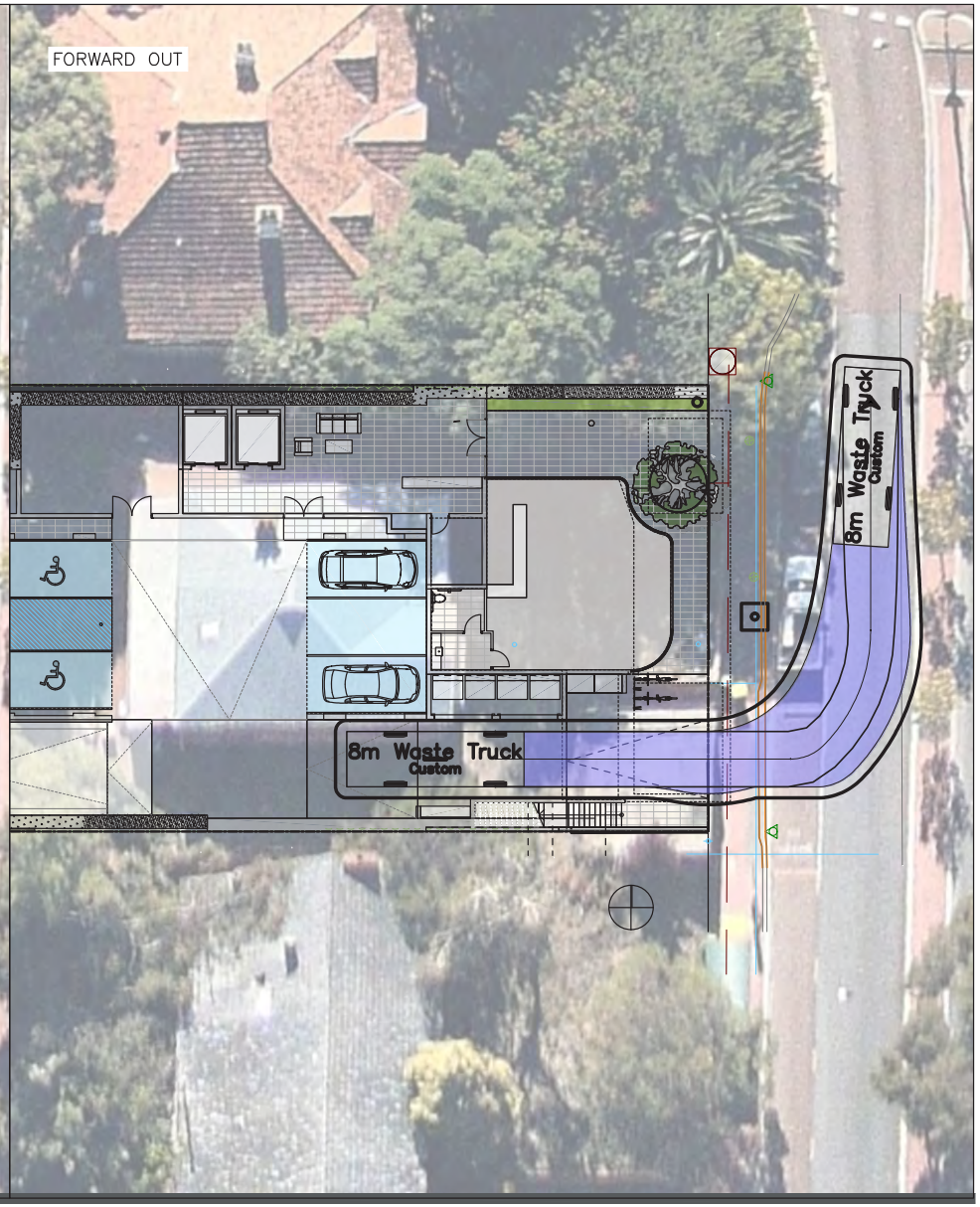
PROJECT: BROADWAY APARTMENTS
CLIENT: CLIENT
ADDRESS: 135 BROADWAY PERTH
DATE: 25/7/19
SCALE: 1:100@A3
DRAWN: MC/JM/MA
DRAWING: FIRST FLOOR PLAN
REV: A
PROJECT NO: 19006
DRAWING ID: DA-4

135 Broadway, Nedlands

APPENDIX C

SWEPT PATHS





Cardno

Sydney Tel: 02 9496 7700

CEDAR COVE PTY LTD ATF COOLBINIA TRUST

135 BROADWAY, NEDLANDS

8.0 m WASTE TRUCK - SWEPT PATH

FORWARD IN / FORWARD OUT

Date	Scale	Size
09/07/19		A3

CW1076700-TR-SK-001-A
Drawing Number

A
Revision

DATE PLOTTED: 29 July 2019 1:05 PM BY : NUZRA DAVAHIR
CAD File: K:\Projects\CW\1076700_Cedar_Cove_Pty_Ltd_ATF_Coolbinia_Trust_TIS_135_Broadway_Nedlands\5_Technical\Traffic\Graphics\Swept Paths_Waste Truck_V1.dwg

APPENDIX 5 - Waste Management Plan

talis
delivering solutions

Assets | Engineering | Environment | Noise | Spatial | Waste

Waste Management Plan

135 Broadway, Nedlands

Prepared for Cedar Cove Pty Ltd ATF Coolbinia Trust

July 2019

Project Number: TW19066

DOCUMENT CONTROL

Version	Description	Date	Author	Reviewer
0a	Internal Review	25/07/19	RH	JW
1a	Released to Client	25/07/19	RH	Client

Approval for Release

Name	Position	File Reference
Ronan Cullen	Director and Waste Management Section Leader	TW19066 - Waste Management Plan.1a
Signature		

Executive Summary

Cedar Cove Pty Ltd ATF Coolbinia Trust is seeking development approval (DA) for the proposed mixed use development located at 135 Broadway, Nedlands (the Proposal).

To satisfy the conditions of the DA the City of Nedlands (the City) requires the submission of a Waste Management Plan (WMP) that will identify how waste is to be stored and collected from the Proposal. Cedar Cove Pty Ltd ATF Coolbinia Trust has engaged Talis Consultants (Talis) to prepare this WMP to satisfy the City's requirements.

A summary of the bin size, numbers, collection frequency and collection method is provided in the below table.

Proposed Waste Collection Summary

Waste Type	Generation (L/week)	Bin Size (L)	Number of Bins	Collection Frequency	Collection
Bin Storage Area					
Refuse	2,278	1,100	2	Twice each week	Private Contractor
Recycling	1,822	1,100	2	Once each week	Private Contractor

A private contractor will service the Proposal onsite, directly from the Bin Storage Area. The private contractor's waste collection vehicle will enter and exit the Proposal in forward gear via Broadway.

A caretaker will oversee the relevant aspects of waste management at the Proposal.

Table of Contents

Tables

Figures

Diagrams

1 Introduction

Cedar Cove Pty Ltd ATF Coolbinia Trust is seeking development approval (DA) for the proposed mixed use development located at 135 Broadway, Nedlands (the Proposal).

To satisfy the conditions of the DA the City of Nedlands (the City) requires the submission of a Waste Management Plan (WMP) that will identify how waste is to be stored and collected from the Proposal. Cedar Cove Pty Ltd ATF Coolbinia Trust has engaged Talis Consultants (Talis) to prepare this WMP to satisfy the City's requirements.

The Proposal is bordered by residential properties to the north, south and west and Broadway to the east, as shown in Figure 1.

1.1 Objectives and Scope

The objective of this WMP is to outline the equipment and procedures that will be adopted to manage all waste (refuse and recyclables) at the Proposal. Specifically, the WMP demonstrates that the Proposal is designed to:

- Adequately cater for the anticipated quantities of waste to be generated;
- Provide suitable Bin Storage Area(s) including appropriate bins; and
- Allow for efficient collection of bins by appropriate waste collection vehicles.

To achieve the objective, the scope of the WMP comprises:

- Section 2: Waste Generation;
- Section 3: Waste Storage;
- Section 4: Waste Collection;
- Section 5: Waste Management; and
- Section 6: Conclusion.

2 Waste Generation

The following sections show the waste generation rates used and the estimated waste volumes to be generated at the Proposal.

2.1 Proposed Tenancies

The anticipated volume of refuse and recyclables were based on the number of serviced apartments and the floor area (m^2) of the commercial tenancy at the Proposal. The Proposal consists of the following:

- Serviced Apartments – 26; and
- Café – 76m^2.

2.2 Waste Generation Rates

The estimated amount of refuse and recyclables to be generated by the Proposal is based on the City of Melbourne's *Guidelines for Preparing a Waste Management Plan* (2017).

Table 2-1 shows the waste generation rates applied to the proposed tenancies at the Proposal.

Table 2-1: Refuse and Recyclables Waste Generation Rates

Tenancy Type	Guidelines	Refuse Generation Rate	Recyclables Generation Rate
Serviced Apartments	City of Melbourne	35L/apartment/week	35L/apartment/week
Café	City of Melbourne	300L/100m²/day	200L/100m²/day

2.3 Waste Generation Volumes

Waste generation is estimated by volume in litres (L) as this is generally the influencing factor when considering bin size, numbers and storage space required.

2.3.1 Waste Generation

Waste generation volumes in litres per week (L/week) adopted for this waste assessment is shown Table 2-2. It is estimated that the Proposal will generate 2,278L of refuse and 1,822L of recyclables each week.

Table 2-2: Estimated Waste Generation

Serviced Apartments/Commercial Tenancy	Number of Apartments/Floor Area (m^2)	Waste Generation Rate	Waste Generation (L/Week)
Refuse			
Serviced Apartments	26	35L/apartment/week	910
Café	76	300L/100m²/day	1,368
		Total	**2,278**
Recyclables			
Serviced Apartments	26	35L/apartment/week	910
Café	76	200L/100m²/day	912
		Total	**1,822**

3 Waste Storage

To ensure that waste is managed appropriately at the Proposal, it is important to allow for sufficient space to accommodate the required quantity of bins within the Bin Storage Area. The procedures and bins to be used at the Proposal are described in the following sections.

3.1 Internal Bins

To promote positive recycling behaviour and maximise diversion from landfill, the Proposal will have two bins within each serviced apartment for the separate disposal of refuse and recyclables. Waste from these internal bins will be transferred by staff/cleaners to the Bin Storage Area and deposited into the appropriate refuse and recycling bins.

In addition, the commercial tenancy will have a minimum of two bins to facilitate the separate disposal of refuse and recyclables. The contents of these bins will be transferred by the tenant, staff or cleaners to the Bin Storage Area and be deposited into the appropriate bin.

3.2 Bin Storage Area

Waste materials generated within the Proposal will be collected in the bins located in the Bin Storage Area shown in Figure 2.

3.2.1 Bin Sizes

Table 3-1 gives the typical dimensions of standard bins sizes that may be used utilised at the Proposal. It should be noted that these bin dimensions are approximate and can vary slightly between suppliers.

Table 3-1: Typical Bin Dimensions

Dimensions	Bin Sizes			
	240L	360L	660L	1,100L
Depth (mm)	730	848	780	1070
Width (mm)	585	680	1260	1240
Height (mm)	1060	1100	1200	1300
Area (mm^2)	427	577	983	1327

Reference: SULO Bin Specification Data Sheets

3.2.2 Bin Storage Area Size

To ensure sufficient area is available for storage of the bins, the amount of bins required for the Bin Storage Area was modelled utilising the bin sizes in Table 3-1 and assuming collection of refuse twice each week and recyclables once each week from the Proposal.

Based on the results shown in Table 3-2 the Bin Storage Area has been sized to accommodate:

- Two 1,100L refuse bins; and
- Two 1,100L recyclable bins.

Table 3-2: Bin Requirements for Bin Storage Area

Waste Stream	Waste Generation (L/week)	Number of Bins Required			
		240L	360L	660L	1,100L
Refuse	2,278	5	4	2	2
Recycling	1,822	8	6	3	2

The configuration of these bins within the Bin Storage Area is shown in Figure 2. It is worth noting that the number of bins and corresponding placement of bins shown in Figure 2 represents the maximum requirements assuming two collections each week of refuse and one collection each week of recyclables. Increased collection frequencies would reduce the required number of bins.

3.2.3 Bin Storage Area Design

The design of the Bin Storage Area will take into consideration:

- Smooth impervious floor and evenly graded to an approved liquid waste disposal system;
- Fitted with wash down capabilities including a tap for washing of bins and Bin Storage Area;
- Adequate aisle width for easy manoeuvring of bins;
- No double stacking of bins;
- Doors to the Bin Storage Area to be self-closing and vermin proof;
- Doors to the Bin Storage Area are to be wide enough to fit bins through;
- Ventilated to a suitable standard so there is no nuisance for residence (e.g. odour);
- Appropriate signage for both the refuse and recyclable waste streams to assist cleaners, staff and tenants;
- Undercover where possible and be designed to not permit stormwater to enter into the drain;
- Located behind the building setback line;
- Bins concealed from view and conveniently located close to the vehicle access point; and
- Bins reasonably secured from theft and vandalism.

Bin numbers and storage space within the Bin Storage Area will be monitored by the caretaker during the operation of the Proposal to ensure that the number of bins and collection frequency is sufficient.

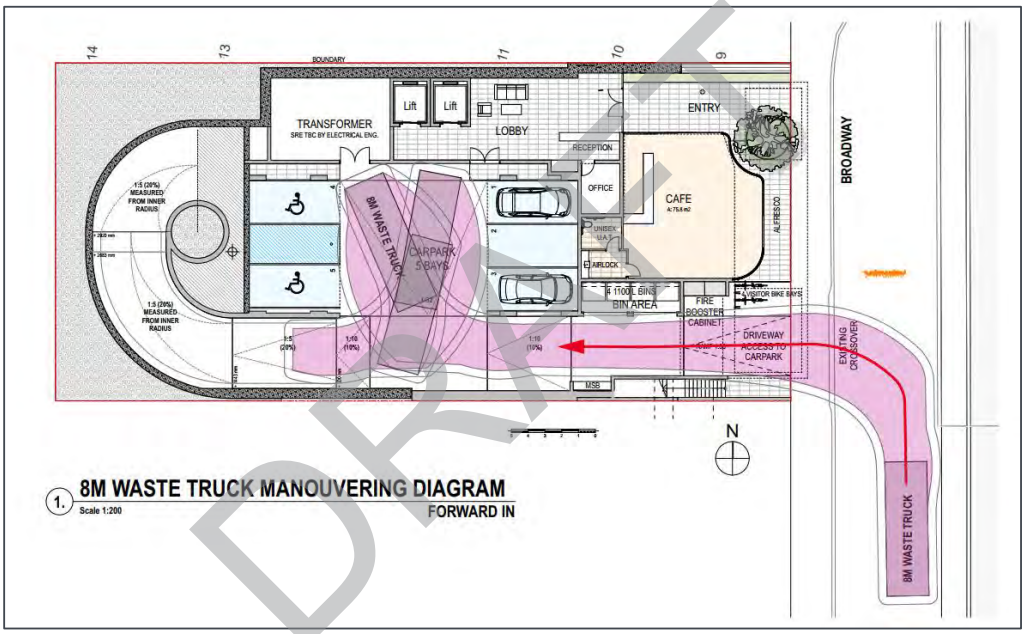
4 Waste Collection

A private contractor will service the Proposal and provide the serviced apartments and commercial tenancy with two 1,100L bins for refuse and two 1,100L bins for recyclables.

The private contractor will collect refuse twice each week and recyclables once each week utilising a rear loader waste collection vehicle.

The private contractor's rear loader waste collection vehicle will service the bins onsite, directly from the Bin Storage Area. The private contractors rear loader waste collection vehicle will travel with left hand lane traffic flow on Broadway and turn into the Proposal in forward gear, complete a multipoint turn within the Proposals carpark and pull up directly opposite the Bin Storage Area for servicing, as shown in Diagram 4-1.

Diagram 4-1: 8.0m Waste Collection Vehicle Manoeuvring – Forward In

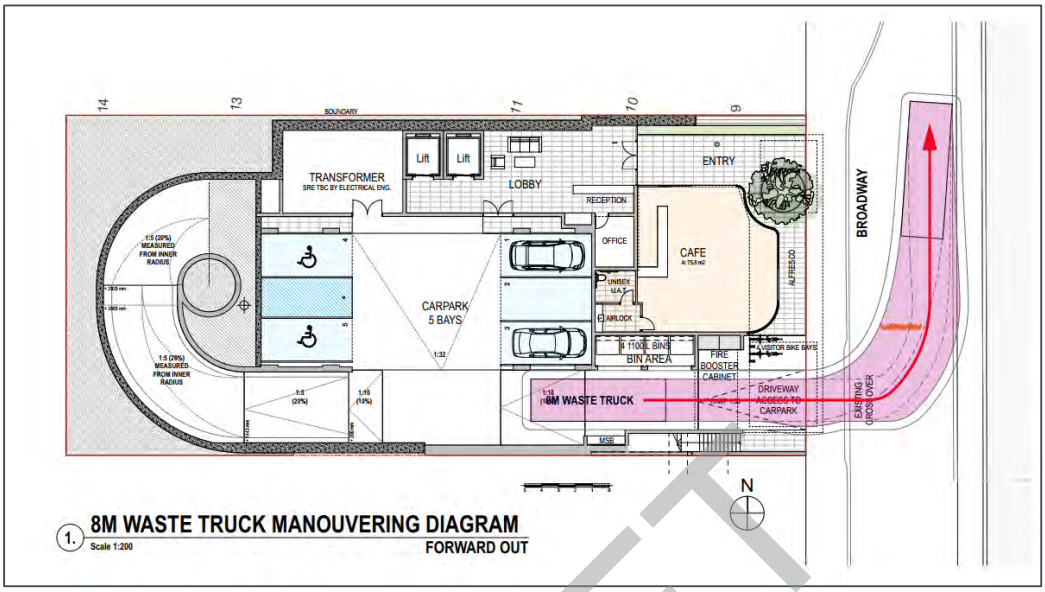


Reference: Mark Aronson Architecture, 25/7/19

Private contractor's staff will ferry bins to and from the rear loader waste collection vehicle and the bin storage area during servicing. The private contractor will be provided with key/PIN code access to the Bin Storage Areas and security access gates to facilitate servicing, if required.

Once servicing is complete the private contractor's rear loader waste collection vehicle will exit in a forward motion, turning left onto Broadway moving with traffic flow, as shown in Diagram 4-2.

Diagram 4-2: 8.0m Waste Collection Vehicle Manoeuvring – Forward Out



Reference: Mark Aronson Architecture, 25/7/19

The above servicing method will preserve the amenity of the area by removing the requirement for bins to be presented to the street on collection days. In addition, servicing of bins onsite will reduce the noise generated in the area during collection. Noise from waste vehicles must comply with the *Environmental Protection (Noise) Regulations* and such vehicles should not service the site before 7.00am or after 7.00pm Monday to Saturday, or before 9.00am or after 7.00pm on Sundays and Public Holidays.

The ability for the private contractors rear loader waste collection vehicle to access the Proposal in a safe manner has been assessed by qualified traffic engineers and be included within their traffic impact statement.

4.1 Bulk Waste and Greenwaste Collection

Bulk waste materials will be removed from the Proposal as they are generated. Removal of bulk waste will be monitored by the caretaker, who will liaise with staff, cleaners and tenants to assist with the removal of bulk waste, as required.

Greenwaste collection services will be provided by external contractors, as required. The caretaker will liaise with service providers to ensure an efficient and effective service is maintained.

5 Waste Management

A caretaker will be engaged to complete the following tasks:

- Monitoring and maintenance of bins and the Bin Storage Area;
- Cleaning of bins and Bin Storage Area, when required;
- Monitor bulk waste and greenwaste accumulation and assist with removal, as required;
- Regularly engage with tenants, staff and cleaners to develop opportunities to reduce waste volumes and increase resource recovery;
- Ensure all tenants, staff and cleaners are made aware of this WMP and their responsibilities thereunder;
- Monitor tenant, staff and cleaner behaviour and identify requirements for further education and/or signage; and
- Regularly engage with the appointed private waste contractor to ensure efficient and effective waste service is maintained.

6 Conclusion

As demonstrated within this WMP, the Proposal provides a sufficiently sized Bin Storage Area for storage of refuse and recyclables, based on the estimated waste generation and a suitable configuration of bins. This indicates that an adequately designed Bin Storage Area has been provided, and collection of refuse and recyclables can be completed from the Proposal.

The above is achieved using:

- Two 1,100L refuse bins, collect twice each week; and
- Two 1,100L recycling bins, collected once each week.

A private contractor will service the Proposal onsite, directly from the Bin Storage Area. The private contractor's waste collection vehicle will enter and exit the Proposal in forward gear via Broadway.

A caretaker will oversee the relevant aspects of waste management at the Proposal.

Figures

P PO Box 454, Leederville WA 6903 | A 604 Newcastle St, Leederville WA 6007 | T 1300 251 070 | W www.talisconsultants.com.au

LEGEND

- Site Boundary
- Cadastre

LOCALITY
135 Broadway
Nedlands WA 6009

maarch*

0 4 8 12 16 20 metres
Coordinate System: GDA 1994 MGA Zone 50
Projection: Transverse Mercator, Datum: GDA 1994
Scale @ A3: 1:500

Prepared:	F Walker	Date:	25/07/2019
Checked:	J Wroe	Project No:	TW19066
Reviewed:	R Hayton	Revision:	A

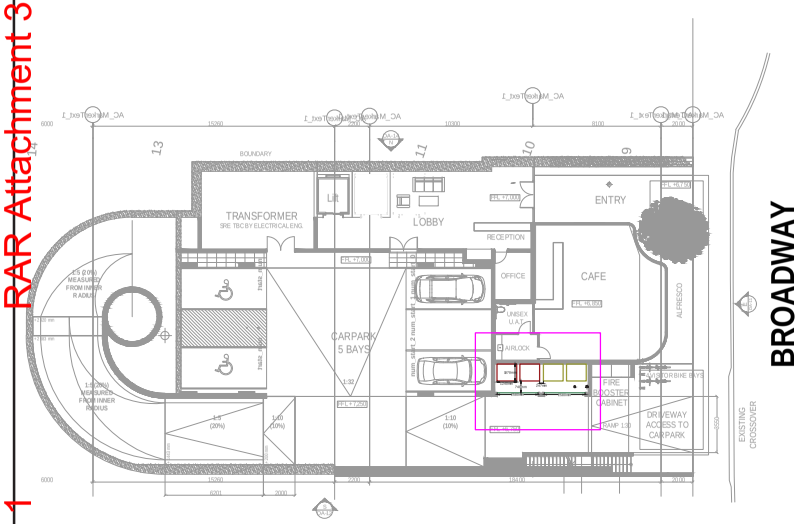
talis delivering solutions

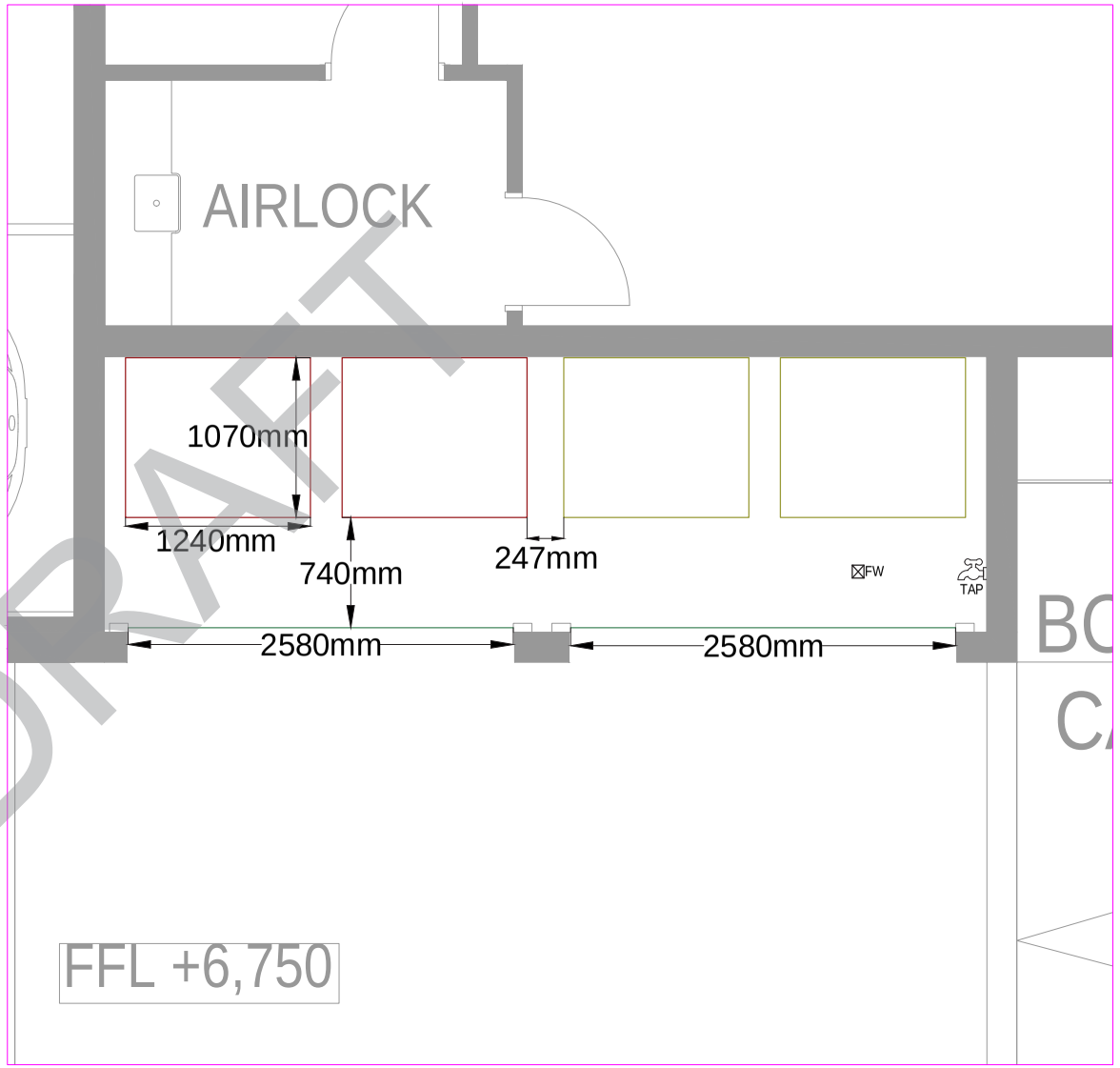
Figure 01

Data source: Satellite Imagery - Landgate, 2019

Document Path: \\server\Talis\SECTIONS\Waste\PROJECTS\TW2019\TW19066 - 135 Broadway, Nedlands WMP\GIS\Maps\TW19066_01_Locality_RevA.mxd

BIN STORAGE AREA





Legend:

Bin Storage Area

- 2 x 1100L refuse (1070mm x 1240mm)
- 2 x 1100L recycling (1070mm x 1240mm)

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www.talisconsultants.com.au T: 1300 251 070
ASSET MANAGEMENT, CIVIL ENGINEERING, ENVIRONMENTAL SERVICES, SPATIAL INTELLIGENCE, WASTE MANAGEMENT, NOISE MANAGEMENT
Level 1 604 Newcastle Street, Leederville WA 6007
PO Box 454, Leederville WA 6903

Client: Cedar Cove Pty Ltd ATF Coolbinia Trust

NOTES
1. This drawing is the property of Talis Consultants Pty Ltd. It is a confidential document and must not be copied, used, or its contents divulged without prior written consent.
2. All levels refer to Australian Height Datum.
3. DO NOT SCALE, use figured dimensions only, if in doubt please contact Talis Consultants.

No.	Date	Drawn	Chkd	Amendment / Issue	App.
A	25/07/19	RH	JW	FIRST ISSUE	JW

Project: 135 Broadway, Nedlands

Title: Bin Storage Area

Drawn by:	RH	Job No:	TW19066
Checked by:	DP	File No:	TW19066DWG001
Approved by:	RH	Fig. No:	002
Scale:	NTS	Rev:	A
Date:	25/07/19		

Talis Consultants

Level 1, 604 Newcastle Street,
Leederville,
Western Australia 6007

PO Box 454,
Leederville,
Western Australia 6903

Phone: 1300 251 070
Email: info@talisconsultants.com.au

APPENDIX 6 - Statement of Design Intent

LOT 684, 135 Broadway, Nedlands

design principles

maarch*
*Mark Arcmen Architecture | RESIDENTIAL COMMERCIAL SPECIAL PROJECTS

Prepared by **maarch***
Issue Date: 17/07/2019

introduction

This report has been prepared by Maarch* and Propagule on behalf of Cedar Cove Pty Ltd, in support of the application to construct 26 Serviced Apartments and Cafe at Lot 684, 135 Broadway Nedlands.

This development will predominantly be a high end, multi-storey residential development with special consideration throughout for interactive gardens and outdoor café and social spaces at street level.

PROJECT CONSIDERATIONS

Comfort & Enjoyment

The design takes into consideration the personal experience of its occupants by providing well considered architectural spaces. The apartments on the East open out to the street with some offering views overlooking Swan River and are positioned in angles to receive northern sun. The West facing apartments provide a connection to the Courtyard which is the heart of the design.
Overall the apartments have been designed to receive ample natural light and ventilation with a focus on outdoor living.

Attractive Outcome to the Neighbourhood

The concept of carved out pockets and north facing angles create an interesting street facade to pedestrians viewing from different angles. The cafe at street level offers a friendly front opening onto and activating the street.

The design integrates a well considered Landscape Design offering a high level of amenity to its surrounds- refer to Landscape Design Statement.

maarch*

concept

Architecture and Landscape derived from sedimentary geometries of the natural locale.

maarch*

sand bar patterns + geology

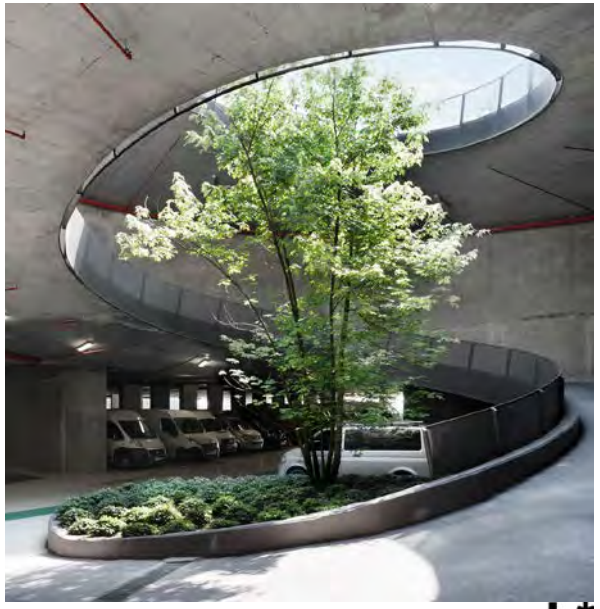
The building mass is carved out with pockets that mimic weathered limestone seen in coastal WA.

maarch*

sand bar patterns + geology

Sand bar patterns have inspired the geometries used in the building form and landscaping.

The design draws inspiration from the local context and the site setting. This end of Broadway is well-loved by local residents and apartment owners as a quiet understated place with strong links to the Swan river along Crawley's foreshore to Pelican Point. The serpentine geometries of paving and planting design makes stylised references to the shallow sandbars and bathymetric expression of the River's edge and the water-form patterns it creates.

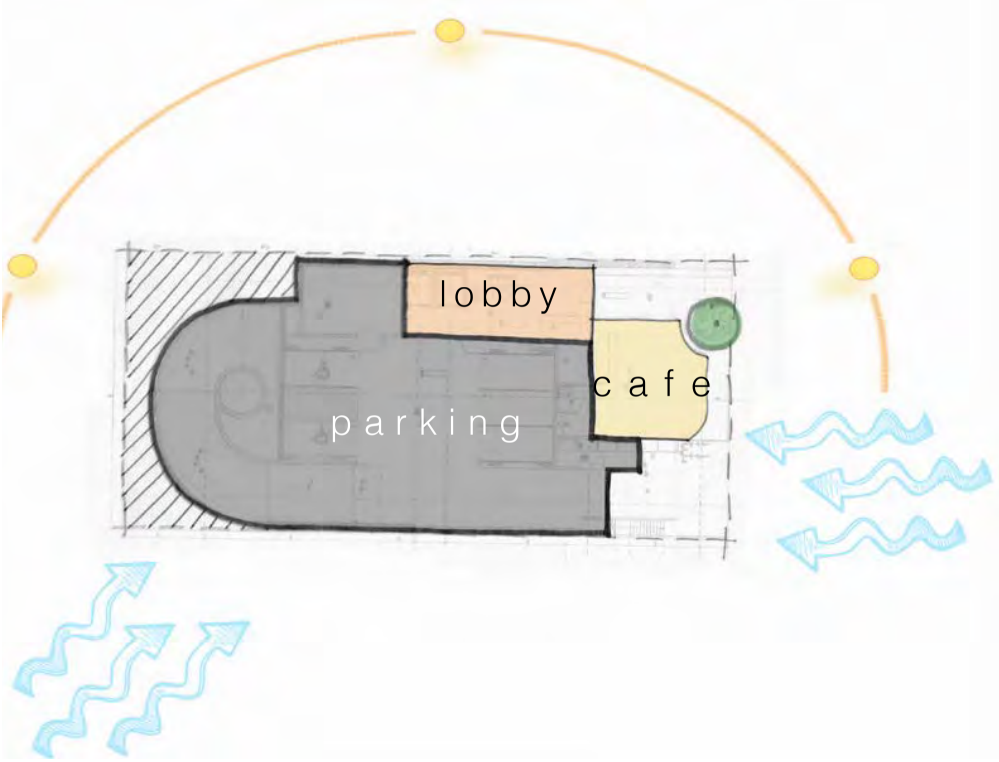


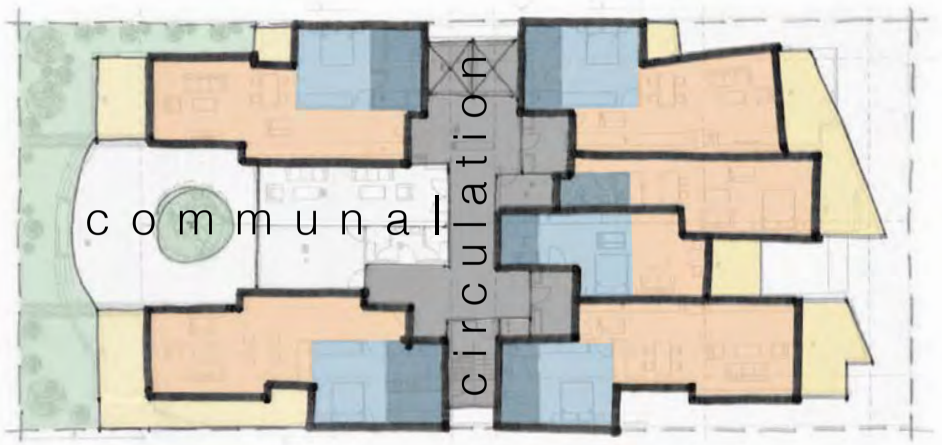
maarch*

maarch*

space planning

- Cafe, lobby and apartment living spaces positioned for optimal solar access.
- Bathrooms act as a buffer from main circulation areas.
- Communal areas are centrally located and directly connected to circulation spine.





second floor plan

typical floor plan

private open space
living/dining
bedroom
bathroom

maarch*

natural light

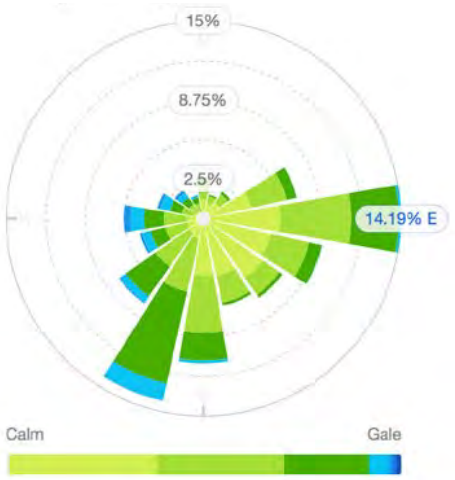
second floor plan

typical floor plan

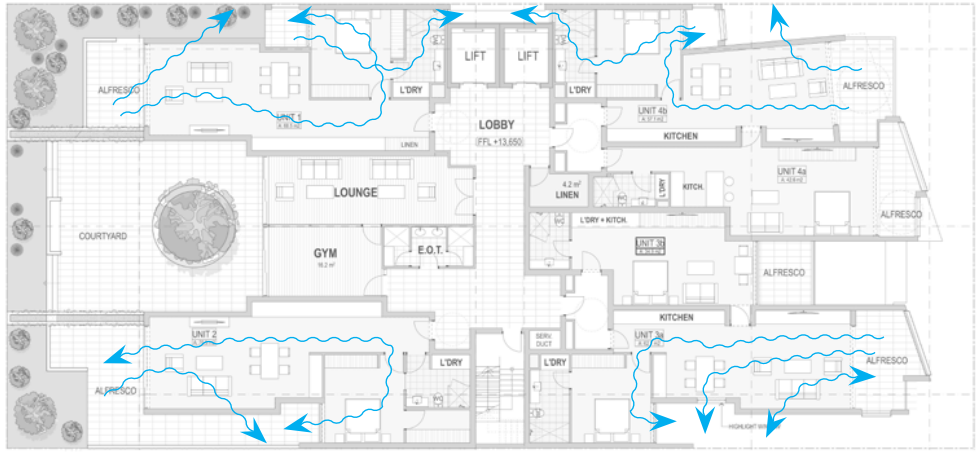
sixth floor plan

maarch*

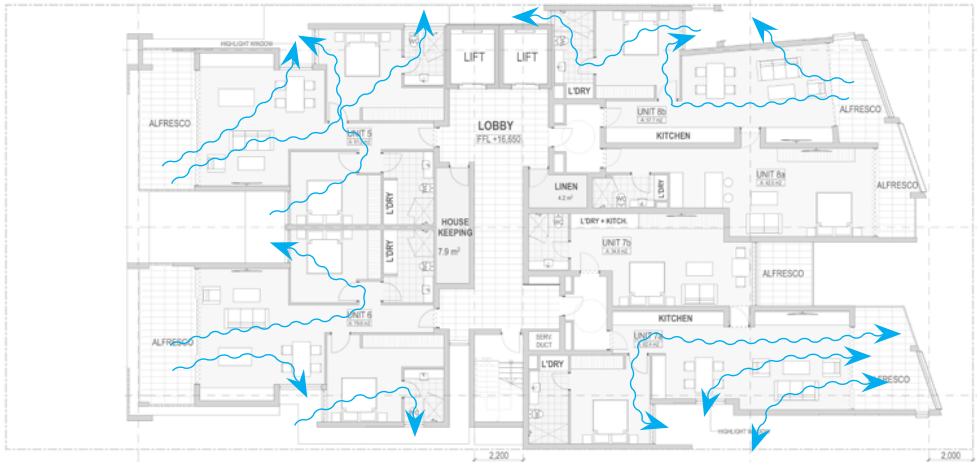
ventilation diagrams



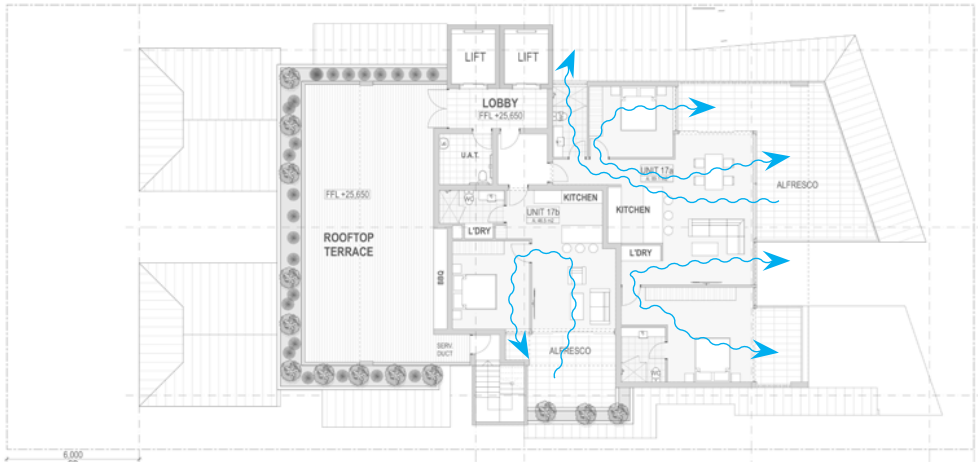
nedlands wind rose



second floor plan



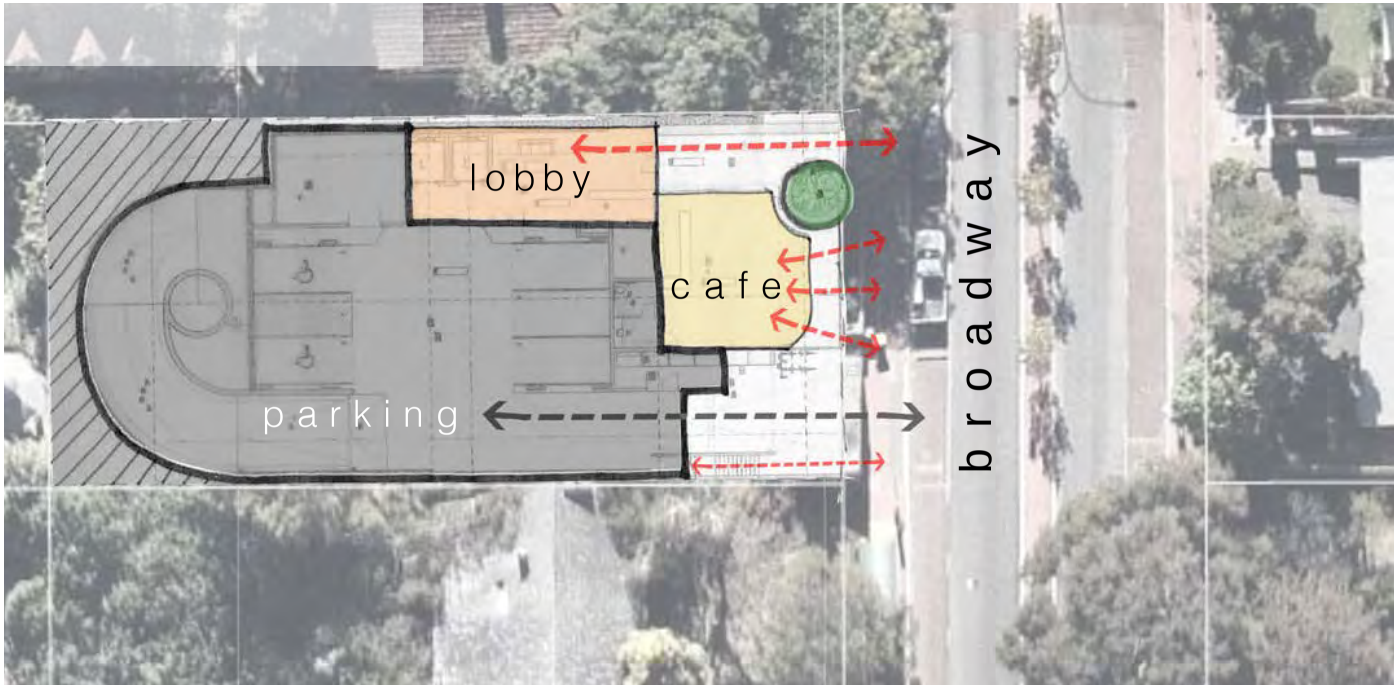
typical floor plan



sixth floor plan

street activation

- Proposed cafe located at street level and opens out to the street.
- Direct access to the apartment lobby from street.
- Balconies lookout on to the street.



maarch*

view
from broadway

maarch*

maarch*

response to preliminary assessment

PART 2	PRIMARY CONTROLS	PRELIMINARY COMMENTS	MAARCH* RESPONSE AND AMENDMENTS
O 2.2.4	The height of development recognises the need for daylight and solar access to adjoining and nearby residential development, communal open space and in some cases, public spaces.	Need more information to determine where the overshadowing occurs on the neighbouring property and how this will impact future development on the site.	Shadow diagrams included in set- refer **SK-16**
O 2.4.1	Building boundary setbacks provide for adequate separation between neighbouring properties.	3 storey boundary wall height permitted. Proposed boundary wall development to 6 storeys to both the northern and southern side lot boundaries – the length is short, but the height is excessive especially to the southern side. Other setbacks determined by BS and VP Larger setbacks required to north and south for rear units due to reduced VP setbacks to bedrooms and rear balconies Provided 4.8m in lieu of 6m (VP setback) to rear lot boundary	The boundary wall on the southern side has now been reduced to 4 storeys from its natural ground level. The rear setback has been adjusted to 6m **(refer overlooking diagram SK-18)**
O 2.4.2	Building boundary setbacks are consistent with the existing streetscape pattern or the desired streetscape character.	Reduction in the height of the boundary walls may be required – especially to the southern side.	Boundary wall on the southern side has been reduced by one storey
O 2.4.4	The setback of development from side and rear boundaries provides a transition between sites with different land uses or intensity of development.	The development to the north and south is likely to be similar to this subject property and the setback provided to the rear provides a transition to the R60 at the rear which is permitted to be 3 storeys.	Rear setbacks have been changed to 6m. Refer to floor plans **SK-6** to **SK-9**

PART 2	PRIMARY CONTROLS	PRELIMINARY COMMENTS	MAARCH* RESPONSE AND AMENDMENTS
O 2.7.1	New development supports the desired future streetscape character with spaces between buildings.	3.55m between balconies on site Need more info for neighbouring properties	The amended design now includes screens that have been integrated to the architectural scheme. This allows for privacy to neighbouring properties as well as between apartments **(refer overlooking diagrams SK-18)**
O 2.7.3	Buildings are separated sufficiently to provide for residential amenity including visual and acoustic privacy, natural ventilation, sunlight and daylight access and outlook.	Looks to be the case on upper floors externally but not internally and require more info for lower levels to neighbouring properties.	Same as above: refer to architectural drawings and perspectives.
O 3.3.1	Building boundary setbacks are consistent with the existing streetscape pattern or the desired streetscape character.	Appears to have no mature trees on site but survey plan to be submitted to confirm this. Please also provide information on the trees immediately south of the development.	Survey Plan included in drawings. Please refer to **SK-19**
O 3.4.3	Communal open space is designed and oriented to minimise impacts on the habitable rooms and private open space within the site and of neighbouring properties.	Please provide more information on what impact this area will have on the privacy of neighbouring properties?	The communal courtyard on the second floor level has an integrated landscape design that allows for privacy through planting selections as well as the sunken aspect of the courtyard. The rooftop terrace has a generous setback from the rear and has adequate screening by means of planting.
O 3.5.1	The orientation and design of buildings, windows and balconies minimises direct overlooking of habitable rooms and private outdoor living areas within the site and of neighbouring properties, while maintaining daylight and solar access, ventilation and the external outlook of habitable rooms.	Please provide more information in relation to visual privacy – are there screens? Is there any obscured glazing? If not – what areas of the neighbouring properties are being overlooked? Will the landscaping provided, provide screening?	Please refer to overlooking diagram **SK-18** Ample privacy provided by means of screens, appropriate planting and highlight windows. Refer to Landscape Drawings for information on species selection and planting layouts.

PART 2	PRIMARY CONTROLS	PRELIMINARY COMMENTS	MAARCH* RESPONSE AND AMENDMENTS
O 3.7.1	Entries and pathways are universally accessible, easy to identify and safe for residents and visitors.	Pedestrian access is somewhat recessed to allow more space for the café. Could be brought forward or more information provided through renders to demonstrate the identifiable nature of the entry.	The pedestrian entry is expressed with a canopy design that accentuates the entry. The cutout for the tree within the canopy extends over and provides prominence to the entry. The landscape design along the entry provides a friendly welcome.
O 3.8.1	Vehicle access points are designed and located to provide safe access and egress for vehicles and to avoid conflict with pedestrians, cyclists and other vehicles.	One vehicle access point provided in location similar to existing and hence there is no need to remove any on-street bays. The door is recessed to allow pulling into the driveway without queuing in the street and wide enough to ensure sightlines are safe. Need to demonstrate why two-way access is not required with measures to be installed to prevent conflict or queuing issues.	**Refer to traffic consultant's documentation.**
O 3.8.2	Vehicle access points are designed and located to reduce visual impact on the streetscape.	Need crossover to be shown on a site plan.	Cross over included in drawings.
O 3.9.1	Parking and facilities are provided for cyclists and other modes of transport.	Bicycle parking is located on first floor rather than ground floor with space enough for min. 3 to be provided – no publicly available bicycle parking Potentially require another bicycle parking bay to be provided at street level which is not behind a barrier – especially for the café. Space enough on property to not require location in verge. Need a motorcycle bay to be provided	4 visitor bicycle bays provided next to the cafe which are easily accessible from the street.
O 3.9.2	Carparking provision is appropriate to the location, with reduced provision possible in areas that are highly walkable and/or have good public transport or cycle networks and/or are close to employment centres.		A motorcycle bay has now been provided

PART 2	PRIMARY CONTROLS	PRELIMINARY COMMENTS	MAARCH* RESPONSE AND AMENDMENTS
O 4.1.1	In climate zones 4, 5 and 6: the development is sited and designed to optimise the number of dwellings receiving winter sunlight to private open space and via windows to habitable rooms. (Perth is Zone 5)	Almost all apartments have access to northern sun for the units with approx. 15% receiving no sunlight. There is an opportunity to have windows (highlight or otherwise) installed to the northern walls of most units to improve light and ventilation.	Additional windows have now been integrated into the design. Refer to ventilation diagram of this document and architectural drawings.
O 4.1.2	Windows are designed and positioned to optimise daylight access for habitable rooms.	All habitable rooms have windows – elevations to be provided to demonstrate the amount of glazing.	Additional windows have now been integrated into the design. Refer to ventilation diagram of this document and architectural drawings.
O 4.1.3	The development incorporates shading and glare control to minimise heat gain and glare: from mid-spring to autumn in climate zones 4, 5 and 6 AND year-round in climate zones 1 and 3.	More info to be provided with elevations showing shading devices.	The balconies overhang adquately- refer **SK-15** (Section 1)
O 4.2.1	Development maximises the number of apartments with natural ventilation.	Minimal cross ventilation opportunities in all apartments on floors 1-5. There is an opportunity to have windows (highlight or otherwise) installed to the northern walls of most units to improve light and ventilation.	Additional windows have now been integrated into the design. Refer to ventilation diagram of this document and architectural drawings.
O 4.2.2	Individual dwellings are designed to optimise natural ventilation of habitable rooms.	Each habitable room should be provided with openable window	Each habitable room has been provided with openable windows.
O 4.2.3	Single aspect apartments are designed to maximise and benefit from natural ventilation.	Depth is 4x the height at worst case – more info required in relation to prevailing wind. Require ventilation diagrams	Refer to ventilation diagram of this document and architectural drawings.

PART 2	PRIMARY CONTROLS	PRELIMINARY COMMENTS	MAARCH* RESPONSE AND AMENDMENTS
O 4.1.1	In climate zones 4, 5 and 6: the development is sited and designed to optimise the number of dwellings receiving winter sunlight to private open space and via windows to habitable rooms. (Perth is Zone 5)	Almost all apartments have access to northern sun for the units with approx. 15% receiving no sunlight. There is an opportunity to have windows (highlight or otherwise) installed to the northern walls of most units to improve light and ventilation.	Additional windows have now been integrated into the design. Refer to ventilation diagram of this document and architectural drawings.
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O 4.1.3	The development incorporates shading and glare control to minimise heat gain and glare: from mid-spring to autumn in climate zones 4, 5 and 6 AND year-round in climate zones 1 and 3.	More info to be provided with elevations showing shading devices.	The balconies overhang adquately- refer **SK-15** (Section 1)
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O 4.2.3	Single aspect apartments are designed to maximise and benefit from natural ventilation.	Depth is 4x the height at worst case – more info required in relation to prevailing wind. Require ventilation diagrams	Refer to ventilation diagram of this document and architectural drawings.

PART 2	PRIMARY CONTROLS	PRELIMINARY COMMENTS	MAARCH* RESPONSE AND AMENDMENTS
O 4.5.2	Circulation and common spaces are attractive, have good amenity and support opportunities for social interaction between residents.	No bedrooms or living areas open onto common spaces. More information to be provided with application in terms of lobby appearance	Refer to space planning diagram of this document.
O 4.7.1	The siting and layout of development minimises the impact of external noise sources and provides appropriate acoustic privacy to dwellings and on-site open space.	Acoustic report to be provided with DA	**Refer to Acoustic Report**
O 4.7.2	Acoustic treatments are used to reduce sound transfer within and between dwellings and to reduce noise transmission from external noise sources.		
O 4.11.1	Roof forms are well integrated into the building design and respond positively to the street.	More information to be provided with application showing building services locations	The roof form is integrated into the architectural design contributing to the overall cubic form(s) of the building
O 4.11.2	Where possible, roof spaces are utilised to add open space, amenity, solar energy generation or other benefits to the development.	Roof space used to provide more open space – potential to also provide solar PV	Gas boosted hot water units and solar PV panels located in roof- refer to **SK-9**
O 4.12.1	Landscape design enhances streetscape and pedestrian amenity; improves the visual appeal and comfort of open space areas; and provides an attractive outlook for habitable rooms.	Street tree provided within property – minimal other forms of landscaping provided as visible from the street	Refer to Landscape architects drawings.

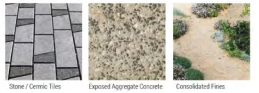
PART 2	PRIMARY CONTROLS	PRELIMINARY COMMENTS	MAARCH* RESPONSE AND AMENDMENTS
O 4.12.2	Plant selection is appropriate to the orientation, exposure and site conditions and is suitable for the adjoining uses.	Deep tree root zone located to provide screening to residents and ground floor amenity for guests. Detailed landscaping plan to be provided.	Refer to Landscape architects drawings.
O 4.12.3	Landscape design includes water efficient irrigation systems and where appropriate incorporates water harvesting or water re-use technologies.		
O.4.12.4	Landscape design is integrated with the design intent of the architecture including its built form, materiality, key functional areas and sustainability strategies.		
O 4.14.2	A safe and secure living environment for residents is maintained through the design and management of the impacts of non-residential uses such as noise, light, odour, traffic and waste.	Need more information in relation to waste generation and collection, staffing arrangements, car parking booking system and opening hours of the café.	**Refer to Waste Management plan. Management Plan to be provided by owner.**
O 4.15.1	Reduce energy consumption and greenhouse gas emissions from the development.	Need to demonstrate energy efficiency initiative or provide NATHERS report	**Refer to NATHERS Report.**
O 4.17.2	Waste to landfill is minimised by providing safe and convenient bins and information for the separation and recycling of waste.	Waste management plan to be provided with application and demonstration that area provided is sufficiently large to provide for development.	**Refer to Waste Management plan.**
4.18	Utilities	More information to be provided in relation to utilities location and design	A/C condensers, fire boosters, main switchboard, transformer and other ulities located on architectural drawings. Refer to SK-3 & SK-4.

APPENDIX 7 - Landscape Plan

LEGEND TYPICAL MATERIAL SELECTIONS

- **PUBLIC PAVING** red brick interlocking pavers to match existing footpath
- **CONCRETE PAVING** exposed aggregate coloured concrete
- **PERMEABLE GRAVEL PAVING** consolidated zamerstone fines | ferricrete fines
- **FEATURE TILED PAVING** stone | ceramic tiles
- **TIMBER DECKING** composite planks on light-weight substructure
- **EXISTING | PROPOSED TREE** to be retained and protected
- **MASS PLANTING | SHADE** groundcovers with feature shrubs
- **MASS PLANTING | PART SHADE** groundcovers with feature shrubs
- **MASS PLANTING | FULL SUN** groundcovers with feature shrubs

PAVING MATERIALS



Stone / Ceramic Tiles | Exposed Aggregate Concrete | Consolidated Fines

TYPICAL FENCING

F1 Galvanised painted steel UC posts | Off-form concrete plinth | Brushwood panels

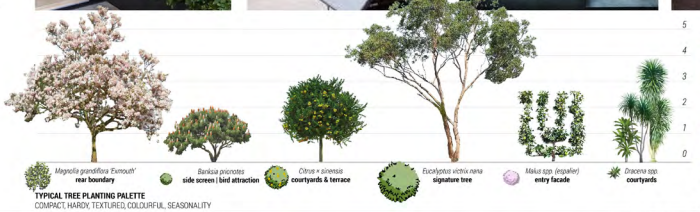
TYPICAL PLANTING PALETTE

Species Name	Pot Size	Density	Mature Size
Full Sun Mix			
Acacia 'Limelight'	130mm	2/sqm	0.6m
Carpobrotus virescens	130mm	4/sqm	0.2m
Casuarina glauca	130mm	4/sqm	0.5m
Conostylis candicans	130mm	4/sqm	0.3m
Dianella 'Little Rev'	130mm	4/sqm	0.4m
Eremophila glabra	130mm	4/sqm	0.3m
Lomandra longifolia 'Lime Jet'	12L	4/sqm	1m
Pimelea ferruginea	130mm	4/sqm	0.4m
Sun / Shade Mix			
Banksia spinulosa	130mm	4/sqm	0.6m
Calothamnus quadrifidus	130mm	2/sqm	0.8m
Dichondra 'Silver Falls'	130mm	4/sqm	0.1m
Hibbertia scandens	130mm	4/sqm	0.1m
Liriope muscari 'Evergreen Giant'	130mm	4/sqm	0.5m
Myoporum parvifolium	130mm	4/sqm	0.1m
Thymus citriodora	130mm	4/sqm	0.3m
Trachelium rigerum	12L	2/sqm	1.2m
Full Shade Mix			
Cordyline fruticosa	12L	4/sqm	1.5m
Cunonia pedunculatum	130mm	2/sqm	1.5m
Dichondra repens	seeded	20g/sqm	0.1m
Dracena fragrans	130mm	2/sqm	1.2m
Viola hederacea	130mm	4/sqm	0.1m
Ophiopogon japonicus variegata	130mm	4/sqm	0.3m
Zamia furfuracea	12L	1/sqm	1.5m

REAR TERRACE (LEVEL 1)

ROOF TERRACE (LEVEL 6)
scale 1:200@A2

STREET FRONTAGE (GROUND FLOOR)



TYPICAL TREE PLANTING PALETTE
COMPACT, HARDY, TEXTURED, COLOURFUL, SEASONALITY

TYPICAL UNDERSTOREY PLANTING PALETTE
COMPACT, HARDY, TEXTURED, COLOURFUL

propagule

CEDAR COVE | BROADWAY APARTMENTS
135 BROADWAY, NEDLANDS, WA

LANDSCAPE DEVELOPMENT APPLICATION

0 1 2 3 4 5m

AUTHOR: JC
CHECKED: MA
PROJECT NO: P19-024
SCALE: 1:100 @ A2
DATE: 17.07.2019

LEGEND

TYPICAL MATERIAL SELECTIONS

- **PUBLIC PAVING** red-brick interlocking pavers to match existing footpath
- **CONCRETE PAVING** exposed aggregate coloured concrete
- **PERMEABLE GRAVEL PAVING** consolidated summerstone fines | ferricrete fines
- **FEATURE TILED PAVING** stone | ceramic tiles
- **TIMBER DECKING** composite planks on light-weight substructure
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- **MASS PLANTING | SHADE** groundcovers with feature shrubs
- **MASS PLANTING | PART SHADE** groundcovers with feature shrubs
- **MASS PLANTING | FULL SUN** groundcovers with feature shrubs

PAVING MATERIALS

Stone / Cermic Tiles | Exposed Aggregate Concrete | Consolidated Fines

TYPICAL FENCING

F1 Galvanised painted steel UC posts | Off-form concrete plinth | Brushwood panels

TYPICAL PLANTING PALETTE

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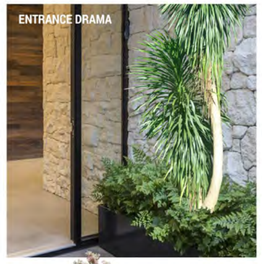
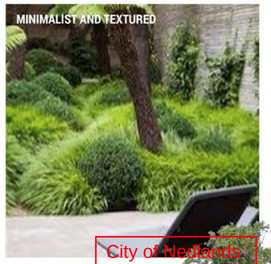
Casurania glauca	130mm	4/sqm	0.5m
Conostylis candicans	130mm	4/sqm	0.3m
Dianella 'Little Rev'	130mm	4/sqm	0.4m
Eremophila glabra	130mm	4/sqm	0.3m
Lomandra longifolia 'Lime Jet'	12L	4/sqm	1m
Pimelea ferruginea	130mm	4/sqm	0.4m
Sun / Shade Mix			
Banksia spinulosa	130mm	4/sqm	0.6m
Calothamnus quadrifidus	130mm	2/sqm	0.8m
Dichondra 'Silver Falls'	130mm	4/sqm	0.1m
Hibbertia scandens	130mm	4/sqm	0.3m
Liriope muscari 'Evergreen Giant'	130mm	4/sqm	0.5m
Myoporum parvifolium	130mm	4/sqm	0.1m
Thymus citriodora	130mm	4/sqm	0.3m
Strelitzia reginae	12L	2/sqm	1.2m
Full Shade Mix			
Cordyline fruticosa	12L	4/sqm	1.5m
Crinum pedunculatum	130mm	2/sqm	1.5m
Dichondra repens	seeded	20g/sqm	0.1m
Dracena fragrans	130mm	2/sqm	1.2m
Viola hederacea	130mm	4/sqm	0.1m
Ophiopogon japonicus variegata	130mm	4/sqm	0.3m
Zamia furfuracea	12L	1/sqm	1.5m

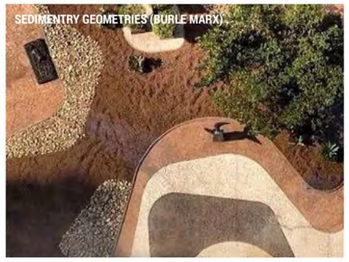
REAR TERRACE (LEVEL 1)

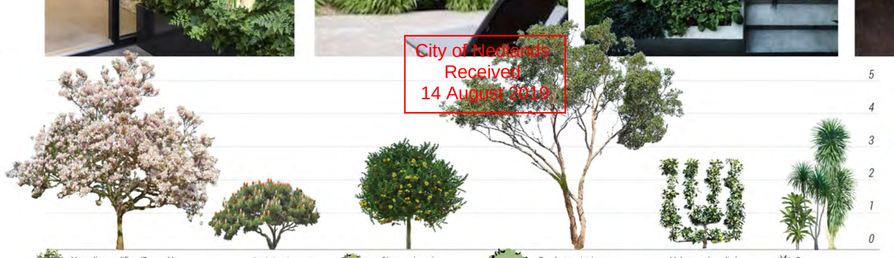
ROOF TERRACE (LEVEL 6)
scale 1:200@A2

STREET FRONTAGE (GROUND FLOOR)









TYPICAL TREE PLANTING PALETTE
COMPACT, HARDY, TEXTURED, COLOURFUL, SEASONALITY

TYPICAL UNDERSTOREY PLANTING PALETTE
COMPACT, HARDY, TEXTURED, COLOURFUL

propagule

CEDAR COVE | BROADWAY APARTMENTS
135 BROADWAY, NEDLANDS, WA

LANDSCAPE DEVELOPMENT APPLICATION

AUTHOR:	JC
CHECKED:	MA
PROJECT NO:	P19-024
SCALE:	1:100 @ A2
DATE:	17.07.2019

0 1 2 3 4 5m

Transport Impact Statement

135 Broadway, Nedlands

CW1076700

Prepared for

Cedar Cove Pty Ltd ATF Coolbinia Trust

31 July 2019

Cardno

Contact Information

Cardno (WA) Pty Ltd
ABN 77 009 119 000

11 Harvest Terrace
West Perth WA 6005
Australia

www.cardno.com
Phone +61 8 9273 3888
Fax +61 8 9486 8664

Document Information

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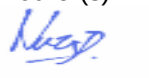
Author(s):



Nuzra Davahir
Graduate Traffic Engineer

Effective Date 31/07/2019

Approved By:

Ray Cook
Manager – Traffic and Transport Planning

Date Approved 31/07/2019

Document History

Version	Effective Date	Description of Revision	Prepared by	Reviewed by
A	31/07/19	For Issue	ND	SGL

Table of Contents

Appendices

Tables

Figures

1 Introduction

1.1 Background

Cardno was commissioned by Cedar Cove Pty Ltd ATF Coolbinia Trust ('the Client') to prepare a Transport Impact Statement (TIS) for the proposed multi storey development located at 135, Broadway, Nedlands within the *City of Nedlands* (**Figure 1-1***).*

This TIS has been prepared in accordance with the *Western Australian Planning Commission (WAPC) Transport Impact Assessment Guidelines for Developments: Volume 4 – Individual Developments (2016)* and the checklist is included at **Appendix A.**

Figure 1-1 Aerial Image of Site location

Source: Nearmap

The Site is zoned as 'mixed use' within the *City of Nedlands Planning Scheme No.3.* **Figure 1-2** depicts the land use zones of the Site and the surrounding area.

Figure 1-2 Zoning

Source: City of Nedlands Local Planning Scheme No.3

1.2 Existing Road Network

The Site is surrounded by Broadway to the east and other residential land uses to the north, south, and west. The surrounding road network is further described in **Table 1-1.**

Table 1-1 Surrounding Road Network

Street Names	Road Hierarchy		Road Network			
	Road Hierarchy	Jurisdiction	No. of Lanes	No. of Footpaths	Width (m)	Posted Speed (km/h)
Broadway	Distributor B	Local Govt.	2	2	9.6 (2m median)	50
Princess Road	Local Distributor	Local Govt.	2	2	7.2	50
Kingsway	Access Road	Local Govt.	2	1	6	50

Figure 1-3 shows the hierarchy of the surrounding road network as per the *Main Roads Road Information Mapping System.*

Figure 1-3 Road Network

Source: Road Information Mapping System

1.3 Traffic Volumes

Traffic volumes were obtained from the City of Nedlands and are summarised in **Table 1-2** below.

Table 1-2 Traffic Volumes

Road Name	Year	Average Weekday Daily Traffic Volume	% HV
Broadway (Between Elizabeth & Capon)	2015	7,455	6.8%
Kingsway (Between Princess Road and Melvista Avenue)	2007	263	1.9%
Princess Road (Between Kingsway and Broadway)	2006	5,410	1.2%

2 Public Transport Facilities

2.1 Existing Public Transport Facilities

The nearest bus stops are located on Broadway as shown in **Figure 2-1**. The bus stop is serviced by Route 24 travelling to East Perth and Claremont Station. Other bus stops are located on Bruce Street (approximately 400 m away), serviced by Route 23 to Elizabeth Quay Bus Station and Fairway (approximately 180 m away), serviced by Route 97 to Crawley.

Figure 2-1 Nearest Bus Stops

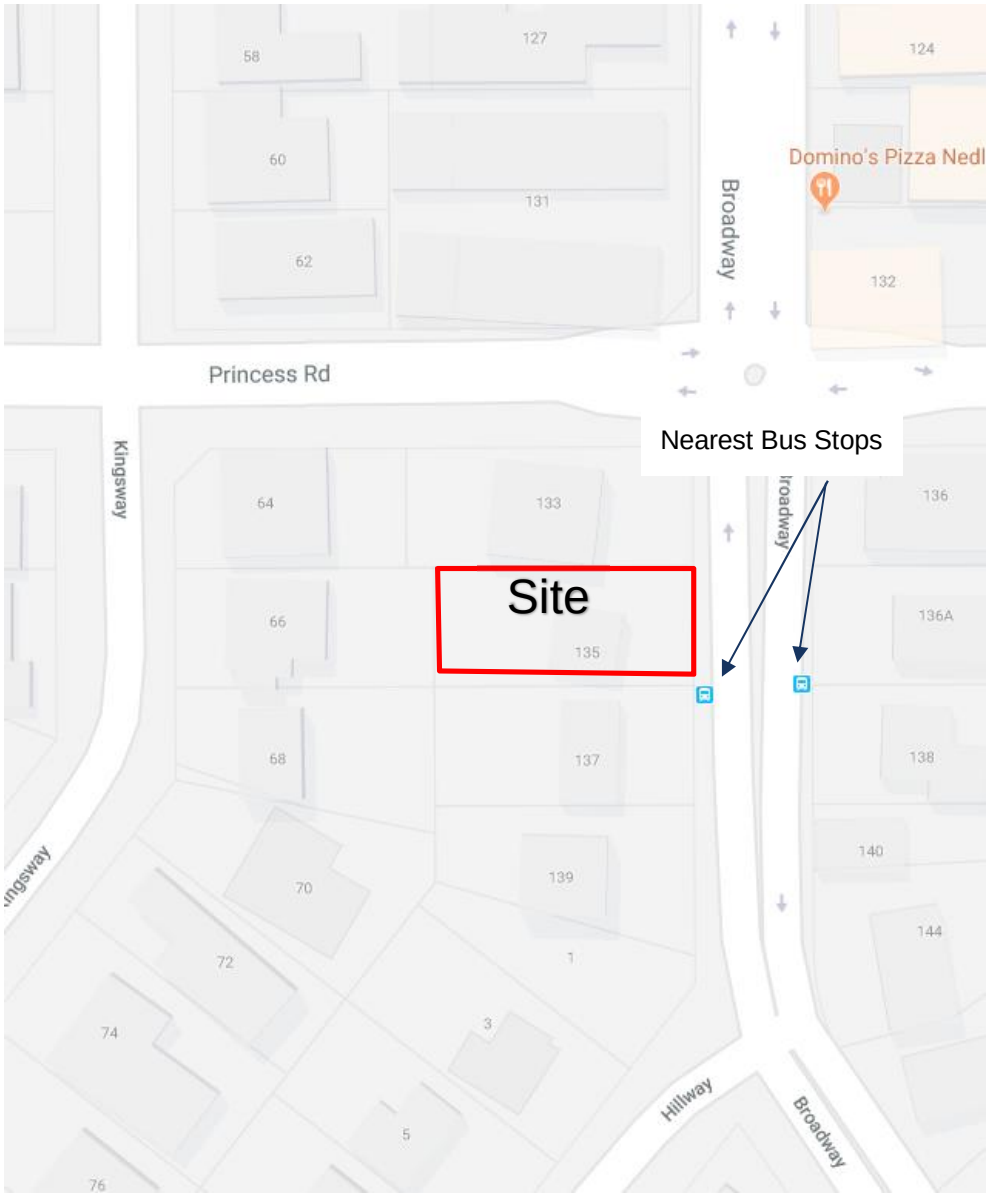
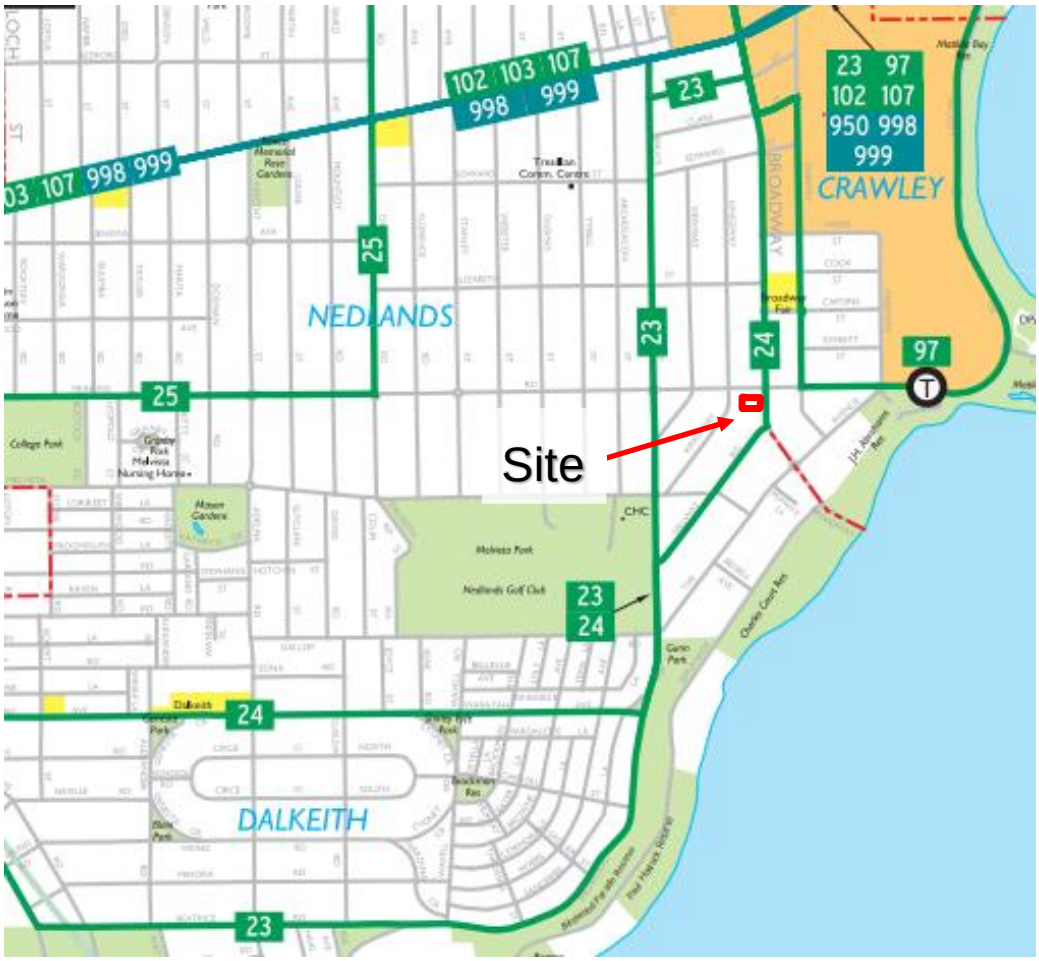


Figure 2-2 shows the bus routes in the area.

Figure 2-2 Existing Public Transport Facilities



2.2 Future Public Transport Facilities

Cardno contacted the relevant authorities and understand there are no impending changes to the network in this area.

3 Pedestrian/Cycle Networks and Facilities

3.1 Existing Pedestrian/Cycle Network Facilities

The Perth Bicycle Network and bicycle lanes run along Princess Road as shown in **Figure 3-1.** Bicycle boulevards run along Fairway, The avenue and other surrounding roads. Overall, the Site is facilitated by excellent pedestrian/cycling networks.

Figure 3-1 Existing Pedestrian/cycling Facilities

3.2 Future Pedestrian/Cycle Network Facilities

Cardno contacted the relevant authorities and understand that there are no changes planned for the immediate area.

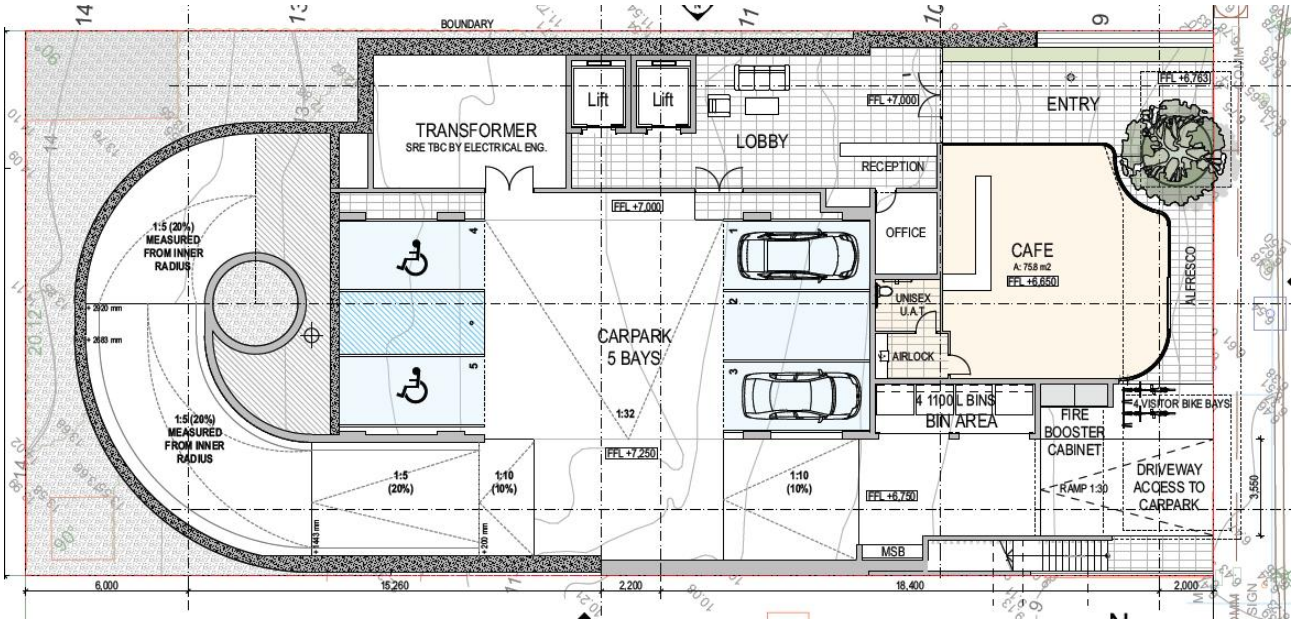
4 Proposed Development

The proposed development a 6 storey building consisting of:

- 19 x 1-bedroom apartments;
- 7 x 2-bedroom apartments;
- Ground floor café – 75.8m^2 GFA

Figure 4-1 shows the ground floor plan of the proposed development. Larger versions are included in **Appendix B**.

Figure 4-1 Ground Floor Plan



4.2 Access Arrangements

Vehicular access to/from the Site will be via a 3.5m wide crossover located on Broadway. This crossover is compliant with AS2890.1:2004 requirements for Category 1 access driveways.

A 3.5m wide curved ramp provides access to the Level 1 car park (16 bays). As the ramp is only wide enough for one-way traffic, traffic flows will be managed by signals or other similar mechanisms. There is sufficient room at the foot of the ramp and the top of the ramp for vehicles travelling in opposite directions to pass each other.

4.3 Traffic Generation

Trip generation rates from the *Institute of Transportation Engineers (ITE) "Trip Generation" 10th Edition* were used to estimate the number of vehicle trips generation by the Site.

Table 4-1 Trip Generation Rate

Land Use	ITE Code/Source	AM Peak	PM Peak
Residential	221	0.32 trips per dwelling	0.41 trips per dwelling
Café	932	10.70 per 100 m^2	10.52 per 100 m^2

Table 4-2 Directional Distribution

Land Use	ITE Code/Source	AM Peak		PM Peak	
		In	Out	In	Out
Residential	221	27%	73%	60%	40%
Café	932	55%	45%	62%	38%

Table 4-3 Total Trip Generation

Land Use	ITE Code/Source	AM Peak		PM Peak	
		In	Out	In	Out
Residential	221	3	7	7	5
Café	932	5	4	5	4
Total		**8**	**11**	**12**	**9**

The estimated peak hour trip generation is 19 vehicles in the AM Peak Hour and 21 vehicles in the PM Peak Hour. This low volume of trip generation is anticipated to have minimal impact on the surrounding road network.

4.4 Provision for Service Vehicles

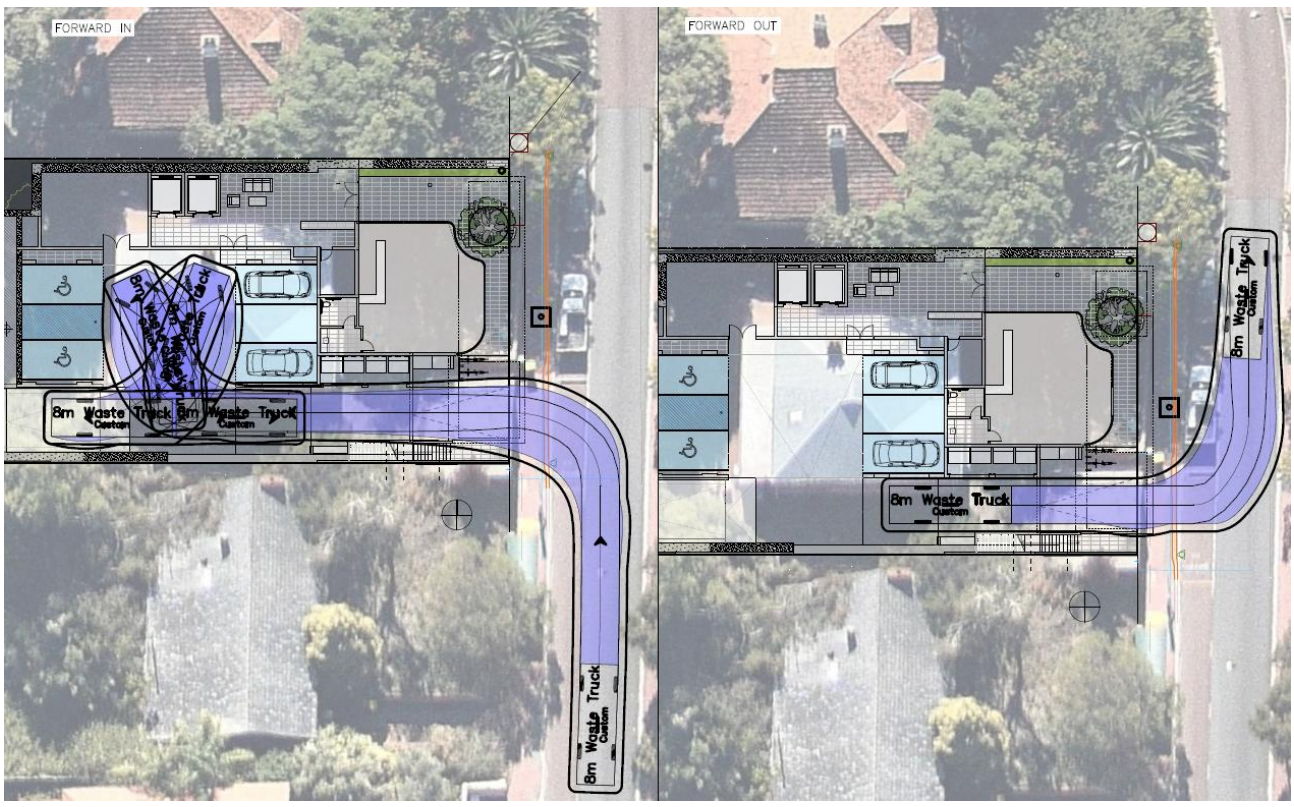
Waste collection will be undertaken within the Site, using vehicles up to maximum of 8.0m in length.

Figure 4-2 illustrates the swept path of the waste collection vehicle entering the Site in forward gear, pulling into the ground floor parking aisle to collect the waste, then exiting the Site in forward gear. As waste collection will occur infrequently and for short periods (e.g. 5 minutes) it is anticipated that no inconvenience will occur to vehicles entering and exiting the ground floor parking bays.

It is noted that the waste collection vehicle exiting the Site impacts one of the existing two time-limited on-street parking bays on the Site frontage. It is recommended that this bay be marked 'No Stopping' to allow the vehicle to exit the Site safely.

A larger version of the swept path plans are included at **Appendix C**.

Figure 4-2 Waste Collection Vehicle Swept Path



5 Parking

5.1 Parking Requirements

The *City of Nedlands' Draft Local Planning Policy for Parking* outlines the parking requirements and has due regard status. **Table 5-1** shows the parking requirements and the provision on site.

Table 5-1 Car Parking Provision

Land Use	Car Parking Requirements	Car Parking Requirements	Car Parking Provision
Residential (from R Codes)			
1 bedroom dwelling (19 units)	1 bay per dwelling	19 bays	21 bays including 2 ACROD bays
2+ bedroom dwellings (7 units)	1.25 bays per dwelling	9 bays	
Visitor Parking	1 bay per four dwellings up to 12 dwellings 1 bay per eight dwellings for the 13th dwelling and above	3 bays 2 bays	
Café (from Local Planning Policy)	3 bays (1 car bay per 30m^2 of NLA)	3 bays	
Total		**36 bays**	**21 bays**

Please refer to the Planning Report for justification regarding the parking shortfall.

5.2 Bicycle and Motorcycle Parking

The bicycle parking provision as per the requirements of the *City of Nedlands' Local Planning Policy* are shown in **Table 5-2** and the motorcycle parking requirements and provision are shown in **Table 5-3**.

Table 5-2 Bicycle Parking Requirements and Provision

Land Use	Parking Requirements	Parking Requirements	Parking Provision
Residential	0.5 space per dwelling	13 spaces	
Visitor Parking	1 space per 10 dwellings	3 spaces	4 spaces
Cafe	1 bicycle space per 30m^2 of NLA	3 spaces	
Total		**19 bays**	**4 spaces**

Please refer to the Planning Report for justification regarding the parking shortfall.

Table 5-3 Motorcycle Parking Requirements and Provision

Land Use	Parking Requirements	Parking Requirements	Parking Provision
Residential	Developments exceeding 20 dwellings provide 1 motorcycle/scooter space for every 10 car bays	3 bays	1 bay
Total		**3 bays**	**1 bay**

Please refer to the Planning Report for justification regarding the parking shortfall.

With regards to End of Trip facilities, the Local Planning Policy states:

"Where 5 or more long term bicycle parking bays are required to be provided, end-of-trip facilities are to be provided. End of trip facilities are to be designed in accordance with the following criteria:
(a) A minimum of one unisex shower, change room, for every 10 bicycle parking bays up to a maximum of 6 male and 6 female showers (or 12 unisex); and
(b) A locker of functional and suitable size to be provided for every bicycle parking bay provided."

Therefore, 2 unisex showers, change room facilities are required for the development. An End of Trip facility has been provided on the second floor of the development.

6 Site-Specific Issues

6.1 Crash Assessment

A search of the *Main Roads WA Reporting Centre* for traffic crash data was carried out for reported crashes between 1 January 2014 and 31 December 2018 for the following road sections:

- Broadway Midblock SLK 1.27 to SLK 0.72
- Intersection of Broadway and Princess Road
- Princess Road Midblock SLK 1.90 to SLK 2.33

Princess Road Midblock SLK 1.90 to SLK 2.33 midblock had no reported crashes.

Table 6-1 to **Table 6-2** provide the vehicle crashes on Broadway and near the Site.

Table 6-1 Broadway Midblock SLK 1.27 to SLK 0.72

Type of Crash	Fatal	Hospital	Medical	Major Property Damage	Minor Property Damage	Total Crashes
Rear End	-	-	-	1	-	1
Right Angle	-	-	-	1	-	1
Sideswipe Same Direction	-	-	-	2	-	2
Other	-	-	-	-	1	1
Total	**-**	**-**	**-**	**4**	**1**	**5**

Table 6-2 Intersection of Broadway and Princess Road

Type of Crash	Fatal	Hospital	Medical	Major Property Damage	Minor Property Damage	Total Crashes
Rear End	-	-	-	1	1	2
Right Angle	-	1	-	-	1	2
Total	**-**	**1**	**-**	**1**	**2**	**4**

A summary of the crash data is as follows:

- A total of 5 vehicular crashes occurred at Broadway, 4 of them causing major property damage and 1 causing minor property damage.
- A total of 2 rear end crashes and 2 right angle crashes occurred at the intersection of Broadway and Princess Road: 1 required hospitalisation, 1 crash caused minor property damage and 2 caused minor property damage.

7 Summary

This Transport Impact Statement outlines the transport aspects of the proposed Place of Worship development focusing on traffic operations, access and provision of car parking. Included are discussions regarding pedestrian, cycle, and public transport considerations.

This statement has been prepared in accordance with the *WAPC Transport Assessment Guidelines for Developments: Volume 4 – Individual Developments (2016).*

The following are conclusions about the proposed development:

- The development proposal is for a 6-storey building comprising 26 apartments and a ground floor café, located within the suburb of Nedlands.
- A total of 21 parking spaces are provided.
- The proposed development is expected to have a total trip generation of approximately 19 vehicles in the AM peak hour and 21 vehicles during the PM peak hour. This level of traffic generation is anticipated to have minimal impact on the surrounding road network.
- Access to the Site is facilitated by the Perth Bicycle Network and other bicycle boulevards within the surrounding area.
- Public transportation is facilitated by the bus stops located across the Site serving Route 24 travelling to East Perth and Claremont Station
- Overall, it is considered unlikely that the Site will cause any material impact to the surrounding road network.

135 Broadway, Nedlands

APPENDIX A

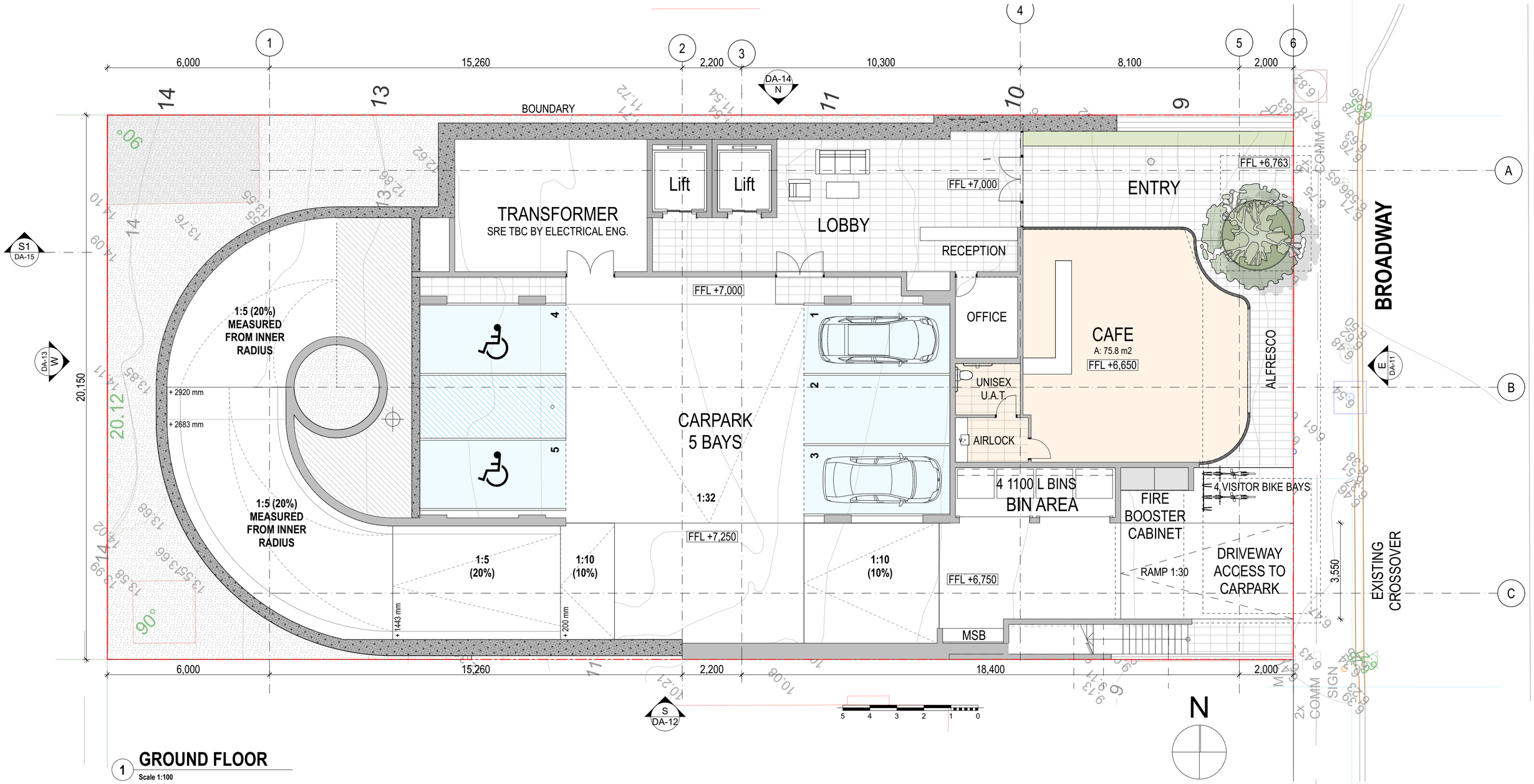
WAPC CHECKLIST

Item	Status	Comments/Proposals
Proposed subdivision		
proposed land use	Section 4	
existing land uses	Section 1	
context with surrounds	Section 1	
Vehicular access and parking		
access arrangements	Section 4	
public, private, disabled parking set down / pick up	Section 5	
Service vehicles (non-residential)		
access arrangements	Section 4	
on/off-site loading facilities	N/A	
Service vehicles (residential)		
Rubbish collection and emergency vehicle access	Section 4	
Hours of operation (non-residential only)	N/A	
Traffic volumes		
daily or peak traffic volumes	Section 1	
type of vehicles (e.g. cars, trucks)	Section 1	
Traffic management on frontage streets		
Public transport access		
nearest bus/train routes	Section 2	
nearest bus stops/train stations	Section 2	
pedestrian/cycle links to bus stops/train station	Section 3	
Pedestrian access/facilities		
existing pedestrian facilities within the development (if any)	Section 3	
proposed pedestrian facilities within development	Section 3	
existing pedestrian facilities on surrounding roads	Section 3	
proposals to improve pedestrian access	NA	
Cycle access/facilities		
existing cycle facilities within the development (if any)	Section 3	
proposed cycle facilities within the development	Section 5	
existing cycle facilities on surrounding roads	Section 3	
proposals to improve cycle access	N/A	
Site specific issues	Section 6	
Safety issues		
identify issues	N/A	
remedial measures	N/A	

135 Broadway, Nedlands

APPENDIX B

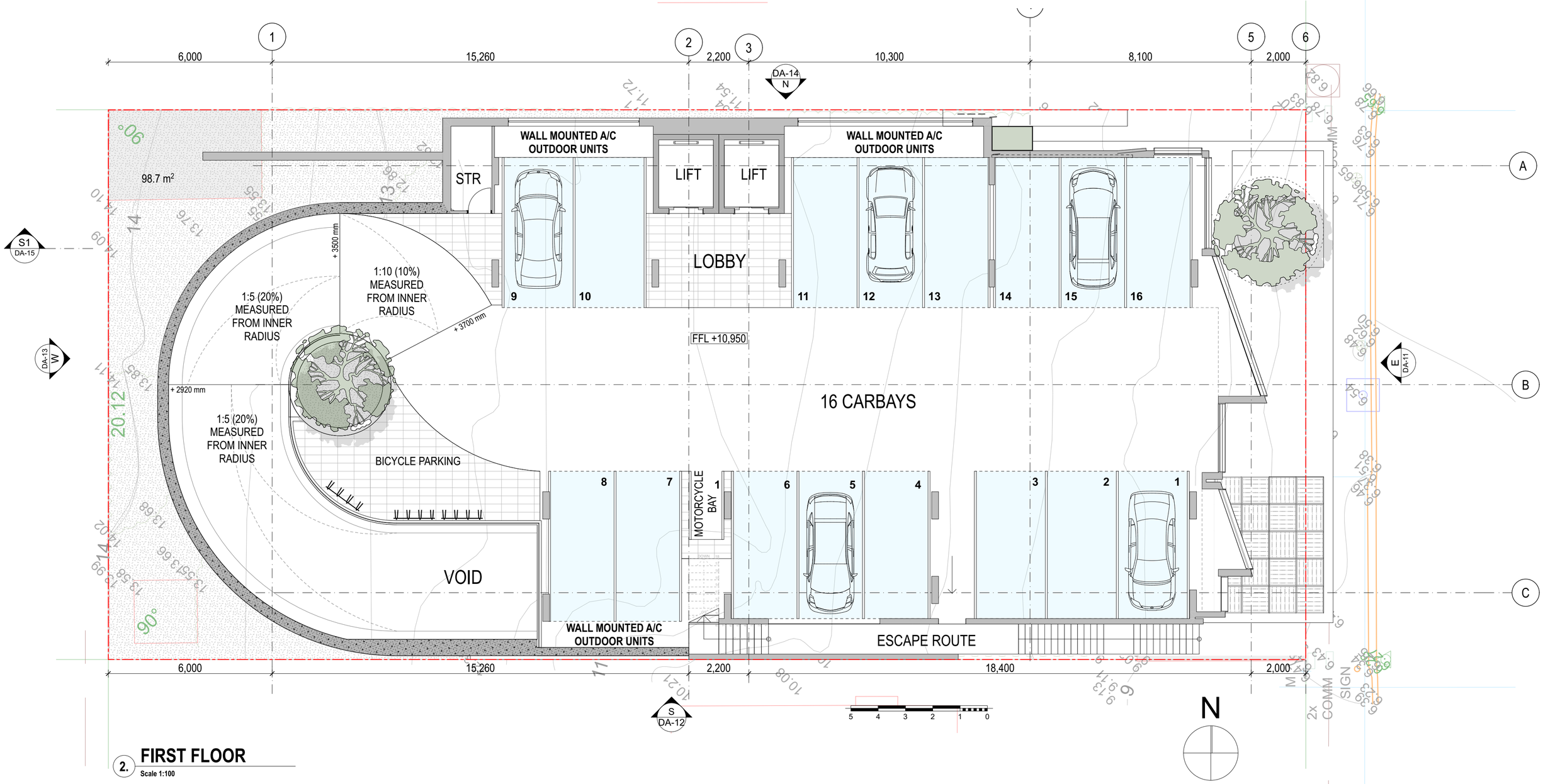
SITE PLANS



1 GROUND FLOOR

Scale 1:100

maarch* Private Residential Architecture | RESIDENTIAL | COMMERCIAL | SPECIAL PROJECTS	MARK ARONSON ARCHITECTURE L1, 41 Hampden Road, Nedlands, WA 6009 E: info@maarch.net.au • T: +61 8 6262 8169	PROJECT BROADWAY APARTMENTS	CLIENT CLIENT	ADDRESS 135 BROADWAY PERTH	DATE 25/7/19	SCALE: 1:100@ A3	DRAWN MC/JM/MA	DRAWING **GROUND FLOOR PLAN**	REV A	PROJECT NO. 19006	DRAWING ID **DA-3**



2. FIRST FLOOR

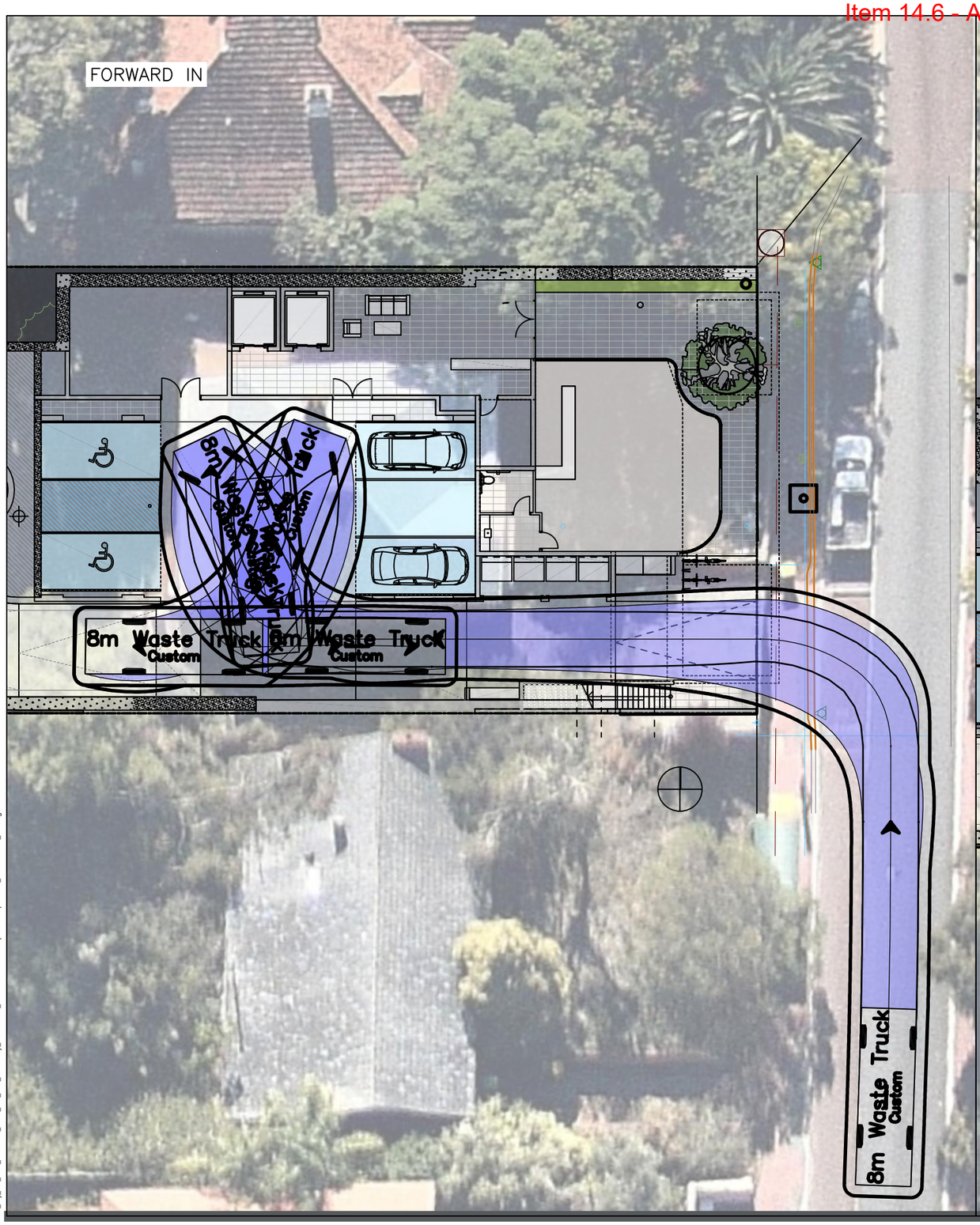
Scale 1:100

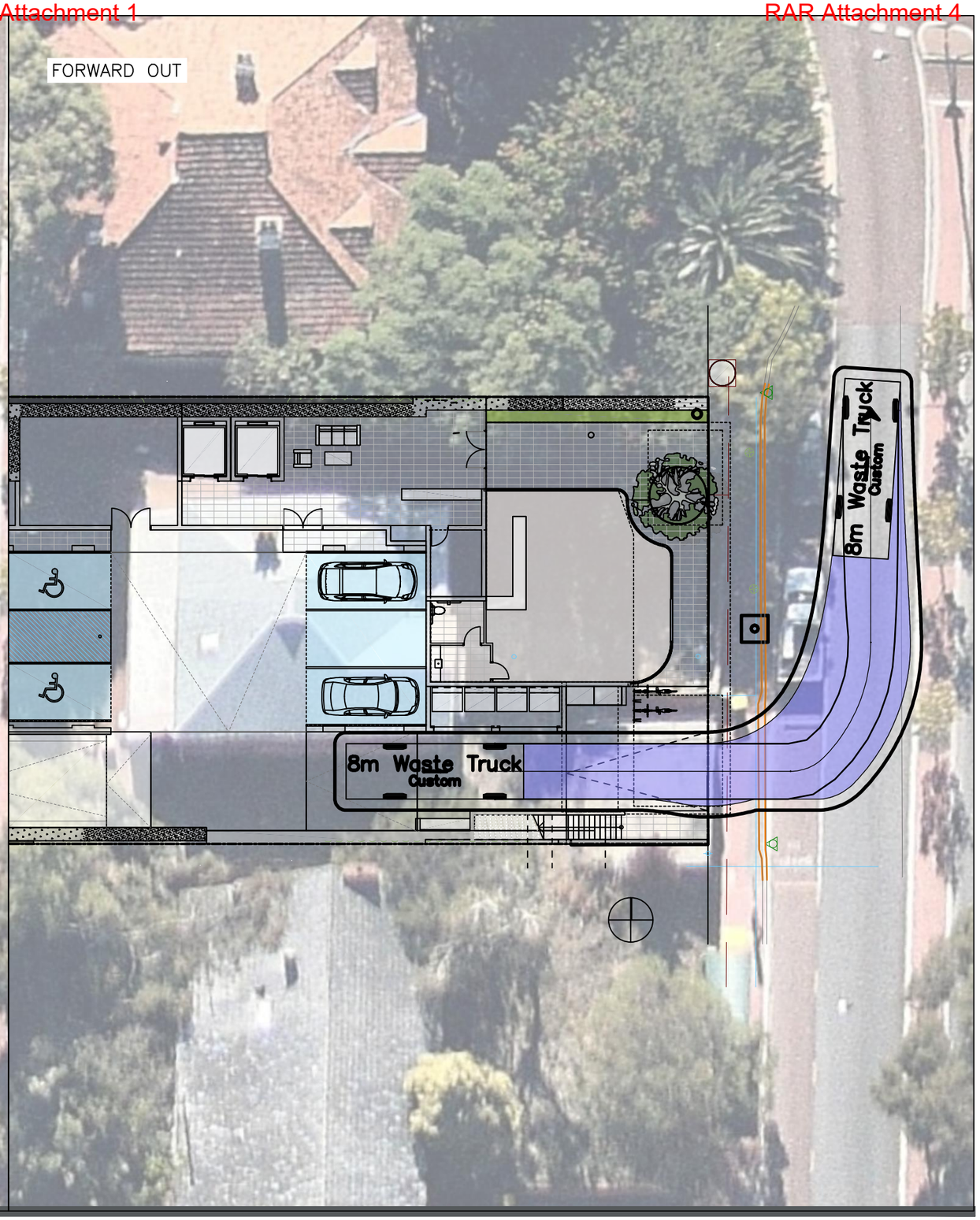
maarch* Urban Architecture / RESIDENTIAL SPECIAL PROJECTS MARK ARONSON ARCHITECTURE L1, 41 Hampden Road, Nedlands, WA 6009 E: info@maarch.net.au • T: +61 8 6262 8169	PROJECT BROADWAY APARTMENTS	CLIENT CLIENT	ADDRESS 135 BROADWAY PERTH	DATE 25/7/19	SCALE: 1:100@ A3	DRAWN MC/JM/MA	DRAWING FIRST FLOOR PLAN	REV A	PROJECT NO. 19006	DRAWING ID DA-4

135 Broadway, Nedlands

APPENDIX C

SWEPT PATHS





Cardno

Sydney Tel: 02 9496 7700

CEDAR COVE PTY LTD ATF COOLBINIA TRUST

135 BROADWAY, NEDLANDS

8.0 m WASTE TRUCK - SWEPT PATH

FORWARD IN / FORWARD OUT

Date	Scale	Size
09/07/19		A3

CW1076700-TR-SK-001-A
Drawing Number

A
Revision

LEGEND

TYPICAL MATERIAL SELECTIONS

- **PUBLIC PAVING** red-brick interlocking pavers to match existing footpath
- **CONCRETE PAVING** exposed aggregate coloured concrete
- **PERMEABLE GRAVEL PAVING** consolidated summerstone fines | ferricrete fines
- **FEATURE TILED PAVING** stone | ceramic tiles
- **TIMBER DECKING** composite planks on light-weight substructure
- **EXISTING | PROPOSED TREE** to be retained and protected
- **MASS PLANTING | SHADE** groundcovers with feature shrubs
- **MASS PLANTING | PART SHADE** groundcovers with feature shrubs
- **MASS PLANTING | FULL SUN** groundcovers with feature shrubs

PAVING MATERIALS

Stone / Cermic Tiles | Exposed Aggregate Concrete | Consolidated Fines

TYPICAL FENCING

F1 Galvanised painted steel UC posts | Off-form concrete plinth | Brushwood panels

TYPICAL PLANTING PALETTE

Species Name	Pot Size	Density	Mature Size
Full Sun Mix			
Acacia 'Limelight'	130mm	2/sqm	0.6m
Carpobrotus virescens	130mm	4/sqm	0.2m
Casurania glauca	130mm	4/sqm	0.5m
Conostylis candicans	130mm	4/sqm	0.3m
Dianella 'Little Rev'	130mm	4/sqm	0.4m
Eremophila glabra	130mm	4/sqm	0.3m
Lomandra longifolia 'Lime Jet'	12L	4/sqm	1m
Pimelea ferruginea	130mm	4/sqm	0.4m
Sun / Shade Mix			
Banksia spinulosa	130mm	4/sqm	0.6m
Calothamnus quadrifidus	130mm	2/sqm	0.8m
Dichondra 'Silver Falls'	130mm	4/sqm	0.1m
Hibbertia scandens	130mm	4/sqm	0.3m
Liriope muscari 'Evergreen Giant'	130mm	4/sqm	0.5m
Myoporum parvifolium	130mm	4/sqm	0.1m
Thymus citriodora	130mm	4/sqm	0.3m
Strelitzia reginae	12L	2/sqm	1.2m
Full Shade Mix			
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Crinum pedunculatum	130mm	2/sqm	1.5m
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Dracena fragrans	130mm	2/sqm	1.2m
Viola hederacea	130mm	4/sqm	0.1m
Ophiopogon japonicus variegata	130mm	4/sqm	0.3m
Zamia furfuracea	12L	1/sqm	1.5m

REAR TERRACE (LEVEL 1)

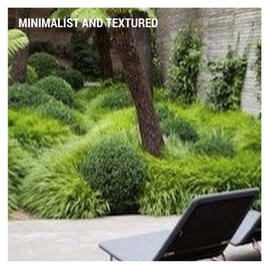
ROOF TERRACE (LEVEL 6)

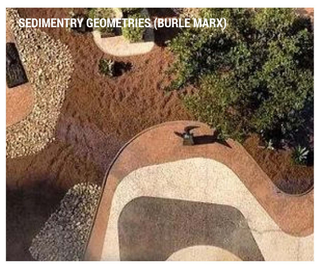
scale 1:200@A2

Magnolia grandiflora 'Exmouth' **rear boundary** | *Banksia prionotes* **side screen | bird attraction** | *Citrus × sinensis* **courtyards & terrace** | *Eucalyptus victrix nana* **signature tree** | *Malus spp. (espalier)* **entry facade** | *Dracena spp.* **courtyards**

TYPICAL TREE PLANTING PALETTE
COMPACT, HARDY, TEXTURED, COLOURFUL, SEASONALITY

STREET FRONTAGE (GROUND FLOOR)





Agave attenuatta | *Aemonium arboreum* | *Anigozanthos flavidus* | *Aemonium manriqueorum* | *Liriope evergreen giant* | *Echium fatuosum* | *Cordyline fruticosa* | *Asplenium nidas* | *Scaevola aemula* | *Casuarina 'Cousin It'*

Crassula Little Jade **pot plants** | *Hibbertia scandens* **cable twiner** | *Scencio serpens* **street frontage** | *Astelia nervosa* | *Acacia cognata* **western landscapes** | *Lomandra tanika* | *Ophiopogon variegata* **full shade** | *Alernathera 'Little Ruby'* | *Conostylis candicans* **eastern landscapes** | *Banksia sceptrum*

TYPICAL UNDERSTOREY PLANTING PALETTE
COMPACT, HARDY, TEXTURED, COLOURFUL

0 1 2 3 4 5m

propagule

CEDAR COVE | BROADWAY APARTMENTS
135 BROADWAY, NEDLANDS, WA

LANDSCAPE DEVELOPMENT APPLICATION

AUTHOR:	JC
CHECKED:	MA
PROJECT NO:	P19-024
SCALE:	1:100 @ A2
DATE:	03.10.2019